

City of Detroit Police and Fire Retiree Health Care Trust

Actuarial Valuation Report
as of December 31, 2022





September 18, 2023

VEBA Board of Trustees
City of Detroit Police and Fire
Retiree Health Care Trust

Re: VEBA Valuation/Benefit Modeling as of December 31, 2022

Dear Trustees:

Gabriel, Roeder, Smith & Company ("GRS") has performed an actuarial valuation of the City of Detroit Police and Fire Retiree Health Care Trust as of December 31, 2022. The purpose of this actuarial valuation is to evaluate the financial status of the program as of December 31, 2022 and model the estimated solvency under benefit levels set by the Board for calendar years 2023 and 2024.

This report is structured as follows:

- Background and Plan Structure
- Participant Data and Plan Description
- Valuation Results and Baseline Benefit Model
- Asset Information
- Methods and Assumptions
- Sensitivity Testing
- Alternate Scenario

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

The valuation results set forth in this report are based upon data and information, furnished by the Trust (or their designees), concerning Plan benefits, financial transactions, and beneficiaries of the VEBA. We reviewed this information for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the VEBA.

The valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The mortality rate assumptions were chosen to be consistent with the rates of mortality used by the City of Detroit Police and Fire Retirement System. The assumed rate of investment return was selected by the Board to be 4% per annum. The 4% rate of investment return (gross of investment and administrative expenses) does not significantly conflict with what, in our professional judgement, is reasonable for the purpose of the measurement. Based on the current asset allocation and capital market expectations, we believe the assumption includes an adjustment to provide for adverse deviation, as permitted by the actuarial standards of practice. As of the valuation date, the remaining face value of the bonds is approximately 2% of the total assets (based on 100% monetization of the bonds). We believe that the 4% rate of investment return (gross of investment and administrative expenses) **does not significantly conflict with what, in our professional judgement, is reasonable for the purpose of the measurement. Based on the current asset allocation and capital market expectations, we believe the assumption includes an adjustment to provide for adverse deviation, as permitted by the actuarial standards of practice.** Users of this report are encouraged to consider the sensitivity of results to all the actuarial assumptions before making decisions regarding benefit levels.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: Plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in Plan provisions or applicable law. We have performed an analysis of the sensitivity of certain changes in the assumptions in this report.

We believe that the actuarial methods used in this report are reasonable and appropriate for the purpose for which they have been used. In addition, because it is not possible or practical to consider every possible contingency, we may use summary information, estimates or simplifications of calculations to facilitate the modeling of future events. We may also exclude factors or data that are deemed to be immaterial.

This report is not a recommendation to anyone to participate in the VEBA. GRS makes no representations or warranties to any person participating in or considering participation in the program.

This program is similar to a defined contribution plan. Benefits can be paid from this plan to the extent that the plan continues to be solvent. While the modeling in this report is intended to estimate how long the benefits can be paid (given a specific level of benefits), there are no guarantees that future events will unfold as modeled. We understand that the Board's intent is to annually model solvency and adjust benefits as they deem necessary.



To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the City of Detroit Police and Fire Retiree Health Care Trust as of December 31, 2022. No adjustments were made for investment activity occurring after December 31, 2022 in the measurement of the liabilities.

This report is not intended to establish rates of future contributions to the Trust. It is our understanding that the amount of all future Trust contributions has been established and that the Board will set benefit levels annually until such time as the Trust is depleted or until all participants have died, whichever comes first.

This report was prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

Abra D. Hill and Jamal J. Adora are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

The signing actuaries are independent of the plan sponsor.

This draft report includes the 2023 benefit levels.

Respectfully submitted,
Gabriel, Roeder, Smith & Company



Abra D. Hill, ASA, FCA, MAAA



Jamal J. Adora, ASA, EA, MAAA

ADH/JJA:dj

C3419



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SECTION A

BACKGROUND AND PLAN STRUCTURE

Background and Plan Structure

The VEBA Trust was created during the Bankruptcy of the City of Detroit. It was funded with B-notes from the City of Detroit as well as (pre-established) contributions from the Foundations through 2034. The VEBA Board of Trustees is charged with determining the benefits that can be paid from the Trust. Benefits are payable to the participants only to the extent the Trust still has assets to fund the benefits. At the inception of the plan, the benefits were initially set at 1) \$120 per month toward the premiums for a Medicare Advantage plan from Blue Cross Blue Shield or HAP or 2) an HRA monthly benefit ranging from \$120 per month to \$395 per month depending on age, retirement type (normal or disabled) and Medicare eligibility. Historically, through a competitive bid process, the Trust has been able to manage the cost of the Medicare Advantage premiums and have adjusted benefits accordingly. The benefit levels payable for 2023 and 2024 are shown on page B-1.

The plan operates much like a group defined contribution plan in pay status. The participants of the plan are a closed group and all retired. As of December 31, 2022, there were 8,667 reported eligible participants. Of those, 7,722 were reported to have opted to actively participate. Of the 7,722 participants actively participating, 4,034 participants are receiving coverage under a Medicare Advantage plan and 1,314 are covered by the HRA benefit. During 2022, approximately 53% of the potential HRA payments that could have been made were utilized. The eligible (potential) and current (actually participating) participants are shown in greater detail on page B-1.

Liability of the Plan

Since benefits are limited to the available assets, the true liabilities of the plan are equal to the value of the assets and the plan is always 100% funded. For purposes of this report, however, we have computed a theoretical liability based on the benefit targets established by the Board. In that context, an unfunded liability (funded status less than 100%) indicates that benefits will likely need to be lowered below the Board's established benefit targets unless experience is more favorable than assumed (generating experience gains). It is important to note that in determining the unfunded liability, we have used the estimated market value of the Bonds assuming immediate and complete monetization at different monetization rates (percentages of face value). Funded status greater than 100% indicates that benefits could be increased, unless experience is less favorable than assumed (generating experience losses).

Sensitivity Testing and Preliminary Results

This report is currently preliminary and will be presented to the Board at the July 2023 Board meeting, based on the 2023 benefit levels. This final report reflects the 2024 benefit levels set by the Board.

SECTION B

PARTICIPANT DATA AND PLAN DESCRIPTION

Retired Member Summary as of December 31, 2022

Benefit Type	Monthly Benefit Paid by the Trust for		Age Range			Total Lives	Total Lives
	2023	2024	Under 26	Pre-65	Post-65		
						2022	2021
Medicare Advantage PPO							
Single	\$ 195.00	\$ 195.00	-	27	3,864	3,891	4,026
Medicare Advantage HMO							
Single	\$ 195.00	\$ 195.00	-	2	141	143	162
Total MA Participants[#]			-	29	4,005	4,034	4,188
Opt-Out of MA	\$ 185.00	\$ 200.00	-	21	2,353	2,374	2,296
Retiree HRA							
Income Level Purchased on State Exchange	\$ 235.00	\$ 250.00	-	16	-	16	18
Non-Medicare Eligible Duty Disabled Police and Fire	\$ 400.00	\$ 400.00	-	264	2	266	300
Non-Medicare Eligible Stipend	\$ 185.00	\$ 200.00	-	576	-	576	653
Over Age 65 Non-Medicare Eligible	\$ 360.00	\$ 375.00	-	-	73	73	77
Spouse HRA							
Income Level Purchased on State Exchange	\$ 235.00	\$ 250.00	-	9	-	9	9
Non-Medicare Eligible Spouse	\$ 185.00	\$ 200.00	-	371	-	371	486
Over Age 65 Non-Medicare Eligible	\$ 360.00	\$ 375.00	-	-	3	3	4
Total HRA Members (No Opt-Out)			-	1,236	78	1,314	1,547
Total Current Participants			-	1,286	6,436	7,722	8,031
Total Potential Participants							
Spouse Not Receiving			-	118	362	480	485
Employees Waiving, no MA, no HRA			2	135	328	465	293
Total Potential Participants			2	253	690	945	778
Grand Total			2	1,539	7,126	8,667	8,809

For 2023, the VEBA pays the entire Medicare Advantage (MA) premium in addition to a \$35 monthly stipend available through a Health Reimbursement Account (HRA).

Amounts shown are net amounts paid by the Trust (after reflecting amounts charged to participants).

Participants under age 65 will be eligible for the MA benefit (up to \$195 in 2023) or the Opt-Out HRA (\$185 in 2023 and \$200 in 2024) upon reaching age 65.



Retired Member Age Summary as of December 31, 2022

Age	MA PPO	MA HMO	Opt-Out HRA	Retiree HRA				Spouse HRA		
				Income Level	Non-Med Duty Dis	Non-Med Elig	Over 65 Non-Med Elig	Income Level	Non-Med Elig	Over 65 Non-Med Elig
Under 30	-	-	-	-	-	-	-	-	-	-
30 - 34	-	-	-	-	-	-	-	-	1	-
35 - 39	-	-	-	-	-	-	-	-	4	-
40 - 44	-	-	-	-	36	3	-	-	7	-
45 - 49	1	-	1	-	52	14	-	-	29	-
50 - 54	4	-	-	1	78	46	-	1	71	-
55 - 59	7	1	2	6	52	231	-	4	113	-
60 - 64	15	1	18	9	46	282	-	4	146	-
65 - 69	367	28	655	-	1	-	11	-	-	1
70 - 74	917	51	988	-	1	-	26	-	-	2
75 - 79	1,262	37	418	-	-	-	23	-	-	-
80 - 84	722	9	163	-	-	-	6	-	-	-
85 - 89	315	8	60	-	-	-	-	-	-	-
90 - 94	207	5	43	-	-	-	6	-	-	-
95 and Over	74	3	26	-	-	-	1	-	-	-
TOTAL	3,891	143	2,374	16	266	576	73	9	371	3

SECTION C

VALUATION RESULTS AND BASELINE BENEFIT MODEL

Summary of Results

Principal Valuation Results

Valuation Date:	December 31, 2022
Non-Medicare Utilization	60%
A) Assets	
1) Face Value of Bonds at Valuation Date	\$ 5,000,000
2) Monetization Percentage	80%
3) Estimated Bond Market Value	\$ 4,000,000
4) Net Additional Assets	203,876,384
5) Market Value of Assets	\$ 207,876,384
B) Present Value of Future Contributions	\$ 418,728
C) Present Value of Future	
1) Benefits	\$ 156,642,489
2) Expenses	25,286,686
3) Total Liability	\$ 181,929,175
D) Asset Surplus/(Deficit) [A.5+B-C.3]	\$ 26,365,937
E) Funded Ratio [(A.5+B)/C.3]	114.5%

Recognized Rate of Return

Additions	<u>Based on 80% Monetization</u>
Investment Income:	
Interest and Dividends	\$ 7,021,246
Net Increase in Fair Value of Investments	(24,285,868)
Investment Related Expenses	(411,930)
Net Investment Income	<u>\$ (17,676,552)</u>
Contributions - Foundation for Detroit's Future	43,750
Total Additions	<u>\$ (17,632,802)</u>
 Deductions	
Premium Payments - Net of Retiree Contributions	\$ 7,952,020
Health Reimbursement Account Reimbursements	5,127,126
Administrative Expenses	754,434
Total Deductions	<u>\$ 13,833,580</u>
 Net Increase in Fiduciary Net Position	 \$ (31,466,382)
Net Position - Beginning of Year	239,342,766
Net Position - End of Year	<u><u>\$ 207,876,384</u></u>
 Rate of Return	 (7.43)%

Discussion

Actuarial Valuation

This section contains the results of an actuarial valuation of the City of Detroit Police and Fire Retiree Health Care Trust as of December 31, 2022.

The primary purposes of the actuarial valuation are to:

- Compare the actuarial present value of the obligations for retiree health care as of December 31, 2022, with the value of the assets associated with the Program as of that same date; and
- Compare the actuarial present value of the obligations for retiree health care as of December 31, 2022, with the value of the assets associated with the Program as of that same date under certain alternate assumptions to show sensitivity to those assumptions.

In addition, the report provides summaries of the member data, financial data, plan provisions valued, and actuarial assumptions and methods.

Financial Status of Plan

As of December 31, 2022, the Present Value of all Future Obligations (PVFO) at that date is \$181.93 million. Plan assets as of December 31, 2022, based on a 80% monetization of Trust assets, are \$208.30 million (including the present value of future contributions).

The difference between the market value of assets of \$208.30 million and PVFO of \$181.93 million represents a Plan surplus of \$29.25 million. The Plan is 114.5% funded after consideration of \$418,728 (present value) in future scheduled contributions. A funded percent of over 100% implies that the Trust will still have money after the last participant dies, if experience is similar or more favorable than assumed.

The Board monetized all but \$5 million of the Detroit Bonds at a monetization rate of between 92% and 95% of face value.

The funded status may not be appropriate for determining the settlement cost of the Plan. The funded status is appropriate for determining the need for future contributions. However, since there are no future contributions other than those already accounted for in the valuation assets, the funded status is appropriate for determining the long-term solvency of the Plan and/or the need to adjust benefits.

Discussion (Continued)

Plan Status

The Plan benefits are not vested and may be reduced or increased in the future. The Board is expected to decide annually on the level of benefits that will be paid each year. Future valuations will take into consideration these decisions as they occur. While the plan is closed to new members, not all members of the plan have chosen to participate. However, we understand that members not currently participating can choose to participate in the future. See additional participation comments below.

Participation

Currently, there are approximately 945 members who have not elected to actively participate (the Potential Participants). The liabilities shown in the valuation results section of this report do not include the potential benefits to these members. However, we show the possible impact of these members choosing to participate in the sensitivity section of the report and/or in the live modeling performed for the Board.

Members who are under age 65 and receiving an HRA payment were assumed to elect a Medicare Advantage plan upon attaining age 65.

Please see Section F to see how changes in assumptions (sensitivity) affect the funded status and solvency.

Projection with Alternate HRA Utilization Assumption

This is the estimated employer benefit payments from 2023-2033 using a 70% HRA utilization assumption with no potential future spouses. Expenses are not included.

2023	\$ 13,888,625
2024	15,405,822
2025	14,803,019
2026	14,186,435
2027	13,565,056
2028	12,953,102
2029	12,335,584
2030	11,720,505
2031	11,099,826
2032	10,482,110
2033	9,851,527

Discussion (Continued)

Utilization

Experience during 2022 shows that members electing HRA benefits are utilizing approximately 60% of their annual benefits, on average. The current Board adopted utilization assumptions are shown below:

Utilization Assumption		
Non-Medicare Benefit	Future	
	Medicare Eligible	Benefit Group
100%	100%	Medicare Advantage PPO
100%	100%	Medicare Advantage HMO
60%	100%	Opt-Out of MA
60%	100%	Below FPL in a Non Medicaid Exp. State
60%	100%	Income Level and Purchased on State Exchange
60%	100%	Non Medicare Eligible Duty Disabled Police and Fire
60%	100%	Non Medicare Eligible Stipend
60%	100%	Over Age 65 Non Medicare Eligible
60%	100%	Non Medicare Eligible Spouse
0%	0%	Spouse Not Receiving
0%	0%	Actively Waiving
0%	0%	No Enrollment Elected

HRA Utilization History						
Valuation Date	100% of Expected HRA^		Estimated HRA Benefits*	Census	HRA Count*	Utilization
12/31/2022	\$	9,664,200	\$ 5,127,126	12/31/2022	3,770	53%
12/31/2021	\$	6,902,580	\$ 4,113,477	12/31/2021	3,737	60%
12/31/2020	\$	7,000,800	\$ 3,929,286	12/31/2020	3,780	56%
12/31/2019	\$	6,910,200	\$ 3,349,532	12/31/2019	3,859	49%
12/31/2018	\$	6,279,270	\$ 2,558,583	12/31/2018	3,773	41%

^ Expected HRA represents the sums of the mid-point between the BOY and EOY valuation number counts for each HRA benefit type multiplied by the maximum HRA amount for that benefit type.

* Estimated by averaging BOY and EOY census counts.

Discussion (Continued)

Asset Data

Prior to 2019, we received unaudited asset information to perform the valuations. Since 2019, we also received the audited financial report for the final report. The draft report uses audited asset information.

Member Data

Overall, there were 8,567 total current and potential participants reported for the 2022 valuation, this is down approximately 3% from the 8,809 current and potential participants in the 2021 valuation. Over the last 5 years we have seen an approximately 4% decrease per year. Since this is a closed group, we would expect an annual decline of membership in the 2% to 4% range, based on our current mortality assumption.

Assumptions

For purposes of this valuation, pre-65 utilization was updated from 50% to 60% for several scenarios. This was approved at the July 11, 2023 Board meeting. There were no other assumption changes for this valuation.

We believe the assumptions currently in use for the valuation, as adopted by the Board, are reasonable based on general market conditions. Note, we have not evaluated the specific default risk associated with any specific investment (including the City of Detroit Bonds). Please see comments on Future Outlook regarding such risks.

As of the valuation date, the remaining Detroit bonds represent approximately 2% of total assets. As such, the asset allocation is more important for determining the assumed rate of return for future valuations and modeling. We will continue to review the assumed rate of return assumption with each future valuation. Based on the current asset allocation and capital market expectations, we believe the assumed rate of return assumption includes an adjustment to provide for adverse deviation

Benefit changes

Benefits were increased for most HRA recipients and Medicare Advantage premiums increased. Please see the table on page B-1 for more detail.

Discussion (Concluded)

Experience

Experience during the year was less favorable than assumed, in aggregate. The main source of unfavorable experience is lower than expected recognized investment return.

Recommendation

We recommend that the administrator separately track the HRA benefit payments for Non-Medicare Advantage members and Medicare Advantage members. This will enable us to develop a more precise utilization assumption in future valuations once sufficient Medicare Advantage HRA experience emerges.

Future Outlook

This report does not consider the impact of demographic or investment experience after the valuation date of December 31, 2022.

We recommend the Board consider the various demographic and investment risks while deciding on next year's benefit levels. Please let us know if the Board would like us to run any specific projections (in addition to the sensitivity projections included in Section F to assist in this decision).

Solvency Projection Assumptions Baseline

\$253,900,999	Original Face Value of Bond
\$5,000,000	Face Value of Bond as of Valuation Date
\$203,876,384	Investable Assets
4.00%	Bond Coupon per Annum to 2035 (as % of Face Value)
6.00%	Bond Coupon per Annum at 2035 (as % of Face Value)
\$1,150,000	Expected First Year Administrative Expenses
3.00%	Expected Growth Rate for All Expenses
	Administrative expenses are pro-rated based on remaining population.
	Expenses are assumed to be \$0 when the remaining population reaches 0.5%.

The solvency scenarios are based on the following:

- 1) The 2024 and beyond benefit payments are based on the 2024 benefit levels set by the Board.
- 2) No future increases in benefit levels were assumed.
- 3) Members not currently participating were assumed NOT to participate in the future.
- 4) Members over age 65 and currently receiving benefits were assumed to continue to receive the benefit indicated on the data file for life (or until insolvency).
- 5) Members under age 65 were assumed to select the PPO Medicare Advantage plan upon reaching age 65.
- 6) Monetization of the remaining \$5 million was assumed to be 80%.
- 7) Investment return was assumed to be 4.0%.
- 8) Members receiving HRA benefits were assumed to utilize 60% of available benefits prior to age 65 and 100% of benefits at and after age 65.

City of Detroit Police and Fire Retiree Health Care Trust

Baseline

Current Participants										Potential Future Participants				Group Description
MA PPO	MA HMO	Opt-Out HRA	Retiree HRA						Spouse HRA (Non-Med Elig)	Spouse Not Receiving	Actively Waived	No Enrollment Election		
			Below FPL	Income Level	Non-Med Duty Dis	Non-Med Elig	Over 65 Non- Med Elig	Over 65 Unsub						
\$ 195.00	\$ 195.00	\$ 185.00	\$ 210.58	\$ 235.00	\$ 400.00	\$ 185.00	\$ 360.00	\$ 185.00	\$ 185.00	n/a	n/a	n/a	2023 Monthly Amount	
\$ 195.00	\$ 195.00	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00	n/a	n/a	n/a	Current Monthly Amount (2024)	
3,891	143	2,374	-	25	266	576	76	-	371	480	-	465	Number in Group 12/31/2022	
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Include Group	
\$ -	\$ -	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00				Flat Dollar Monthly Lifetime Benefit (per person) Pre-65	
\$ 195.00	\$ 195.00	\$ 200.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 375.00	\$ 200.00	\$ 195.00				Flat Dollar Monthly Lifetime Benefit (per person) Post-65	
100%	100%	60%	60%	60%	60%	60%	60%	60%	60%				Utilization Percentage Pre-65 (Applies to Flat Dollar Only)	
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%				Utilization Percentage Post-65 (Applies to Flat Dollar Only)	
\$ -	\$ -	\$ 120.00	\$ 135.35	\$ 150.00	\$ 240.00	\$ 120.00	\$ 225.00	\$ 120.00	\$ 120.00	\$ 62.50	\$ 100.00	\$ 62.50	Flat \$ Pre 65 benefit * Utilization %	
\$ 195.00	\$ 195.00	\$ 200.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 375.00	\$ 200.00	\$ 195.00	\$ 62.50	\$ 195.00	\$ 125.00	Flat \$ Post 65 benefit * Utilization %	
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	Annual Increase in Flat Dollar Benefit	

\$253,900,999	Original Face Value of Bonds at 12/10/2014
\$5,000,000	Face Value of Bond (A) at Val Date
\$0	Face Value of Bond (B) at Val Date
80%	MV of Bond (used to calculate UAAL)
\$203,876,384	Investable Assets*
Never	Year of Insolvency
Never	Year Monetization/Cash is Needed
4.00%	Average Yield

156,642,489	Present Value of Benefits
25,286,686	Present Value of Expenses
181,929,175	Total
207,876,384	Valuation Assets (Immediate Monetization)^
(25,947,209)	Unfunded Actuarial Accrued Liability (UAAL)
418,728	Present Value of Future Contributions
(26,365,937)	Asset Deficit/(Surplus)
114.5%	Funded %

Notes:

- * Excludes accrued interest receivable as it is already accounted for in the cash flow projection.
- # Bond coupon payment does not accrue additional interest during the year in which it is paid.
- ^ Valuation assets include monetized valuation of bond and indicated monetization rate plus cash and receivables. Values may not add due to rounding.

	Ad-Hoc					Trust						Interest					
	Ad-Hoc Prem.	Investment	Optional	Optional	Face Value of	Principal	Jan. 1	Benefit		Grant /	Bond	Invested	Ben./ Expen./		Dec. 31	% Contracts	
Year	Increase	Return	Bond Sale	% of Face	Bonds BoY	Repayment	Assets*	Payments	Expenses	(Due City)	Coupon	Assets	Grant/ Bond#	Total	Assets	Remaining	
2023	N/A	4.00%	\$ -	0.00%	\$ 5,000,000	\$ -	\$ 203,876,384	\$ (13,888,625)	\$ (1,147,478)	\$ 43,750	\$ 200,000	\$ 8,155,055	\$ (299,847)	\$ 8,055,208	\$ 196,939,240	98%	
2024	0.00%	4.00%	-	-	5,000,000	-	196,939,240	(14,548,899)	(1,151,482)	43,750	200,000	7,877,570	(313,133)	7,764,437	189,047,046	94%	
2025	0.00%	4.00%	-	-	4,971,590	28,410	189,075,457	(13,993,484)	(1,154,858)	43,750	198,864	7,563,018	(302,092)	7,459,790	181,430,654	90%	
2026	0.00%	4.00%	-	-	4,944,995	26,595	181,457,248	(13,422,836)	(1,157,509)	43,750	197,800	7,258,290	(290,732)	7,165,358	174,086,012	86%	
2027	0.00%	4.00%	-	-	4,919,919	25,077	174,111,088	(12,843,994)	(1,159,335)	43,750	196,797	6,964,444	(279,192)	6,882,049	167,033,558	82%	
2028	0.00%	4.00%	-	-	4,896,614	23,304	167,056,863	(12,275,052)	(1,160,242)	43,750	195,865	6,682,275	(267,831)	6,610,308	160,275,626	79%	
2029	0.00%	4.00%	-	-	4,875,310	21,304	160,296,930	(11,702,928)	(1,160,152)	43,750	195,012	6,411,877	(256,387)	6,350,503	153,828,103	75%	
2030	0.00%	4.00%	-	-	4,856,263	19,047	153,847,150	(11,133,717)	(1,159,007)	43,750	194,251	6,153,886	(244,979)	6,103,157	147,701,333	71%	
2031	0.00%	4.00%	-	-	4,574,949	281,314	147,982,647	(10,555,884)	(1,156,777)	43,750	182,998	5,919,306	(233,378)	5,868,926	142,182,661	67%	
2032	0.00%	4.00%	-	-	4,291,024	283,925	142,466,586	(9,979,265)	(1,153,470)	43,750	171,641	5,698,663	(221,780)	5,648,525	137,026,127	63%	
2033	0.00%	4.00%	-	-	3,995,781	295,243	137,321,370	(9,386,981)	(1,149,129)	43,750	159,831	5,492,855	(209,847)	5,442,839	132,271,848	59%	
2034	0.00%	4.00%	-	-	3,632,528	363,253	132,635,101	(8,797,700)	(1,143,841)	43,750	145,301	5,305,404	(197,956)	5,252,749	127,990,059	55%	
2035	0.00%	4.00%	-	-	3,269,275	363,253	128,353,312	(8,209,802)	(1,137,737)	-	196,157	5,134,132	(186,951)	5,143,338	124,149,111	51%	
2036	0.00%	4.00%	-	-	2,906,022	363,253	124,512,364	(7,628,916)	(1,130,985)	-	174,361	4,980,495	(175,198)	4,979,658	120,732,121	48%	
2037	0.00%	4.00%	-	-	2,542,770	363,253	121,095,374	(7,059,945)	(1,123,792)	-	152,566	4,843,815	(163,675)	4,832,706	117,744,344	44%	
2042	0.00%	4.00%	-	-	726,505	363,253	110,373,453	(4,545,522)	(1,090,448)	-	43,590	4,414,938	(112,719)	4,345,809	109,083,292	28%	
2047	0.00%	4.00%	-	-	-	-	108,264,150	(2,725,624)	(1,086,287)	-	-	4,330,566	(76,238)	4,254,328	108,706,566	16%	
2052	0.00%	4.00%	-	-	-	-	113,272,430	(1,572,867)	(1,130,938)	-	-	4,530,897	(54,076)	4,476,821	115,045,447	9%	
2057	0.00%	4.00%	-	-	-	-	124,361,761	(860,048)	(1,224,248)	-	-	4,974,470	(41,686)	4,932,785	127,210,250	5%	
2062	0.00%	4.00%	-	-	-	-	140,531,360	(429,599)	(1,361,391)	-	-	5,621,254	(35,820)	5,585,435	144,325,804	2%	
2067	0.00%	4.00%	-	-	-	-	161,293,967	(190,361)	(1,541,648)	-	-	6,451,759	(34,640)	6,417,118	165,979,076	1%	
2072	0.00%	4.00%	-	-	-	-	188,255,875	(71,714)	-	-	-	7,530,235	(1,434)	7,528,801	195,712,961	0%	



SECTION D

ASSET INFORMATION

Bond Information

The municipal bond backing the retiree medical benefits had an initial par value of \$253,900,999 at December 10, 2014. The Trust holds a bond with a face value of \$5,000,000 as of the valuation date. This bond pays a coupon of 4% per annum, two times per year and 6% per annum for years 2035-2044. Principal is repaid in 20 equal annual installments beginning April 2025.

The mandatory repayment schedule was adjusted in 2018. Please see page D-5 for information on the revised redemption requirements.

Contributions of \$43,750 will also continue to be made annually until 2034 under an agreement with the Foundation for Detroit's Future.

Reported Bond Sales

Date	Bonds Sold	Percent of Face Value	Type of Bond Sold
01/24/2018	\$ 20,000,000	81.05875%	Series A
05/31/2019	\$ 20,000,000	86.50000%	Series A
10/22/2019	\$ 15,000,000	87.37500%	Series A
02/04/2021	\$ 50,000,000	95.00000%	Series A
05/06/2021	\$119,000,000	92.50000%	Series A
05/25/2021	\$ 24,900,999	94.50000%	Series A and Series B

Reported Revenues and Expenditures

December 31, 2022

(from Audited Assets)

Income Statement

Additions	Market Value
Investment Income:	
Interest and Dividends	\$ 7,021,246
Net Increase in Fair Value of Investments	(23,921,448)
Investment Related Expenses	(411,930)
Net Investment Income	\$ (17,312,132)
Contributions - Foundation for Detroit's Future	43,750
Total Additions	\$ (17,268,382)
 Deductions	
Premium Payments - Net of Retiree Contributions	\$ 7,952,020
Health Reimbursement Account Reimbursements	5,127,126
Administrative Expenses	754,434
Total Deductions	\$ 13,833,580
 Net Increase/(Decrease) in Fiduciary Net Position	\$ (31,101,962)
Net Position - Beginning of Year	239,342,766
Net Position - End of Year	\$ 208,240,804

Reported Plan Assets at Market Value

December 31, 2022

(from Audited Assets)

Balance Sheet

12/30/2022

ASSETS

Current Assets:

Cash and cash equivalents	\$ 27,097,945
Total Current Assets	\$ 27,097,945

Investments:

Equities	\$ 96,589,478
Limited Partnership	\$ 2,603,334
Fixed income	\$ 79,162,502
City of Detroit Bonds Financial Recovery Bonds	\$ 3,586,150
Investment at Cost	\$ 181,941,464
Investment Market Value	\$ 181,941,464

Other Assets:

Accrued investment income receivable	\$ 718,557
Other receivables	\$ 37,130
Prepaid Expenses	\$ 22,583
Total Other Assets	\$ 778,270

Total Assets	\$ 209,817,679
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LIABILITIES

Current Liabilities:

Accounts Payable	\$ 1,576,875
Due to City of Detroit General Retiree Health Care Trust	\$ -
Total Current Liabilities	\$ 1,576,875

Total Liabilities	\$ 1,576,875
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Net Fund Balance	\$ 208,240,804
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Development of Investable Assets (at Market Value) December 31, 2022

For projection purposes, the January 1, 2022 assets are estimated to be as follows:

\$ 27,097,945	Cash and cash equivalents
178,355,314	Investments
<u>(1,576,875)</u>	Liabilities
\$ 203,876,384	January 1, 2022 Investable Assets

Accrued interest receivable is excluded because it is accounted for in the future cash flow projection.

Expense History

Date	Total Expenses
2016	\$ 1,281,137
2017	\$ 1,095,132
2018	\$ 802,075
2019*	\$ 868,534
2020*	\$ 844,468
2021*	\$ 924,464
2022*	\$ 1,166,364

* From Financial Report (audited Asset data).

Revised Mandatory Bond Redemption Schedule

Series 2014(A)				Remaining Face BOY	12/31/2018 PF Mandatory Monetization
Mandatory Redemption Date (Apr 1)	Redemption Requirements				
	Outstanding Prior to Tender/Purchase	Reduced	Remaining/ Outstanding		
2025	\$ 30,828,003	\$ 28,416,937	\$ 2,411,066	\$ 424,332,593	\$ 28,410
2026	30,828,003	28,571,017	2,256,986	421,921,527	26,595
2027	30,828,003	28,699,820	2,128,183	419,664,541	25,077
2028	30,828,003	28,850,233	1,977,770	417,536,358	23,304
2029	30,828,003	29,020,015	1,807,988	415,558,588	21,304
2030	30,828,003	29,211,542	1,616,461	413,750,600	19,047
2031	30,828,003	6,953,898	23,874,105	412,134,139	281,314
2032	30,828,003	6,732,253	24,095,750	388,260,034	283,925
2033	30,828,003	5,771,739	25,056,264	364,164,284	295,243
2034	30,828,003		30,828,003	339,108,020	363,253
2035	30,828,003		30,828,003	308,280,017	363,253
2036	30,828,003		30,828,003	277,452,014	363,253
2037	30,828,003		30,828,003	246,624,011	363,253
2038	30,828,003		30,828,003	215,796,008	363,253
2039	30,828,003		30,828,003	184,968,005	363,253
2040	30,828,003		30,828,003	154,140,002	363,253
2041	30,828,003		30,828,003	123,311,999	363,253
2042	30,828,003		30,828,003	92,483,996	363,253
2043	30,828,003		30,828,003	61,655,993	363,253
2044*	30,827,990		30,827,990	30,827,990	363,251
\$616,560,047		\$192,227,454	\$424,332,593	\$ -	\$5,000,000

* Maturity.

Revised redemption schedule was provided by legal counsel. GRS pro-rated the “Remaining Redemption Requirements Outstanding” based on the amount of bonds held by the VEBA as of the valuation date.

SECTION E

METHODS AND ASSUMPTIONS

Valuation Methods and Assumptions

Data Related Assumptions

1. Those opting out of Medicare Advantage plans were assumed to continue opting out.
2. Retirees over the age of 65 who are receiving an HRA payment were assumed not to be Medicare eligible.
3. Retirees under the age of 65 who are indicated as receiving a Medicare health care plan were assumed to be disabled.
4. Retirees under age 65 receiving an HRA payment were assumed to be eligible for Medicare at age 65 and choose a single coverage Aetna MA plan when Medicare eligible.
5. In cases where the HRA information differed from the “MedicalPlan” information, it was assumed that the “MedicalPlan” information superseded the HRA information.

Data Processing

Raw data included a field “MedicalPlan” which was used to assign members into MA PPO, MA HMO, MA Opt-Out, or HRA. Spouses were assigned benefits first using the “ClassCodeDescription” information to see if they were included under the retiree’s MA benefit then using the HRA benefit if they were not. Since the raw data included a separate HRA benefit this year for the retiree and spouse, the members indicated as having an HRA were assigned into benefit groups using the retiree HRA benefits, and spouses without a MA benefit were assigned to benefit groups using their HRA benefit. For spouses who received a \$120 benefit, if they were over 65 they were assumed to be receiving a Medicare Advantage Opt-Out benefit otherwise they were assumed to be receiving a Non-Medicare Eligible Stipend. Spouses who received a benefit over \$120, for which they are not eligible were instead assigned a \$120 benefit.

Members were compared to last year’s data and City information was rolled forward. After the initial data processing is completed, the summary of the data (shown on page B-1 of this report) is drafted and shared with the Board. Any inconsistencies or further missing data were clarified by the Trust. Any unexpected results are highlighted and the Board is requested to let us know if any additional research or processing is needed before proceeding with the valuation. This year, the Board did not request any additional research/processing.

Valuation Method: Present Value of Future Benefits compared to current valuation assets.

Rates of Investment Return. 4.0% per year, compounded annually, gross of investment expenses. This is the rate selected by the Board. This assumption is used to equate the value of payments due at different points in time. In the cash flow analysis, this rate of return is applied to assets in the Trust. The interest payable on the bond prior to monetization is modeled under the terms of the bond. The 4% rate of investment return (gross of investment and administrative expenses) does not significantly conflict with what, in our professional judgement, is reasonable for the purpose of the measurement. Based on the current asset allocation and capital market expectations, we believe the assumption includes an adjustment to provide for adverse deviation, as permitted by the actuarial standards of practice.

Valuation Assets: Market value of investable assets plus Board adopted monetization of remaining City bonds plus present value of future Grant Money (contributions).

Valuation Methods and Assumptions

Mortality Assumptions

2022 Attained Ages	Sample Rates*	
	PubS-2010 MP-2021 Male	PubS-2010 MP-2021 Female
25	0.0005%	0.0003%
30	0.0007	0.0005
35	0.0008	0.0006
40	0.0010	0.0008
45	0.0015	0.0011
50	0.0021	0.0017
55	0.0034	0.0032
60	0.0060	0.0058
65	0.0102	0.0092
70	0.0167	0.0146
75	0.0289	0.0253
80	0.0527	0.0454

** Applicable to calendar year 2023. Values for future years are determined using the MP-2021 projection scale.*

PubS-2010 Public Safety Retiree table for males and females with male rates multiplied by 115% and female rates multiplied by 125%. The tables are projected to be fully generational, based on the 2-dimensional, sex distinct mortality improvement scale MP-2021.

Valuation Methods and Assumptions (Concluded)

Health Care Trend Assumptions applied to Trust payment toward Medicare Advantage (cost of premium in excess of Trust payment is paid by participant): None assumed.

HRA benefit levels were assumed to be fixed at current levels.

Administrative Expenses: Administrative expenses (\$754,434 in 2022 according to audited assets) are assumed to increase by 3.0% per year pro-rated by the number of remaining participants. All other expenses (\$411,930 in Fiscal Year 2022 according to audited assets) are assumed to increase by 3.0% per year. All expenses are assumed to be \$0 when less than 0.50% of valuation population remains. Expenses are assumed to be \$1,150,000 in 2023.

The rationale for these assumptions is as follows:

Investment Return Assumption: The rate specified by the Board. The 4% rate of investment return (gross of investment and administrative expenses) does not significantly conflict with what, in our professional judgement, is reasonable for the purpose of the measurement. Based on the current asset allocation and capital market expectations, we believe the assumption includes an adjustment to provide for adverse deviation, as permitted by the actuarial standards of practice.

Mortality: The underlying table used in the Police and Fire Retirement System.

Health Care Trend: Based on current Plan design and Plan limited experience of not providing benefit increases.

HRA Utilization Assumptions: Observed rates of HRA utilization, professional judgement, and a margin for conservatism.

Other: Professional judgement.

SECTION F

SENSITIVITY TESTING

Sensitivity Testing Results

Sensitivity testing is an important component of the services GRS provides to the Board of Trustees. We have developed a modeling tool that allows for the plan solvency to be tested under different parameters, such as different benefit levels, different levels of utilization, different values for the monetization of the B-notes, etc. The model has been demonstrated to the Board, interactively.

Therefore, we have projected the Plan's results under alternative assumptions for future investment income as follows:

- A. Current valuation assumed rate of return (4.00% investment return gross of investment expenses and 60% utilization).
- B. Current valuation assumed rate of return (4.00% investment return gross of investment expenses and 50% utilization).
- C. Assumed rate of return (5.00% investment return gross of investment expenses and 60% utilization).
- D. Assumed rate of return (5.00% investment return gross of investment expenses and 50% utilization).
- E. Assumed rate of return (3.00% investment return gross of investment expenses and 60% utilization).
- F. Assumed rate of return (3.00% investment return gross of investment expenses and 50% utilization).
- G. Alternate scenario with 100% utilization for current participants (4.00% investment return gross of investment expenses).
- H. Current + 2% annual increases (4% interest, 80% bond monetization, 60% utilization).

The summary of each of these scenarios on the principal valuation results is presented on the following page.

Note that alternate investment return assumptions apply in all future years but only to invested assets. Prior to monetization, interest on the bond is based on the terms of the bond in the projections. Because the current amount of bonds monetized, changes in the investment return assumption have a large effect on the current funded status and solvency date. If the date of the monetization is moved sooner than scheduled, changes in the investment return assumption will have a relatively greater effect on the funded status and solvency date.

Sensitivity Testing Results

\$ in Millions^

	(Baseline) Current Valuation Assumptions A	Previous Valuation Assumptions B	5% Return, 60% Utilization C	5% Return, 50% Utilization D	3% Return, 60% Utilization E	3% Return, 50% Utilization F	Alternate - Current with 100% Utilization G	Alternate - Current with 2% Benefit Increases H
Monetization	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%
Assumed Investment Return	4.0%	4.0%	5.0%	5.0%	3.0%	3.0%	4.0%	4.0%
Utilization	60.0%	50.0%	60.0%	50.0%	60.0%	50.0%	100.0%	60.0%
A) Assets								
1) Bond Value	\$5.0	\$5.0	\$5.0	\$5.0	\$5.0	\$5.0	\$5.0	\$5.0
2) Monetization	80%	80%	80%	80%	80%	80%	80%	80%
3) Market value of Bond	\$4.0	\$4.0	\$4.0	\$4.0	\$4.0	\$4.0	\$4.0	\$4.0
4) Investable Assets	\$203.9	\$203.9	\$203.9	\$203.9	\$203.9	\$203.9	\$203.9	\$203.9
5) Assets	\$207.9	\$207.9	\$207.9	\$207.9	\$207.9	\$207.9	\$207.9	\$207.9
B) Present Value of Future Contributions	\$0.4	\$0.4	\$0.4	\$0.4	\$0.4	\$0.4	\$0.4	\$0.4
C) Actuarial Results								
1) Liabilities - Present Value of Benefits	156.6	149.6	144.6	138.0	170.7	163.0	185.0	186.1
2) Liabilities - PV of Future Expenses	25.3	25.3	21.5	21.5	30.2	30.2	25.3	25.3
3) Present Value of Benefits/Expenses	\$181.9	\$174.8	\$166.1	\$159.6	\$200.9	\$193.3	\$210.3	\$211.4
D) Asset Surplus/(Deficit) [A.5+B-C.3]	\$26.37	\$33.45	\$42.15	\$48.73	\$7.39	\$15.0	\$(1.96)	\$(3.07)
E) Funded Ratio [(A.5+B)/C.3]	114.5%	119.1%	125.4%	130.5%	103.7%	107.8%	99.1%	98.5%
F) Projected Insolvency Date [#]	Never	Never	Never	Never	Never	Never	Never	Never
Increase/(Decrease) from Baseline in								
G) Surplus/(Deficit)	\$0.00	\$7.08	\$15.78	\$22.36	\$(18.97)	\$(11.33)	\$(28.32)	\$(29.43)
H) Funded Ratio	0.0%	4.6%	10.9%	16.0%	(10.8)%	(6.7)%	(15.4)%	(16.0)%

[#] Assuming bonds held to maturity.

[^] Totals may not add due to rounding.



Sensitivity Testing Results History

Valuation Date	4% Return, 55% of Bond Value 1b	(Baseline) Current Valuation Assumptions 2	5% Return, 55% of Bond Value 3	5% Return, 80% of Bond Value 4	3% Return, 55% of Bond Value 5	3% Return, 80% of Bond Value 6	Alternate - Current with 100% Utilization 7	Alternate - Current with 2% Benefit Increases 8
12/31/2016	92.0%	132.1%	108.9%	156.3%	74.2%	106.5%	82.4%	81.8%
12/31/2017	103.1%	148.4%	114.9%	165.3%	91.5%	131.6%	94.6%	89.8%
12/31/2018 ^(b)	103.6%	144.4%	114.5%	159.6%	92.9%	129.4%	92.8%	88.3%
12/31/2019 ^(a,b)	115.6%	151.2%	127.4%	166.7%	103.9%	135.9%	96.2%	98.9%
12/31/2020	122.4%	159.4%	134.7%	175.5%	110.1%	143.4%	100.1%	105.2%
12/31/2021 ^(a,b)	137.0%	137.7%	149.6%	150.4%	124.5%	125.2%	114.5%	117.1%
12/31/2022 ^(b)	N/A	119.1%	N/A	130.5%	N/A	107.8%	99.1%	N/A

Valuation Date	4% Return, 60% Utilization A	(Baseline) Current Valuation Assumptions B	5% Return, 60% Utilization C	5% Return, 50% Utilization D	3% Return, 60% Utilization E	3% Return, 50% Utilization F	Alternate - Current with 100% Utilization G	Alternate - Current with 2% Benefit Increases H
12/31/2022 ^(b)	114.5%	119.1%	125.4%	130.5%	103.7%	107.8%	99.1%	98.5%

(a) After changes in actuarial assumptions or methods.

(b) After changes in benefit provisions.

City of Detroit Police and Fire Retiree Health Care Trust

Scenario A Baseline (4.0% Return with 60% Utilization)

Current Participants										Potential Future Participants			Group Description
MA PPO	MA HMO	Opt-Out HRA	Retiree HRA						Spouse HRA (Non-Med Elig)	Spouse Not Receiving	Actively Waived	No Enrollment Election	
			Below FPL	Income Level	Non-Med Duty Dis	Non-Med Elig	Over 65 Non- Med Elig	Over 65 Unsub					
\$ 195.00	\$ 195.00	\$ 185.00	\$ 210.58	\$ 235.00	\$ 400.00	\$ 185.00	\$ 360.00	\$ 185.00	\$ 185.00	n/a	n/a	n/a	2023 Monthly Amount
\$ 195.00	\$ 195.00	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00	n/a	n/a	n/a	Current Monthly Amount (2024)
3,891	143	2,374	-	25	266	576	76	-	371	480	-	465	Number in Group 12/31/2022
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Include Group
\$ -	\$ -	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00				Flat Dollar Monthly Lifetime Benefit (per person) Pre-65
\$ 195.00	\$ 195.00	\$ 200.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 375.00	\$ 200.00	\$ 195.00				Flat Dollar Monthly Lifetime Benefit (per person) Post-65
100%	100%	60%	60%	60%	60%	60%	60%	60%	60%				Utilization Percentage Pre-65 (Applies to Flat Dollar Only)
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%				Utilization Percentage Post-65 (Applies to Flat Dollar Only)
\$ -	\$ -	\$ 120.00	\$ 135.35	\$ 150.00	\$ 240.00	\$ 120.00	\$ 225.00	\$ 120.00	\$ 120.00	\$ 62.50	\$ 100.00	\$ 62.50	Flat \$ Pre 65 benefit * Utilization %
\$ 195.00	\$ 195.00	\$ 200.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 375.00	\$ 200.00	\$ 195.00	\$ 62.50	\$ 195.00	\$ 125.00	Flat \$ Post 65 benefit * Utilization %
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	Annual Increase in Flat Dollar Benefit

\$253,900,999	Original Face Value of Bonds at 12/10/2014
\$5,000,000	Face Value of Bond (A) at Val Date
\$0	Face Value of Bond (B) at Val Date
80%	MV of Bond (used to calculate UAAL)
\$203,876,384	Investable Assets*
Never	Year of Insolvency
Never	Year Monetization/Cash is Needed
4.00%	Average Yield

156,642,489	Present Value of Benefits
25,286,686	Present Value of Expenses
181,929,175	Total
207,876,384	Valuation Assets (Immediate Monetization)*
(25,947,209)	Unfunded Actuarial Accrued Liability (UAAL)
418,728	Present Value of Future Contributions
(26,365,937)	Asset Deficit/(Surplus)
114.5%	Funded %

Notes:

- * Excludes accrued interest receivable as it is already accounted for in the cash flow projection.
- # Bond coupon payment does not accrue additional interest during the year in which it is paid.
- ^ Valuation assets include monetized valuation of bond and indicated monetization rate plus cash and receivables. Values may not add due to rounding.

Year	Ad-Hoc Prem. Increase	Ad-Hoc Investment Return	Optional Bond Sale	Optional % of Face	Face Value of Bonds BoY	Principal Repayment	Jan. 1 Assets*	Trust		Grant / (Due City)	Interest				Dec. 31 Assets	% Contracts Remaining
								Benefit Payments	Expenses		Bond Coupon	Invested Assets	Ben./ Expen./ Grant/ Bond#	Total		
2023	N/A	4.00%	\$ -	0.00%	\$ 5,000,000	\$ -	\$ 203,876,384	\$ (13,888,625)	\$ (1,147,478)	\$ 43,750	\$ 200,000	\$ 8,155,055	\$ (299,847)	\$ 8,055,208	\$ 196,939,240	98%
2024	0.00%	4.00%	-	-	5,000,000	-	196,939,240	(14,548,899)	(1,151,482)	43,750	200,000	7,877,570	(313,133)	7,764,437	189,047,046	94%
2025	0.00%	4.00%	-	-	4,971,590	28,410	189,075,457	(13,993,484)	(1,154,858)	43,750	198,864	7,563,018	(302,092)	7,459,790	181,430,654	90%
2026	0.00%	4.00%	-	-	4,944,995	26,595	181,457,248	(13,422,836)	(1,157,509)	43,750	197,800	7,258,290	(290,732)	7,165,358	174,086,012	86%
2027	0.00%	4.00%	-	-	4,919,919	25,077	174,111,088	(12,843,994)	(1,159,335)	43,750	196,797	6,964,444	(279,192)	6,882,049	167,033,558	82%
2028	0.00%	4.00%	-	-	4,896,614	23,304	167,056,863	(12,275,052)	(1,160,242)	43,750	195,865	6,682,275	(267,831)	6,610,308	160,275,626	79%
2029	0.00%	4.00%	-	-	4,875,310	21,304	160,296,930	(11,702,928)	(1,160,152)	43,750	195,012	6,411,877	(256,387)	6,350,503	153,828,103	75%
2030	0.00%	4.00%	-	-	4,856,263	19,047	153,847,150	(11,133,717)	(1,159,007)	43,750	194,251	6,153,886	(244,979)	6,103,157	147,701,333	71%
2031	0.00%	4.00%	-	-	4,574,949	281,314	147,982,647	(10,555,884)	(1,156,777)	43,750	182,998	5,919,306	(233,378)	5,868,926	142,182,661	67%
2032	0.00%	4.00%	-	-	4,291,024	283,925	142,466,586	(9,979,265)	(1,153,470)	43,750	171,641	5,698,663	(221,780)	5,648,525	137,026,127	63%
2033	0.00%	4.00%	-	-	3,995,781	295,243	137,321,370	(9,386,981)	(1,149,129)	43,750	159,831	5,492,855	(209,847)	5,442,839	132,271,848	59%
2034	0.00%	4.00%	-	-	3,632,528	363,253	132,635,101	(8,797,700)	(1,143,841)	43,750	145,301	5,305,404	(197,956)	5,252,749	127,990,059	55%
2035	0.00%	4.00%	-	-	3,269,275	363,253	128,353,312	(8,209,802)	(1,137,737)	-	196,157	5,134,132	(186,951)	5,143,338	124,149,111	51%
2036	0.00%	4.00%	-	-	2,906,022	363,253	124,512,364	(7,628,916)	(1,130,985)	-	174,361	4,980,495	(175,198)	4,979,658	120,732,121	48%
2037	0.00%	4.00%	-	-	2,542,770	363,253	121,095,374	(7,059,945)	(1,123,792)	-	152,566	4,843,815	(163,675)	4,832,706	117,744,344	44%
2042	0.00%	4.00%	-	-	726,505	363,253	110,373,453	(4,545,522)	(1,090,448)	-	43,590	4,414,938	(112,719)	4,345,809	109,083,292	28%
2047	0.00%	4.00%	-	-	-	-	108,264,150	(2,725,624)	(1,086,287)	-	-	4,330,566	(76,238)	4,254,328	108,706,566	16%
2052	0.00%	4.00%	-	-	-	-	113,272,430	(1,572,867)	(1,130,938)	-	-	4,530,897	(54,076)	4,476,821	115,045,447	9%
2057	0.00%	4.00%	-	-	-	-	124,361,761	(860,048)	(1,224,248)	-	-	4,974,470	(41,686)	4,932,785	127,210,250	5%
2062	0.00%	4.00%	-	-	-	-	140,531,360	(429,599)	(1,361,391)	-	-	5,621,254	(35,820)	5,585,435	144,325,804	2%
2067	0.00%	4.00%	-	-	-	-	161,293,967	(190,361)	(1,541,648)	-	-	6,451,759	(34,640)	6,417,118	165,979,076	1%



City of Detroit Police and Fire Retiree Health Care Trust

Scenario B Previous Valuation Assumptions (4.0% Return with 50% Utilization)

Current Participants										Potential Future Participants			Group Description
MA PPO	MA HMO	Opt-Out HRA	Retiree HRA						Spouse HRA (Non-Med Elig)	Spouse Not Receiving	Actively Waived	No Enrollment Election	
			Below FPL	Income Level	Non-Med Duty Dis	Non-Med Elig	Over 65 Non- Med Elig	Over 65 Unsub					
\$ 195.00	\$ 195.00	\$ 185.00	\$ 210.58	\$ 235.00	\$ 400.00	\$ 185.00	\$ 360.00	\$ 185.00	\$ 185.00	n/a	n/a	n/a	2023 Monthly Amount
\$ 195.00	\$ 195.00	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00	n/a	n/a	n/a	Current Monthly Amount (2024)
3,891	143	2,374	-	25	266	576	76	-	371	480	-	465	Number in Group 12/31/2022
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Include Group
\$ -	\$ -	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00				Flat Dollar Monthly Lifetime Benefit (per person) Pre-65
\$ 195.00	\$ 195.00	\$ 200.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 375.00	\$ 200.00	\$ 195.00				Flat Dollar Monthly Lifetime Benefit (per person) Post-65
100%	100%	50%	50%	50%	50%	50%	50%	50%	50%				Utilization Percentage Pre-65 (Applies to Flat Dollar Only)
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%				Utilization Percentage Post-65 (Applies to Flat Dollar Only)
\$ -	\$ -	\$ 100.00	\$ 112.79	\$ 125.00	\$ 200.00	\$ 100.00	\$ 187.50	\$ 100.00	\$ 100.00	\$ 62.50	\$ 100.00	\$ 62.50	Flat \$ Pre 65 benefit * Utilization %
\$ 195.00	\$ 195.00	\$ 200.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 375.00	\$ 200.00	\$ 195.00	\$ 62.50	\$ 195.00	\$ 125.00	Flat \$ Post 65 benefit * Utilization %
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	Annual increase in Flat Dollar Benefit

\$253,900,999	Original Face Value of Bonds at 12/10/2014
\$5,000,000	Face Value of Bond (A) at Val Date
\$0	Face Value of Bond (B) at Val Date
80%	MV of Bond (used to calculate UAAL)
\$203,876,384	Investable Assets*
Never	Year of Insolvency
Never	Year Monetization/Cash is Needed
4.00%	Average Yield

149,562,046	Present Value of Benefits
25,286,686	Present Value of Expenses
174,848,732	Total
207,876,384	Valuation Assets (Immediate Monetization)^
(33,027,652)	Unfunded Actuarial Accrued Liability (UAAL)
418,728	Present Value of Future Contributions
(33,446,380)	Asset Deficit/(Surplus)
119.1%	Funded %

Notes:

* Excludes accrued interest receivable as it is already accounted for in the cash flow projection.

Bond coupon payment does not accrue additional interest during the year in which it is paid.

^ Valuation assets include monetized valuation of bond and indicated monetization rate plus cash and receivables. Values may not add due to rounding.

Year	Ad-Hoc				Face Value of Bonds BoY	Principal Repayment	Jan. 1 Assets*	Trust		Grant / (Due City)	Interest				Dec. 31 Assets	% Contracts Remaining
	Ad-Hoc Prem. Increase	Investment Return	Optional Bond Sale	Optional % of Face				Benefit Payments	Expenses		Bond Coupon	Invested Assets	Ben./ Expen./ Grant/ Bond#	Total		
2023	N/A	4.00%	\$ -	0.00%	\$ 5,000,000	\$ -	\$ 203,876,384	\$ (13,888,625)	\$ (1,147,478)	\$ 43,750	\$ 200,000	\$ 8,155,055	\$ (299,847)	\$ 8,055,208	\$ 196,939,240	98%
2024	0.00%	4.00%	-	-	5,000,000	-	196,939,240	(13,691,976)	(1,151,482)	43,750	200,000	7,877,570	(295,994)	7,781,575	189,921,108	94%
2025	0.00%	4.00%	-	-	4,971,590	28,410	189,949,518	(13,183,950)	(1,154,858)	43,750	198,864	7,597,981	(285,901)	7,510,943	183,165,403	90%
2026	0.00%	4.00%	-	-	4,944,995	26,595	183,191,998	(12,659,236)	(1,157,509)	43,750	197,800	7,327,680	(275,460)	7,250,020	176,669,022	86%
2027	0.00%	4.00%	-	-	4,919,919	25,077	176,694,099	(12,122,933)	(1,159,335)	43,750	196,797	7,067,764	(264,770)	6,999,790	170,455,372	82%
2028	0.00%	4.00%	-	-	4,896,614	23,304	170,478,677	(11,597,001)	(1,160,242)	43,750	195,865	6,819,147	(254,270)	6,760,742	164,525,925	79%
2029	0.00%	4.00%	-	-	4,875,310	21,304	164,547,229	(11,070,272)	(1,160,152)	43,750	195,012	6,581,889	(243,733)	6,533,168	158,893,722	75%
2030	0.00%	4.00%	-	-	4,856,263	19,047	158,912,769	(10,546,928)	(1,159,007)	43,750	194,251	6,356,511	(233,244)	6,317,518	153,568,102	71%
2031	0.00%	4.00%	-	-	4,574,949	281,314	153,849,415	(10,011,942)	(1,156,777)	43,750	182,998	6,153,977	(222,499)	6,114,475	148,838,921	67%
2032	0.00%	4.00%	-	-	4,291,024	283,925	149,122,847	(9,476,420)	(1,153,470)	43,750	171,641	5,964,914	(211,723)	5,924,832	144,461,539	63%
2033	0.00%	4.00%	-	-	3,995,781	295,243	144,756,782	(8,922,436)	(1,149,129)	43,750	159,831	5,790,271	(200,556)	5,749,546	140,478,513	59%
2034	0.00%	4.00%	-	-	3,632,528	363,253	140,841,766	(8,370,966)	(1,143,841)	43,750	145,301	5,633,671	(189,421)	5,589,551	136,960,260	55%
2035	0.00%	4.00%	-	-	3,269,275	363,253	137,323,512	(7,822,385)	(1,137,737)	-	196,157	5,492,941	(179,202)	5,509,895	133,873,285	51%
2036	0.00%	4.00%	-	-	2,906,022	363,253	134,236,538	(7,278,869)	(1,130,985)	-	174,361	5,369,462	(168,197)	5,375,626	131,202,309	48%
2037	0.00%	4.00%	-	-	2,542,770	363,253	131,565,562	(6,744,101)	(1,123,792)	-	152,566	5,262,622	(157,358)	5,257,831	128,955,500	44%
2042	0.00%	4.00%	-	-	726,505	363,253	124,535,925	(4,377,284)	(1,090,448)	-	43,590	4,981,437	(109,355)	4,915,673	123,983,867	28%
2047	0.00%	4.00%	-	-	-	-	126,179,755	(2,662,565)	(1,086,287)	-	-	5,047,190	(74,977)	4,972,213	127,403,116	16%
2052	0.00%	4.00%	-	-	-	-	135,304,170	(1,555,069)	(1,130,938)	-	-	5,412,167	(53,720)	5,358,447	137,976,609	9%
2057	0.00%	4.00%	-	-	-	-	151,225,242	(857,099)	(1,224,248)	-	-	6,049,010	(41,627)	6,007,383	155,151,278	5%
2062	0.00%	4.00%	-	-	-	-	173,223,096	(429,363)	(1,361,391)	-	-	6,928,924	(35,815)	6,893,109	178,325,451	2%
2067	0.00%	4.00%	-	-	-	-	201,069,015	(190,354)	(1,541,648)	-	-	8,042,761	(34,640)	8,008,121	207,345,134	1%



City of Detroit Police and Fire Retiree Health Care Trust

Scenario C (5.0% Return with 60% Utilization)

Current Participants										Potential Future Participants			Group Description
MA PPO	MA HMO	Opt-Out HRA	Retiree HRA						Spouse HRA (Non-Med Elig)	Spouse Not Receiving	Actively Waived	No Enrollment Election	
			Below FPL	Income Level	Non-Med Duty Dis	Non-Med Elig	Over 65 Non- Med Elig	Over 65 Unsub					
\$ 195.00	\$ 195.00	\$ 185.00	\$ 210.58	\$ 235.00	\$ 400.00	\$ 185.00	\$ 360.00	\$ 185.00	\$ 185.00	n/a	n/a	n/a	2023 Monthly Amount
\$ 195.00	\$ 195.00	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00	n/a	n/a	n/a	Current Monthly Amount (2024)
3,891	143	2,374	-	25	266	576	76	-	371	480	-	465	Number in Group 12/31/2022
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Include Group
\$ -	\$ -	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00				Flat Dollar Monthly Lifetime Benefit (per person) Pre-65
\$ 195.00	\$ 195.00	\$ 200.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 375.00	\$ 200.00	\$ 195.00				Flat Dollar Monthly Lifetime Benefit (per person) Post-65
100%	100%	60%	60%	60%	60%	60%	60%	60%	60%				Utilization Percentage Pre-65 (Applies to Flat Dollar Only)
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%				Utilization Percentage Post-65 (Applies to Flat Dollar Only)
\$ -	\$ -	\$ 120.00	\$ 135.35	\$ 150.00	\$ 240.00	\$ 120.00	\$ 225.00	\$ 120.00	\$ 120.00	\$ 62.50	\$ 100.00	\$ 62.50	Flat \$ Pre 65 benefit * Utilization %
\$ 195.00	\$ 195.00	\$ 200.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 375.00	\$ 200.00	\$ 195.00	\$ 62.50	\$ 195.00	\$ 125.00	Flat \$ Post 65 benefit * Utilization %
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	Annual increase in Flat Dollar Benefit

\$253,900,999	Original Face Value of Bonds at 12/10/2014
\$5,000,000	Face Value of Bond (A) at Val Date
\$0	Face Value of Bond (B) at Val Date
80%	MV of Bond (used to calculate UAAL)
\$203,876,384	Investable Assets*
Never	Year of Insolvency
Never	Year Monetization/Cash is Needed
5.00%	Average Yield

144,601,225	Present Value of Benefits
21,547,463	Present Value of Expenses
166,148,688	Total
207,876,384	Valuation Assets (Immediate Monetization)^
(41,727,696)	Unfunded Actuarial Accrued Liability (UAAL)
397,343	Present Value of Future Contributions
(42,125,039)	Asset Deficit/(Surplus)
125.4%	Funded %

Notes:

* Excludes accrued interest receivable as it is already accounted for in the cash flow projection.

Bond coupon payment does not accrue additional interest during the year in which it is paid.

^ Valuation assets include monetized valuation of bond and indicated monetization rate plus cash and receivables.

Values may not add due to rounding.

Year	Ad-Hoc Prem. Increase	Ad-Hoc Investment Return	Optional Bond Sale	Optional % of Face	Face Value of Bonds BoY	Principal Repayment	Jan. 1 Assets*	Trust Benefit Payments	Expenses	Grant / (Due City)	Interest		Ben./ Expen./ Grant/ Bond#	Total	Dec. 31 Assets	% Contracts Remaining
											Bond Coupon	Invested Assets				
2023	N/A	5.00%	\$ -	0.00%	\$ 5,000,000	\$ -	\$ 203,876,384	\$ (13,888,625)	\$ (1,147,478)	\$ 43,750	\$ 200,000	\$ 10,193,819	\$ (374,809)	\$ 10,019,010	\$ 198,903,042	98%
2024	0.00%	5.00%	-	-	5,000,000	-	198,903,042	(14,548,899)	(1,151,482)	43,750	200,000	9,945,152	(391,416)	9,753,736	193,000,148	94%
2025	0.00%	5.00%	-	-	4,971,590	28,410	193,028,558	(13,993,484)	(1,154,858)	43,750	198,864	9,651,428	(377,615)	9,472,677	187,396,642	90%
2026	0.00%	5.00%	-	-	4,944,995	26,595	187,423,236	(13,422,836)	(1,157,509)	43,750	197,800	9,371,162	(363,415)	9,205,547	182,092,189	86%
2027	0.00%	5.00%	-	-	4,919,919	25,077	182,117,265	(12,843,994)	(1,159,335)	43,750	196,797	9,105,863	(348,989)	8,953,671	177,111,357	82%
2028	0.00%	5.00%	-	-	4,896,614	23,304	177,134,661	(12,275,052)	(1,160,242)	43,750	195,865	8,856,733	(334,789)	8,717,809	172,460,926	79%
2029	0.00%	5.00%	-	-	4,875,310	21,304	172,482,230	(11,702,928)	(1,160,152)	43,750	195,012	8,624,112	(320,483)	8,498,641	168,161,540	75%
2030	0.00%	5.00%	-	-	4,856,263	19,047	168,180,587	(11,133,717)	(1,159,007)	43,750	194,251	8,409,029	(306,224)	8,297,056	164,228,669	71%
2031	0.00%	5.00%	-	-	4,574,949	281,314	164,509,983	(10,555,884)	(1,156,777)	43,750	182,998	8,225,499	(291,723)	8,116,774	160,957,846	67%
2032	0.00%	5.00%	-	-	4,291,024	283,925	161,241,771	(9,979,265)	(1,153,470)	43,750	171,641	8,062,089	(277,225)	7,956,505	158,109,291	63%
2033	0.00%	5.00%	-	-	3,995,781	295,243	158,404,534	(9,386,981)	(1,149,129)	43,750	159,831	7,920,227	(262,309)	7,817,749	155,729,923	59%
2034	0.00%	5.00%	-	-	3,632,528	363,253	156,093,176	(8,797,700)	(1,143,841)	43,750	145,301	7,804,659	(247,445)	7,702,515	153,897,900	55%
2035	0.00%	5.00%	-	-	3,269,275	363,253	154,261,153	(8,209,802)	(1,137,737)	-	196,157	7,713,058	(233,688)	7,675,526	152,589,139	51%
2036	0.00%	5.00%	-	-	2,906,022	363,253	152,952,392	(7,628,916)	(1,130,985)	-	174,361	7,647,620	(218,998)	7,602,983	151,795,474	48%
2037	0.00%	5.00%	-	-	2,542,770	363,253	152,158,727	(7,059,945)	(1,123,792)	-	152,566	7,607,936	(204,593)	7,555,909	151,530,900	44%
2042	0.00%	5.00%	-	-	726,505	363,253	156,241,897	(4,545,522)	(1,090,448)	-	43,590	7,812,095	(140,899)	7,714,786	158,320,713	28%
2047	0.00%	5.00%	-	-	-	-	172,698,333	(2,725,624)	(1,086,287)	-	-	8,634,917	(95,298)	8,539,619	177,426,041	16%
2052	0.00%	5.00%	-	-	-	-	201,474,421	(1,572,867)	(1,130,938)	-	-	10,073,721	(67,595)	10,006,126	208,776,742	9%
2057	0.00%	5.00%	-	-	-	-	243,333,626	(860,048)	(1,224,248)	-	-	12,166,681	(52,107)	12,114,574	253,363,905	5%
2062	0.00%	5.00%	-	-	-	-	299,510,231	(429,599)	(1,361,391)	-	-	14,975,512	(44,775)	14,930,737	312,649,977	2%
2067	0.00%	5.00%	-	-	-	-	372,329,895	(190,361)	(1,541,648)	-	-	18,616,495	(43,300)	18,573,195	389,171,080	1%



City of Detroit Police and Fire Retiree Health Care Trust

Scenario D (5.0% Return with 50% Utilization)

Current Participants										Potential Future Participants			Group Description
MA PPO	MA HMO	Opt-Out HRA	Retiree HRA						Spouse HRA (Non-Med Elig)	Spouse Not Receiving	Actively Waived	No Enrollment Election	
			Below FPL	Income Level	Non-Med Duty Dis	Non-Med Elig	Over 65 Non- Med Elig	Over 65 Unsub					
\$ 195.00	\$ 195.00	\$ 185.00	\$ 210.58	\$ 235.00	\$ 400.00	\$ 185.00	\$ 360.00	\$ 185.00	\$ 185.00	n/a	n/a	n/a	2023 Monthly Amount
\$ 195.00	\$ 195.00	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00	n/a	n/a	n/a	Current Monthly Amount (2024)
3,891	143	2,374	-	25	266	576	76	-	371	480	-	465	Number in Group 12/31/2022
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Include Group
\$ -	\$ -	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00				Flat Dollar Monthly Lifetime Benefit (per person) Pre-65
\$ 195.00	\$ 195.00	\$ 200.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 375.00	\$ 200.00	\$ 195.00				Flat Dollar Monthly Lifetime Benefit (per person) Post-65
100%	100%	50%	50%	50%	50%	50%	50%	50%	50%				Utilization Percentage Pre-65 (Applies to Flat Dollar Only)
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%				Utilization Percentage Post-65 (Applies to Flat Dollar Only)
\$ -	\$ -	\$ 100.00	\$ 112.79	\$ 125.00	\$ 200.00	\$ 100.00	\$ 187.50	\$ 100.00	\$ 100.00	\$ 62.50	\$ 100.00	\$ 62.50	Flat \$ Pre 65 benefit * Utilization %
\$ 195.00	\$ 195.00	\$ 200.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 375.00	\$ 200.00	\$ 195.00	\$ 62.50	\$ 195.00	\$ 125.00	Flat \$ Post 65 benefit * Utilization %
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	Annual increase in Flat Dollar Benefit

\$253,900,999	Original Face Value of Bonds at 12/10/2014
\$5,000,000	Face Value of Bond (A) at Val Date
\$0	Face Value of Bond (B) at Val Date
80%	MV of Bond (used to calculate UAAL)
\$203,876,384	Investable Assets*
Never	Year of Insolvency
Never	Year Monetization/Cash is Needed
5.00%	Average Yield

138,021,613	Present Value of Benefits
21,547,463	Present Value of Expenses
159,569,076	Total
207,876,384	Valuation Assets (Immediate Monetization)^
(48,307,308)	Unfunded Actuarial Accrued Liability (UAAL)
397,343	Present Value of Future Contributions
(48,704,651)	Asset Deficit/(Surplus)
130.5%	Funded %

Notes:

* Excludes accrued interest receivable as it is already accounted for in the cash flow projection.

Bond coupon payment does not accrue additional interest during the year in which it is paid.

^ Valuation assets include monetized valuation of bond and indicated monetization rate plus cash and receivables.

Values may not add due to rounding.

	Ad-Hoc				Trust				Interest				Dec. 31 Assets	% Contracts Remaining		
Year	Ad-Hoc Prem. Increase	Investment Return	Optional Bond Sale	Optional % of Face	Face Value of Bonds BoY	Principal Repayment	Jan. 1 Assets*	Benefit Payments	Expenses	Grant / (Due City)	Bond Coupon	Invested Assets			Ben./ Expen./ Grant/ Bond#	Total
2023	N/A	5.00%	\$ -	0.00%	\$ 5,000,000	\$ -	\$ 203,876,384	\$ (13,888,625)	\$ (1,147,478)	\$ 43,750	\$ 200,000	\$ 10,193,819	\$ (374,809)	\$ 10,019,010	\$ 198,903,042	98%
2024	0.00%	5.00%	-	-	5,000,000	-	198,903,042	(13,691,976)	(1,151,482)	43,750	200,000	9,945,152	(369,993)	9,775,159	193,878,494	94%
2025	0.00%	5.00%	-	-	4,971,590	28,410	193,906,904	(13,183,950)	(1,154,858)	43,750	198,864	9,695,345	(357,376)	9,536,832	189,148,678	90%
2026	0.00%	5.00%	-	-	4,944,995	26,595	189,175,273	(12,659,236)	(1,157,509)	43,750	197,800	9,458,764	(344,325)	9,312,239	184,714,516	86%
2027	0.00%	5.00%	-	-	4,919,919	25,077	184,739,593	(12,122,933)	(1,159,335)	43,750	196,797	9,236,980	(330,963)	9,102,813	180,603,889	82%
2028	0.00%	5.00%	-	-	4,896,614	23,304	180,627,194	(11,597,001)	(1,160,242)	43,750	195,865	9,031,360	(317,837)	8,909,387	176,823,087	79%
2029	0.00%	5.00%	-	-	4,875,310	21,304	176,844,391	(11,070,272)	(1,160,152)	43,750	195,012	8,842,220	(304,667)	8,732,565	173,390,281	75%
2030	0.00%	5.00%	-	-	4,856,263	19,047	173,409,328	(10,546,928)	(1,159,007)	43,750	194,251	8,670,466	(291,555)	8,573,162	170,320,306	71%
2031	0.00%	5.00%	-	-	4,574,949	281,314	170,601,619	(10,011,942)	(1,156,777)	43,750	182,998	8,530,081	(278,124)	8,434,955	167,911,605	67%
2032	0.00%	5.00%	-	-	4,291,024	283,925	168,195,530	(9,476,420)	(1,153,470)	43,750	171,641	8,409,777	(264,653)	8,316,764	165,926,154	63%
2033	0.00%	5.00%	-	-	3,995,781	295,243	166,221,398	(8,922,436)	(1,149,129)	43,750	159,831	8,311,070	(250,695)	8,220,206	164,413,788	59%
2034	0.00%	5.00%	-	-	3,632,528	363,253	164,777,041	(8,370,966)	(1,143,841)	43,750	145,301	8,238,852	(236,776)	8,147,377	163,453,361	55%
2035	0.00%	5.00%	-	-	3,269,275	363,253	163,816,614	(7,822,385)	(1,137,737)	-	196,157	8,190,831	(224,003)	8,162,984	163,019,476	51%
2036	0.00%	5.00%	-	-	2,906,022	363,253	163,382,728	(7,278,869)	(1,130,985)	-	174,361	8,169,136	(210,246)	8,133,251	163,106,126	48%
2037	0.00%	5.00%	-	-	2,542,770	363,253	163,469,379	(6,744,101)	(1,123,792)	-	152,566	8,173,469	(196,697)	8,129,338	163,730,824	44%
2042	0.00%	5.00%	-	-	726,505	363,253	172,140,470	(4,377,284)	(1,090,448)	-	43,590	8,607,024	(136,693)	8,513,921	175,186,659	28%
2047	0.00%	5.00%	-	-	-	-	193,693,884	(2,662,565)	(1,086,287)	-	-	9,684,694	(93,721)	9,590,973	199,536,005	16%
2052	0.00%	5.00%	-	-	-	-	228,512,297	(1,555,069)	(1,130,938)	-	-	11,425,615	(67,150)	11,358,465	237,184,754	9%
2057	0.00%	5.00%	-	-	-	-	277,901,902	(857,099)	(1,224,248)	-	-	13,895,095	(52,034)	13,843,061	289,663,617	5%
2062	0.00%	5.00%	-	-	-	-	343,637,563	(429,363)	(1,361,391)	-	-	17,181,878	(44,769)	17,137,109	358,983,919	2%
2067	0.00%	5.00%	-	-	-	-	428,649,368	(190,354)	(1,541,648)	-	-	21,432,468	(43,300)	21,389,168	448,306,535	1%



City of Detroit Police and Fire Retiree Health Care Trust

Scenario E (3.0% Return with 60% Utilization)

Current Participants										Potential Future Participants			Group Description
MA PPO	MA HMO	Opt-Out HRA	Retiree HRA						Spouse HRA (Non-Med Elig)	Spouse Not Receiving	Actively Waived	No Enrollment Election	
			Below FPL	Income Level	Non-Med Duty Dis	Non-Med Elig	Over 65 Non- Med Elig	Over 65 Unsub					
\$ 195.00	\$ 195.00	\$ 185.00	\$ 210.58	\$ 235.00	\$ 400.00	\$ 185.00	\$ 360.00	\$ 185.00	\$ 185.00	n/a	n/a	n/a	2023 Monthly Amount
\$ 195.00	\$ 195.00	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00	n/a	n/a	n/a	Current Monthly Amount (2024)
3,891	143	2,374	-	25	266	576	76	-	371	480	-	465	Number in Group 12/31/2022
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Include Group
\$ -	\$ -	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00				Flat Dollar Monthly Lifetime Benefit (per person) Pre-65
\$ 195.00	\$ 195.00	\$ 200.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 375.00	\$ 200.00	\$ 195.00				Flat Dollar Monthly Lifetime Benefit (per person) Post-65
100%	100%	60%	60%	60%	60%	60%	60%	60%	60%				Utilization Percentage Pre-65 (Applies to Flat Dollar Only)
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%				Utilization Percentage Post-65 (Applies to Flat Dollar Only)
\$ -	\$ -	\$ 120.00	\$ 135.35	\$ 150.00	\$ 240.00	\$ 120.00	\$ 225.00	\$ 120.00	\$ 120.00	\$ 62.50	\$ 100.00	\$ 62.50	Flat \$ Pre 65 benefit * Utilization %
\$ 195.00	\$ 195.00	\$ 200.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 375.00	\$ 200.00	\$ 195.00	\$ 62.50	\$ 195.00	\$ 125.00	Flat \$ Post 65 benefit * Utilization %
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	Annual increase in Flat Dollar Benefit

\$253,900,999	Original Face Value of Bonds at 12/10/2014
\$5,000,000	Face Value of Bond (A) at Val Date
\$0	Face Value of Bond (B) at Val Date
80%	MV of Bond (used to calculate UAAL)
\$203,876,384	Investable Assets*
Never	Year of Insolvency
Never	Year Monetization/Cash is Needed
3.00%	Average Yield

170,686,929	Present Value of Benefits
30,215,932	Present Value of Expenses
200,902,861	Total
207,876,384	Valuation Assets (Immediate Monetization)^
(6,973,523)	Unfunded Actuarial Accrued Liability (UAAL)
441,972	Present Value of Future Contributions
(7,415,495)	Asset Deficit/(Surplus)
103.7%	Funded %

Notes:

* Excludes accrued interest receivable as it is already accounted for in the cash flow projection.

Bond coupon payment does not accrue additional interest during the year in which it is paid.

^ Valuation assets include monetized valuation of bond and indicated monetization rate plus cash and receivables.

Values may not add due to rounding.

	Ad-Hoc								Trust		Interest				Dec. 31 Assets	% Contracts Remaining
Year	Ad-Hoc Prem. Increase	Investment Return	Optional Bond Sale	Optional % of Face	Face Value of Bonds BoY	Principal Repayment	Jan. 1 Assets*	Benefit Payments	Expenses	Grant / (Due City)	Bond Coupon	Invested Assets	Ben./ Expen./ Grant/ Bond#	Total		
2023	N/A	3.00%	\$ -	0.00%	\$ 5,000,000	\$ -	\$ 203,876,384	\$ (13,888,625)	\$ (1,147,478)	\$ 43,750	\$ 200,000	\$ 6,116,292	\$ (224,885)	\$ 6,091,406	\$ 194,975,438	98%
2024	0.00%	3.00%	-	-	5,000,000	-	194,975,438	(14,548,899)	(1,151,482)	43,750	200,000	5,849,263	(234,849)	5,814,414	185,133,221	94%
2025	0.00%	3.00%	-	-	4,971,590	28,410	185,161,631	(13,993,484)	(1,154,858)	43,750	198,864	5,554,849	(226,569)	5,527,144	175,584,182	90%
2026	0.00%	3.00%	-	-	4,944,995	26,595	175,610,777	(13,422,836)	(1,157,509)	43,750	197,800	5,268,323	(218,049)	5,248,074	166,322,256	86%
2027	0.00%	3.00%	-	-	4,919,919	25,077	166,347,333	(12,843,994)	(1,159,335)	43,750	196,797	4,990,420	(209,394)	4,977,823	157,365,577	82%
2028	0.00%	3.00%	-	-	4,896,614	23,304	157,388,882	(12,275,052)	(1,160,242)	43,750	195,865	4,721,666	(200,873)	4,716,658	148,713,995	79%
2029	0.00%	3.00%	-	-	4,875,310	21,304	148,735,299	(11,702,928)	(1,160,152)	43,750	195,012	4,462,059	(192,290)	4,464,781	140,380,750	75%
2030	0.00%	3.00%	-	-	4,856,263	19,047	140,399,797	(11,133,717)	(1,159,007)	43,750	194,251	4,211,994	(183,735)	4,222,510	132,373,333	71%
2031	0.00%	3.00%	-	-	4,574,949	281,314	132,654,647	(10,555,884)	(1,156,777)	43,750	182,998	3,979,639	(175,034)	3,987,604	124,973,339	67%
2032	0.00%	3.00%	-	-	4,291,024	283,925	125,257,264	(9,979,265)	(1,153,470)	43,750	171,641	3,757,718	(166,335)	3,763,024	117,931,304	63%
2033	0.00%	3.00%	-	-	3,995,781	295,243	118,226,547	(9,386,981)	(1,149,129)	43,750	159,831	3,546,796	(157,385)	3,549,242	111,283,429	59%
2034	0.00%	3.00%	-	-	3,632,528	363,253	111,646,682	(8,797,700)	(1,143,841)	43,750	145,301	3,349,400	(148,467)	3,346,235	105,095,125	55%
2035	0.00%	3.00%	-	-	3,269,275	363,253	105,458,378	(8,209,802)	(1,137,737)	-	196,157	3,163,751	(140,213)	3,219,695	99,330,534	51%
2036	0.00%	3.00%	-	-	2,906,022	363,253	99,693,787	(7,628,916)	(1,130,985)	-	174,361	2,990,814	(131,399)	3,033,776	93,967,662	48%
2037	0.00%	3.00%	-	-	2,542,770	363,253	94,330,915	(7,059,945)	(1,123,792)	-	152,566	2,829,927	(122,756)	2,859,738	89,006,916	44%
2042	0.00%	3.00%	-	-	726,505	363,253	73,371,344	(4,545,522)	(1,090,448)	-	43,590	2,201,140	(84,540)	2,160,191	69,895,565	28%
2047	0.00%	3.00%	-	-	-	-	59,707,086	(2,725,624)	(1,086,287)	-	-	1,791,213	(57,179)	1,734,034	57,629,208	16%
2052	0.00%	3.00%	-	-	-	-	51,247,400	(1,572,867)	(1,130,938)	-	-	1,537,422	(40,557)	1,496,865	50,040,460	9%
2057	0.00%	3.00%	-	-	-	-	46,302,840	(860,048)	(1,224,248)	-	-	1,389,085	(31,264)	1,357,821	45,576,366	5%
2062	0.00%	3.00%	-	-	-	-	43,175,590	(429,599)	(1,361,391)	-	-	1,295,268	(26,865)	1,268,403	42,653,003	2%
2067	0.00%	3.00%	-	-	-	-	40,608,231	(190,361)	(1,541,648)	-	-	1,218,247	(25,980)	1,192,267	40,068,488	1%



City of Detroit Police and Fire Retiree Health Care Trust

Scenario F (3.0% Return with 50% Utilization)

Current Participants										Potential Future Participants			Group Description
MA PPO	MA HMO	Opt-Out HRA	Retiree HRA						Spouse HRA (Non-Med Elig)	Spouse Not Receiving	Actively Waived	No Enrollment Election	
			Below FPL	Income Level	Non-Med Duty Dis	Non-Med Elig	Over 65 Non- Med Elig	Over 65 Unsub					
\$ 195.00	\$ 195.00	\$ 185.00	\$ 210.58	\$ 235.00	\$ 400.00	\$ 185.00	\$ 360.00	\$ 185.00	\$ 185.00	n/a	n/a	n/a	2023 Monthly Amount
\$ 195.00	\$ 195.00	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00	n/a	n/a	n/a	Current Monthly Amount (2024)
3,891	143	2,374	-	25	266	576	76	-	371	480	-	465	Number in Group 12/31/2022
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Include Group
\$ -	\$ -	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00				Flat Dollar Monthly Lifetime Benefit (per person) Pre-65
\$ 195.00	\$ 195.00	\$ 200.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 375.00	\$ 200.00	\$ 195.00				Flat Dollar Monthly Lifetime Benefit (per person) Post-65
100%	100%	50%	50%	50%	50%	50%	50%	50%	50%				Utilization Percentage Pre-65 (Applies to Flat Dollar Only)
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%				Utilization Percentage Post-65 (Applies to Flat Dollar Only)
\$ -	\$ -	\$ 100.00	\$ 112.79	\$ 125.00	\$ 200.00	\$ 100.00	\$ 187.50	\$ 100.00	\$ 100.00	\$ 62.50	\$ 100.00	\$ 62.50	Flat \$ Pre 65 benefit * Utilization %
\$ 195.00	\$ 195.00	\$ 200.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 375.00	\$ 200.00	\$ 195.00	\$ 62.50	\$ 195.00	\$ 125.00	Flat \$ Post 65 benefit * Utilization %
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	Annual increase in Flat Dollar Benefit

\$253,900,999	Original Face Value of Bonds at 12/10/2014
\$5,000,000	Face Value of Bond (A) at Val Date
\$0	Face Value of Bond (B) at Val Date
80%	MV of Bond (used to calculate UAAL)
\$203,876,384	Investable Assets*
Never	Year of Insolvency
Never	Year Monetization/Cash is Needed
3.00%	Average Yield

163,039,546	Present Value of Benefits
30,215,932	Present Value of Expenses
193,255,478	Total
207,876,384	Valuation Assets (Immediate Monetization)^
(14,620,906)	Unfunded Actuarial Accrued Liability (UAAL)
441,972	Present Value of Future Contributions
(15,062,878)	Asset Deficit/(Surplus)
107.8%	Funded %

Notes:

* Excludes accrued interest receivable as it is already accounted for in the cash flow projection.

Bond coupon payment does not accrue additional interest during the year in which it is paid.

^ Valuation assets include monetized valuation of bond and indicated monetization rate plus cash and receivables.

Values may not add due to rounding.

Year	Ad-Hoc		Optional Bond Sale	Optional % of Face	Face Value of Bonds BoY	Principal Repayment	Jan. 1 Assets*	Trust Benefit		Grant / (Due City)	Interest		Ben./ Expen./ Grant/ Bond#	Total	Dec. 31 Assets	% Contracts Remaining
	Ad-Hoc Prem. Increase	Investment Return						Payments	Expenses		Bond Coupon	Invested Assets				
2023	N/A	3.00%	\$ -	0.00%	\$ 5,000,000	\$ -	\$ 203,876,384	\$ (13,888,625)	\$ (1,147,478)	\$ 43,750	\$ 200,000	\$ 6,116,292	\$ (224,885)	\$ 6,091,406	\$ 194,975,438	98%
2024	0.00%	3.00%	-	-	5,000,000	-	194,975,438	(13,691,976)	(1,151,482)	43,750	200,000	5,849,263	(221,996)	5,827,268	186,002,998	94%
2025	0.00%	3.00%	-	-	4,971,590	28,410	186,031,408	(13,183,950)	(1,154,858)	43,750	198,864	5,580,942	(214,426)	5,565,380	177,301,730	90%
2026	0.00%	3.00%	-	-	4,944,995	26,595	177,328,324	(12,659,236)	(1,157,509)	43,750	197,800	5,319,850	(206,595)	5,311,055	168,866,384	86%
2027	0.00%	3.00%	-	-	4,919,919	25,077	168,891,461	(12,122,933)	(1,159,335)	43,750	196,797	5,066,744	(198,578)	5,064,963	160,717,906	82%
2028	0.00%	3.00%	-	-	4,896,614	23,304	160,741,211	(11,597,001)	(1,160,242)	43,750	195,865	4,822,236	(190,702)	4,827,398	152,855,115	79%
2029	0.00%	3.00%	-	-	4,875,310	21,304	152,876,419	(11,070,272)	(1,160,152)	43,750	195,012	4,586,293	(182,800)	4,598,505	145,288,250	75%
2030	0.00%	3.00%	-	-	4,856,263	19,047	145,307,297	(10,546,928)	(1,159,007)	43,750	194,251	4,359,219	(174,933)	4,378,537	138,023,648	71%
2031	0.00%	3.00%	-	-	4,574,949	281,314	138,304,962	(10,011,942)	(1,156,777)	43,750	182,998	4,149,149	(166,875)	4,165,272	131,345,265	67%
2032	0.00%	3.00%	-	-	4,291,024	283,925	131,629,190	(9,476,420)	(1,153,470)	43,750	171,641	3,948,876	(158,792)	3,961,725	125,004,775	63%
2033	0.00%	3.00%	-	-	3,995,781	295,243	125,300,019	(8,922,436)	(1,149,129)	43,750	159,831	3,759,001	(150,417)	3,768,415	119,040,618	59%
2034	0.00%	3.00%	-	-	3,632,528	363,253	119,403,871	(8,370,966)	(1,143,841)	43,750	145,301	3,582,116	(142,066)	3,585,351	113,518,165	55%
2035	0.00%	3.00%	-	-	3,269,275	363,253	113,881,418	(7,822,385)	(1,137,737)	-	196,157	3,416,443	(134,402)	3,478,197	108,399,493	51%
2036	0.00%	3.00%	-	-	2,906,022	363,253	108,762,746	(7,278,869)	(1,130,985)	-	174,361	3,262,882	(126,148)	3,311,096	103,663,988	48%
2037	0.00%	3.00%	-	-	2,542,770	363,253	104,027,240	(6,744,101)	(1,123,792)	-	152,566	3,120,817	(118,018)	3,155,365	99,314,713	44%
2042	0.00%	3.00%	-	-	726,505	363,253	85,997,782	(4,377,284)	(1,090,448)	-	43,590	2,579,933	(82,016)	2,541,508	83,071,558	28%
2047	0.00%	3.00%	-	-	-	-	75,010,174	(2,662,565)	(1,086,287)	-	-	2,250,305	(56,233)	2,194,072	73,455,394	16%
2052	0.00%	3.00%	-	-	-	-	69,215,745	(1,555,069)	(1,130,938)	-	-	2,076,472	(40,290)	2,036,182	68,565,921	9%
2057	0.00%	3.00%	-	-	-	-	67,189,794	(857,099)	(1,224,248)	-	-	2,015,694	(31,220)	1,984,474	67,092,921	5%
2062	0.00%	3.00%	-	-	-	-	67,397,232	(429,363)	(1,361,391)	-	-	2,021,917	(26,861)	1,995,056	67,601,534	2%
2067	0.00%	3.00%	-	-	-	-	68,688,285	(190,354)	(1,541,648)	-	-	2,060,649	(25,980)	2,034,669	68,990,951	1%



City of Detroit Police and Fire Retiree Health Care Trust

Scenario G Alternate with 100% Utilization for Current Participants

(4.0% Return with 80% Monetization)

Current Participants										Potential Future Participants			Group Description
MA PPO	MA HMO	Opt-Out HRA	Retiree HRA						Spouse HRA (Non-Med Elig)	Spouse Not Receiving	Actively Waived	No Enrollment Election	
			Below FPL	Income Level	Non-Med Duty Dis	Non-Med Elig	Over 65 Non- Med Elig	Over 65 Unsub					
\$ 195.00	\$ 195.00	\$ 185.00	\$ 210.58	\$ 235.00	\$ 400.00	\$ 185.00	\$ 360.00	\$ 185.00	\$ 185.00	n/a	n/a	n/a	2023 Monthly Amount
\$ 195.00	\$ 195.00	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00	n/a	n/a	n/a	Current Monthly Amount (2024)
3,891	143	2,374	-	25	266	576	76	-	371	480	-	465	Number in Group 12/31/2022
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Include Group
\$ -	\$ -	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00				Flat Dollar Monthly Lifetime Benefit (per person) Pre-65
\$ 195.00	\$ 195.00	\$ 200.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 375.00	\$ 200.00	\$ 195.00				Flat Dollar Monthly Lifetime Benefit (per person) Post-65
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%				Utilization Percentage Pre-65 (Applies to Flat Dollar Only)
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%				Utilization Percentage Post-65 (Applies to Flat Dollar Only)
\$ -	\$ -	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00	\$ 62.50	\$ 100.00	\$ 62.50	Flat \$ Pre 65 benefit * Utilization %
\$ 195.00	\$ 195.00	\$ 200.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 375.00	\$ 200.00	\$ 195.00	\$ 62.50	\$ 195.00	\$ 125.00	Flat \$ Post 65 benefit * Utilization %
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	Annual increase in Flat Dollar Benefit

\$253,900,999	Original Face Value of Bonds at 12/10/2014
\$5,000,000	Face Value of Bond (A) at Val Date
\$0	Face Value of Bond (B) at Val Date
80%	MV of Bond (used to calculate UAAL)
\$203,876,384	Investable Assets*
2,069	Year of Insolvency
2068	Year Monetization/Cash is Needed
4.00%	Average Yield

184,964,260	Present Value of Benefits
25,286,686	Present Value of Expenses
210,250,946	Total
207,876,384	Valuation Assets (Immediate Monetization)^
2,374,562	Unfunded Actuarial Accrued Liability (UAAL)
418,728	Present Value of Future Contributions
1,955,834	Asset Deficit/(Surplus)
99.1%	Funded %

Notes:

* Excludes accrued interest receivable as it is already accounted for in the cash flow projection.

Bond coupon payment does not accrue additional interest during the year in which it is paid.

^ Valuation assets include monetized valuation of bond and indicated monetization rate plus cash and receivables. Values may not add due to rounding.

	Ad-Hoc				Trust				Interest				Dec. 31 Assets	% Contracts Remaining		
Year	Ad-Hoc Prem. Increase	Investment Return	Optional Bond Sale	Optional % of Face	Face Value of Bonds BoY	Principal Repayment	Jan. 1 Assets*	Benefit Payments	Expenses	Grant / (Due City)	Bond Coupon	Invested Assets			Ben./ Expen./ Grant/ Bond#	Total
2023	N/A	4.00%	\$ -	0.00%	\$ 5,000,000	\$ -	\$ 203,876,384	\$ (13,888,625)	\$ (1,147,478)	\$ 43,750	\$ 200,000	\$ 8,155,055	\$ (299,847)	\$ 8,055,208	\$ 196,939,240	98%
2024	0.00%	4.00%	-	-	5,000,000	-	196,939,240	(17,976,591)	(1,151,482)	43,750	200,000	7,877,570	(381,686)	7,695,883	185,550,801	94%
2025	0.00%	4.00%	-	-	4,971,590	28,410	185,579,211	(17,231,623)	(1,154,858)	43,750	198,864	7,423,168	(366,855)	7,255,177	174,491,657	90%
2026	0.00%	4.00%	-	-	4,944,995	26,595	174,518,251	(16,477,234)	(1,157,509)	43,750	197,800	6,980,730	(351,820)	6,826,710	163,753,968	86%
2027	0.00%	4.00%	-	-	4,919,919	25,077	163,779,045	(15,728,240)	(1,159,335)	43,750	196,797	6,551,162	(336,877)	6,411,082	153,346,302	82%
2028	0.00%	4.00%	-	-	4,896,614	23,304	153,369,607	(14,987,254)	(1,160,242)	43,750	195,865	6,134,784	(322,075)	6,008,574	143,274,434	79%
2029	0.00%	4.00%	-	-	4,875,310	21,304	143,295,738	(14,233,553)	(1,160,152)	43,750	195,012	5,731,830	(306,999)	5,619,843	133,565,626	75%
2030	0.00%	4.00%	-	-	4,856,263	19,047	133,584,673	(13,480,871)	(1,159,007)	43,750	194,251	5,343,387	(291,923)	5,245,715	124,234,260	71%
2031	0.00%	4.00%	-	-	4,574,949	281,314	124,515,573	(12,731,653)	(1,156,777)	43,750	182,998	4,980,623	(276,894)	4,886,727	115,557,620	67%
2032	0.00%	4.00%	-	-	4,291,024	283,925	115,841,546	(11,990,645)	(1,153,470)	43,750	171,641	4,633,662	(262,007)	4,543,296	107,284,477	63%
2033	0.00%	4.00%	-	-	3,995,781	295,243	107,579,720	(11,245,162)	(1,149,129)	43,750	159,831	4,303,189	(247,011)	4,216,009	99,445,188	59%
2034	0.00%	4.00%	-	-	3,632,528	363,253	99,808,441	(10,504,636)	(1,143,841)	43,750	145,301	3,992,338	(232,095)	3,905,544	92,109,258	55%
2035	0.00%	4.00%	-	-	3,269,275	363,253	92,472,511	(9,759,470)	(1,137,737)	-	196,157	3,698,900	(217,944)	3,677,113	85,252,417	51%
2036	0.00%	4.00%	-	-	2,906,022	363,253	85,615,670	(9,029,105)	(1,130,985)	-	174,361	3,424,627	(203,202)	3,395,786	78,851,366	48%
2037	0.00%	4.00%	-	-	2,542,770	363,253	79,214,619	(8,323,319)	(1,123,792)	-	152,566	3,168,585	(188,942)	3,132,209	72,899,718	44%
2042	0.00%	4.00%	-	-	726,505	363,253	53,723,563	(5,218,476)	(1,090,448)	-	43,590	2,148,943	(126,178)	2,066,354	49,480,994	28%
2047	0.00%	4.00%	-	-	-	-	36,601,729	(2,977,861)	(1,086,287)	-	-	1,464,069	(81,283)	1,382,786	33,920,367	16%
2052	0.00%	4.00%	-	-	-	-	25,145,473	(1,644,059)	(1,130,938)	-	-	1,005,819	(55,500)	950,319	23,320,796	9%
2057	0.00%	4.00%	-	-	-	-	16,907,840	(871,844)	(1,224,248)	-	-	676,314	(41,922)	634,392	15,446,140	5%
2062	0.00%	4.00%	-	-	-	-	9,764,414	(430,542)	(1,361,391)	-	-	390,577	(35,839)	354,738	8,327,218	2%
2067	0.00%	4.00%	-	-	-	-	2,193,774	(190,390)	(1,541,648)	-	-	87,751	(34,641)	53,110	514,845	1%



City of Detroit Police and Fire Retiree Health Care Trust

Scenario H Alternate with 2% Annual Benefit Increases

(4.0% Return with 60% Monetization)

Current Participants										Potential Future Participants			Group Description
MA PPO	MA HMO	Opt-Out HRA	Retiree HRA						Spouse HRA (Non-Med Elig)	Spouse Not Receiving	Actively Waived	No Enrollment Election	
			Below FPL	Income Level	Non-Med Duty Dis	Non-Med Elig	Over 65 Non- Med Elig	Over 65 Unsub					
\$ 195.00	\$ 195.00	\$ 185.00	\$ 210.58	\$ 235.00	\$ 400.00	\$ 185.00	\$ 360.00	\$ 185.00	\$ 185.00	n/a	n/a	n/a	2023 Monthly Amount
\$ 195.00	\$ 195.00	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00	n/a	n/a	n/a	Current Monthly Amount (2024)
3,891	143	2,374	-	25	266	576	76	-	371	480	-	465	Number in Group 12/31/2022
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Include Group
\$ -	\$ -	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00				Flat Dollar Monthly Lifetime Benefit (per person) Pre-65
\$ 195.00	\$ 195.00	\$ 200.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 375.00	\$ 200.00	\$ 195.00				Flat Dollar Monthly Lifetime Benefit (per person) Post-65
100%	100%	60%	60%	60%	60%	60%	60%	60%	60%				Utilization Percentage Pre-65 (Applies to Flat Dollar Only)
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%				Utilization Percentage Post-65 (Applies to Flat Dollar Only)
\$ -	\$ -	\$ 120.00	\$ 135.35	\$ 150.00	\$ 240.00	\$ 120.00	\$ 225.00	\$ 120.00	\$ 120.00	\$ 62.50	\$ 100.00	\$ 62.50	Flat \$ Pre 65 benefit * Utilization %
\$ 195.00	\$ 195.00	\$ 200.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 375.00	\$ 200.00	\$ 195.00	\$ 62.50	\$ 195.00	\$ 125.00	Flat \$ Post 65 benefit * Utilization %
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	Annual increase in Flat Dollar Benefit

\$253,900,999	Original Face Value of Bonds at 12/10/2014
\$5,000,000	Face Value of Bond (A) at Val Date
\$0	Face Value of Bond (B) at Val Date
80%	MV of Bond (used to calculate UAAL)
\$203,876,384	Investable Assets*
2,066	Year of Insolvency
2065	Year Monetization/Cash is Needed
4.00%	Average Yield

186,077,233	Present Value of Benefits
25,286,686	Present Value of Expenses
211,363,919	Total
207,876,384	Valuation Assets (Immediate Monetization)*
3,487,535	Unfunded Actuarial Accrued Liability (UAAL)
418,728	Present Value of Future Contributions
3,068,807	Asset Deficit/(Surplus)
98.5%	Funded %

Notes:

- * Excludes accrued interest receivable as it is already accounted for in the cash flow projection.
- # Bond coupon payment does not accrue additional interest during the year in which it is paid.
- ^ Valuation assets include monetized valuation of bond and indicated monetization rate plus cash and receivables. Values may not add due to rounding.

Year	Ad-Hoc			Optional Bond Sale	Optional % of Face	Face Value of Bonds BoY	Principal Repayment	Jan. 1 Assets*	Trust		Grant / (Due City)	Interest			Total	Dec. 31 Assets	% Contracts Remaining
	Ad-Hoc Prem. Increase	Investment Return							Benefit Payments	Expenses		Bond Coupon	Invested Assets	Ben./ Expen./ Grant/ Bond#			
2023	N/A	4.00%	\$ -	-	0.00%	\$ 5,000,000	\$ -	\$ 203,876,384	\$ (13,888,625)	\$ (1,147,478)	\$ 43,750	\$ 200,000	\$ 8,155,055	\$ (299,847)	\$ 8,055,208	\$ 196,939,240	98%
2024	2.00%	4.00%	-	-	-	5,000,000	-	196,939,240	(14,839,877)	(1,151,482)	43,750	200,000	7,877,570	(318,952)	7,758,617	188,750,249	94%
2025	2.00%	4.00%	-	-	-	4,971,590	28,410	188,778,659	(14,558,821)	(1,154,858)	43,750	198,864	7,551,146	(313,399)	7,436,611	180,545,341	90%
2026	2.00%	4.00%	-	-	-	4,944,995	26,595	180,571,935	(14,244,421)	(1,157,509)	43,750	197,800	7,222,877	(307,164)	7,113,514	172,327,269	86%
2027	2.00%	4.00%	-	-	-	4,919,919	25,077	172,352,346	(13,902,753)	(1,159,335)	43,750	196,797	6,894,094	(300,367)	6,790,524	164,124,533	82%
2028	2.00%	4.00%	-	-	-	4,896,614	23,304	164,147,837	(13,552,649)	(1,160,242)	43,750	195,865	6,565,914	(293,383)	6,468,395	155,947,091	79%
2029	2.00%	4.00%	-	-	-	4,875,310	21,304	155,968,395	(13,179,398)	(1,160,152)	43,750	195,012	6,238,736	(285,916)	6,147,832	147,820,427	75%
2030	2.00%	4.00%	-	-	-	4,856,263	19,047	147,839,474	(12,789,141)	(1,159,007)	43,750	194,251	5,913,579	(278,088)	5,829,742	139,764,818	71%
2031	2.00%	4.00%	-	-	-	4,574,949	281,314	140,046,131	(12,367,900)	(1,156,777)	43,750	182,998	5,601,845	(269,619)	5,515,225	132,080,428	67%
2032	2.00%	4.00%	-	-	-	4,291,024	283,925	132,364,354	(11,926,145)	(1,153,470)	43,750	171,641	5,294,574	(260,717)	5,205,498	124,533,986	63%
2033	2.00%	4.00%	-	-	-	3,995,781	295,243	124,829,229	(11,442,678)	(1,149,129)	43,750	159,831	4,993,169	(250,961)	4,902,039	117,183,212	59%
2034	2.00%	4.00%	-	-	-	3,632,528	363,253	117,546,465	(10,938,834)	(1,143,841)	43,750	145,301	4,701,859	(240,779)	4,606,381	110,113,921	55%
2035	2.00%	4.00%	-	-	-	3,269,275	363,253	110,477,174	(10,412,014)	(1,137,737)	-	196,157	4,419,087	(230,995)	4,384,248	103,311,671	51%
2036	2.00%	4.00%	-	-	-	2,906,022	363,253	103,674,924	(9,868,817)	(1,130,985)	-	174,361	4,146,997	(219,996)	4,101,362	96,776,484	48%
2037	2.00%	4.00%	-	-	-	2,542,770	363,253	97,139,737	(9,315,447)	(1,123,792)	-	152,566	3,885,589	(208,785)	3,829,371	90,529,870	44%
2042	2.00%	4.00%	-	-	-	726,505	363,253	68,987,687	(6,621,968)	(1,090,448)	-	43,590	2,759,507	(154,248)	2,648,850	63,924,121	28%
2047	2.00%	4.00%	-	-	-	-	-	47,279,349	(4,383,996)	(1,086,287)	-	-	1,891,174	(109,406)	1,781,768	43,590,834	16%
2052	2.00%	4.00%	-	-	-	-	-	30,854,723	(2,793,168)	(1,130,938)	-	-	1,234,189	(78,482)	1,155,707	28,086,324	9%
2057	2.00%	4.00%	-	-	-	-	-	18,208,941	(1,686,275)	(1,224,248)	-	-	728,358	(58,210)	670,147	15,968,566	5%
2062	2.00%	4.00%	-	-	-	-	-	7,542,819	(929,972)	(1,361,391)	-	-	301,713	(45,827)	255,886	5,507,342	2%
2067	2.00%	4.00%	-	-	-	-	-	(2,720,594)	(454,973)	(1,541,648)	-	-	-	(55,706)	(55,706)	(4,772,921)	1%



APPENDIX

ALTERNATE SCENARIO

City of Detroit Police and Fire Retiree Health Care Trust

Alternate with 70% HRA Utilization

(4.0% Return with 80% Monetization)

Current Participants										Potential Future Participants			Group Description
MA PPO	MA HMO	Opt-Out HRA	Retiree HRA						Spouse HRA (Non-Med Elig)	Spouse Not Receiving	Actively Waived	No Enrollment Election	
			Below FPL	Income Level	Non-Med Duty Dis	Non-Med Elig	Over 65 Non- Med Elig	Over 65 Unsub					
\$ 195.00	\$ 195.00	\$ 185.00	\$ 210.58	\$ 235.00	\$ 400.00	\$ 185.00	\$ 360.00	\$ 185.00	\$ 185.00	n/a	n/a	n/a	2023 Monthly Amount
\$ 195.00	\$ 195.00	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00	n/a	n/a	n/a	Current Monthly Amount (2024)
3,891	143	2,374	-	25	266	576	76	-	371	480	-	465	Number in Group 12/31/2022
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Include Group
\$ -	\$ -	\$ 200.00	\$ 225.58	\$ 250.00	\$ 400.00	\$ 200.00	\$ 375.00	\$ 200.00	\$ 200.00				Flat Dollar Monthly Lifetime Benefit (per person) Pre-65
\$ 195.00	\$ 195.00	\$ 200.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 375.00	\$ 200.00	\$ 195.00				Flat Dollar Monthly Lifetime Benefit (per person) Post-65
100%	100%	70%	70%	70%	70%	70%	70%	70%	70%				Utilization Percentage Pre-65 (Applies to Flat Dollar Only)
100%	100%	100%	100%	100%	100%	100%	100%	100%	100%				Utilization Percentage Post-65 (Applies to Flat Dollar Only)
\$ -	\$ -	\$ 140.00	\$ 157.91	\$ 175.00	\$ 280.00	\$ 140.00	\$ 262.50	\$ 140.00	\$ 140.00	\$ 62.50	\$ 100.00	\$ 62.50	Flat \$ Pre 65 benefit * Utilization %
\$ 195.00	\$ 195.00	\$ 200.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 195.00	\$ 375.00	\$ 200.00	\$ 195.00	\$ 62.50	\$ 195.00	\$ 125.00	Flat \$ Post 65 benefit * Utilization %
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	Annual increase in Flat Dollar Benefit

\$253,900,999	Original Face Value of Bonds at 12/10/2014
\$5,000,000	Face Value of Bond (A) at Val Date
\$0	Face Value of Bond (B) at Val Date
80%	MV of Bond (used to calculate UAAL)
\$203,876,384	Investable Assets*
Never	Year of Insolvency
Never	Year Monetization/Cash is Needed
4.00%	Average Yield

163,722,932	Present Value of Benefits
25,286,686	Present Value of Expenses
189,009,618	Total
207,876,384	Valuation Assets (Immediate Monetization)^
(18,866,766)	Unfunded Actuarial Accrued Liability (UAAL)
418,728	Present Value of Future Contributions
(19,285,494)	Asset Deficit/(Surplus)
110.2%	Funded %

Notes:

* Excludes accrued interest receivable as it is already accounted for in the cash flow projection.
Bond coupon payment does not accrue additional interest during the year in which it is paid.

^ Valuation
Values may

Year	Ad-Hoc			Optional Bond Sale	Optional % of Face	Face Value of Bonds BoY	Principal Repayment	Jan. 1 Assets*	Trust		Grant / (Due City)	Interest		Ben./ Expen./ Grant/ Bond#	Total	Dec. 31 Assets	% Contracts Remaining
	Ad-Hoc Prem. Increase	Investment Return	Investment Return						Benefit Payments	Expenses		Bond Coupon	Invested Assets				
2023	N/A	4.00%	\$ -	-	0.00%	\$ 5,000,000	\$ -	\$ 203,876,384	\$ (13,888,625)	\$ (1,147,478)	\$ 43,750	\$ 200,000	\$ 8,155,055	\$ (299,847)	\$ 8,055,208	\$ 196,939,240	98%
2024	0.00%	4.00%	-	-	-	5,000,000	-	196,939,240	(15,405,822)	(1,151,482)	43,750	200,000	7,877,570	(330,271)	7,747,299	188,172,985	94%
2025	0.00%	4.00%	-	-	-	4,971,590	28,410	188,201,395	(14,803,019)	(1,154,858)	43,750	198,864	7,528,056	(318,283)	7,408,637	179,695,904	90%
2026	0.00%	4.00%	-	-	-	4,944,995	26,595	179,722,499	(14,186,435)	(1,157,509)	43,750	197,800	7,188,900	(306,004)	7,080,696	171,503,001	86%
2027	0.00%	4.00%	-	-	-	4,919,919	25,077	171,528,078	(13,565,056)	(1,159,335)	43,750	196,797	6,861,123	(293,613)	6,764,307	163,611,744	82%
2028	0.00%	4.00%	-	-	-	4,896,614	23,304	163,635,049	(12,953,102)	(1,160,242)	43,750	195,865	6,545,402	(281,392)	6,459,875	156,025,328	79%
2029	0.00%	4.00%	-	-	-	4,875,310	21,304	156,046,632	(12,335,584)	(1,160,152)	43,750	195,012	6,241,865	(269,040)	6,167,838	148,762,483	75%
2030	0.00%	4.00%	-	-	-	4,856,263	19,047	148,781,531	(11,720,505)	(1,159,007)	43,750	194,251	5,951,261	(256,715)	5,888,797	141,834,565	71%
2031	0.00%	4.00%	-	-	-	4,574,949	281,314	142,115,879	(11,099,826)	(1,156,777)	43,750	182,998	5,684,635	(244,257)	5,623,376	135,526,401	67%
2032	0.00%	4.00%	-	-	-	4,291,024	283,925	135,810,326	(10,482,110)	(1,153,470)	43,750	171,641	5,432,413	(231,837)	5,372,217	129,590,714	63%
2033	0.00%	4.00%	-	-	-	3,995,781	295,243	129,885,957	(9,851,527)	(1,149,129)	43,750	159,831	5,195,438	(219,138)	5,136,131	124,065,183	59%
2034	0.00%	4.00%	-	-	-	3,632,528	363,253	124,428,436	(9,224,434)	(1,143,841)	43,750	145,301	4,977,137	(206,491)	4,915,948	119,019,859	55%
2035	0.00%	4.00%	-	-	-	3,269,275	363,253	119,383,112	(8,597,219)	(1,137,737)	-	196,157	4,775,324	(194,699)	4,776,782	114,424,938	51%
2036	0.00%	4.00%	-	-	-	2,906,022	363,253	114,788,190	(7,978,963)	(1,130,985)	-	174,361	4,591,528	(182,199)	4,583,690	110,261,932	48%
2037	0.00%	4.00%	-	-	-	2,542,770	363,253	110,625,185	(7,375,788)	(1,123,792)	-	152,566	4,425,007	(169,992)	4,407,582	106,533,187	44%
2042	0.00%	4.00%	-	-	-	726,505	363,253	96,210,980	(4,713,761)	(1,090,448)	-	43,590	3,848,439	(116,084)	3,775,945	94,182,718	28%
2047	0.00%	4.00%	-	-	-	-	-	90,348,545	(2,788,683)	(1,086,287)	-	-	3,613,942	(77,499)	3,536,442	90,010,017	16%
2052	0.00%	4.00%	-	-	-	-	-	91,240,691	(1,590,665)	(1,130,938)	-	-	3,649,628	(54,432)	3,595,196	92,114,284	9%
2057	0.00%	4.00%	-	-	-	-	-	97,498,281	(862,997)	(1,224,248)	-	-	3,899,931	(41,745)	3,858,186	99,269,222	5%
2062	0.00%	4.00%	-	-	-	-	-	107,839,623	(429,835)	(1,361,391)	-	-	4,313,585	(35,825)	4,277,760	110,326,158	2%
2067	0.00%	4.00%	-	-	-	-	-	121,518,919	(190,368)	(1,541,648)	-	-	4,860,757	(34,640)	4,826,116	124,613,018	1%
2072	0.00%	4.00%	-	-	-	-	-	139,863,432	(71,714)	-	-	-	5,594,537	(1,434)	5,593,103	145,384,821	0%





September 18, 2023

City of Detroit Police and Fire
Retiree Health Care Trust
VEBA Board of Trustees
c/o Ms. Violet Gjorgjevski
700 Tower Drive, Suite 300
Troy, Michigan 48098

Dear Trustees:

Please find enclosed 15 copies of the City of Detroit Police and Fire Retiree Health Care Trust Actuarial Valuation Report as of December 31, 2022.

Sincerely,
Gabriel, Roeder, Smith & Company

A handwritten signature in black ink that reads "Zarimi Gano". The script is fluid and cursive.

Zarimi Gano

ZG:dj
Enclosures

cc: Chet Opelski c/o Aaron Castle
Aaron L. Castle (VanOverbeke, Michaud & Timmony, P.C.)
Violet Gjorgjevski (BeneSys, Inc.)