

**City of Detroit Employee Death Benefit Plan**  
GASB Statement Nos. 74 and 75, Accounting and Financial  
Reporting for Postemployment Benefits Other Than Pensions  
June 30, 2020





October 13, 2020

Board of Trustees  
City of Detroit Death Benefit Plan

Dear Trustees:

This report provides information on behalf of the City of Detroit Death Benefit Plan in connection with the Governmental Accounting Standards Board (GASB) Statement Nos. 74 and 75. Accounting information provided in this report is for the open plan only (effective 12/10/2014). Our understanding is that the City has no future obligation to the closed plan so it is to be excluded from reporting. GASB Statement No. 74 is the accounting standard which applies to Other Postemployment Benefits (OPEB) plans that are administered through trusts or equivalent arrangements. GASB Statement No. 75 establishes accounting and financial reporting requirements for state and local government employers that provide their employees with postemployment benefits other than pensions.

The calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement Nos. 74 and 75. The calculation of the plan's liability for this report is not applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement Nos. 74 and 75 may produce significantly different results. This report may be provided to parties other than the City of Detroit Death Benefit Plan only in its entirety and only with the permission of the Employees Benefit Plan (EBP) Board. GRS is not responsible for unauthorized use of this report.

This report is based upon information, furnished to us by the Retirement Systems on behalf of the EBP Board, concerning OPEB, active members, deferred vested members, retirees and beneficiaries, and financial data. This information was checked for internal consistency, but it was not audited.

Based on the available data, the information contained in this report is accurate and fairly represents the actuarial position of the City of Detroit Death Benefit Plan as of the reporting date in accordance with the prescribed methods. All calculations have been made in conformity with generally accepted actuarial principles and practices, GASB Statement Nos. 74 and 75, and the applicable Actuarial Standards of Practice. If you have reason to believe that the information provided in this report is inaccurate, or is in any way incomplete, or if you need further information in order to make an informed decision on the subject matter of this report, please contact the authors of the report prior to making such decision.

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; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law.

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. We performed tests to ensure that the model reasonably represents that which is intended to be modeled. We are relying on the GRS actuaries and Internal Software, Training, and Processes Team who developed and maintain the model.

Section G of the report details the calculation of the single discount rate and is not required to be included in your financial statements. However, this information may be requested by your auditors, therefore, we have included it in this report.

This report was prepared using actuarial assumptions adopted by the EBP Board as described in Section F. All actuarial assumptions are reasonable for the purpose of the measurement being taken.

The signing individuals are independent of the plan sponsor.

David T. Kausch and Judith A. Kermans 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.


Respectfully submitted,



David T. Kausch, FSA, EA, MAAA, FCA, PhD



Judith A. Kermans, EA, MAAA, FCA



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Auditor's Note – This information is intended to assist in preparation of the financial statements of the City of Detroit Death Benefit Plan. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.



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# SECTION A

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## EXECUTIVE SUMMARY

# Executive Summary as of June 30, 2020

Actuarial Valuation Date	June 30, 2019
Measurement Date of the Net OPEB Liability	June 30, 2020
Employer's Fiscal Year Ending Date (Reporting Date)	June 30, 2020

## Membership

Number of	
- Retirees and Beneficiaries	2,389
- Inactive, Nonretired Members	0
- Active Members	8,282
- Total	10,671
Covered Payroll	N/A

## Net OPEB Liability

Total OPEB Liability	\$ 4,485,073
Plan Fiduciary Net Position	4,024,699
Net OPEB Liability	\$ 460,374
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	89.74 %
Net OPEB Liability as a Percentage of Covered Payroll	N/A

## Development of the Single Discount Rate

Single Discount Rate	7.00 %
Long-Term Expected Rate of Investment Return	7.00 %
Long-Term Municipal Bond Rate*	2.45 %
Last year ending June 30 in the 2021 to 2120 projection period for which projected benefit payments are fully funded	2120

**Total OPEB Expense** \$ 260,021

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

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ 529,621	\$ 0
Changes in assumptions	0	0
Net difference between projected and actual earnings on OPEB plan investments	232,547	13,048
<b>Total</b>	\$ 762,168	\$ 13,048

\*Source: Fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity Index's "20-Year Municipal GO AA Index" as of June 30, 2020. In describing this index, Fidelity notes that the municipal curves are constructed using option-adjusted analytics of a diverse population of over 10,000 tax-exempt securities.



# Discussion

## Accounting Standard

For post-employment (OPEB) benefit plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 74, “Financial Reporting for Postemployment Benefit Plans other than Pension Plans,” establishes the standard for the “Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans”. Similarly, GASB Statement No. 75 establishes standards for state and local government employers (as well as non-employer contributing entities) to account for and disclose net OPEB liability, OPEB expense, and other information associated with providing OPEB to their employees (and former employees) on their financial statements.

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

## Financial Statements

GASB Statement No. 75 requires state and local government employers to recognize the net OPEB liability and the OPEB expense on their financial statements, along with the related deferred outflows and inflows of resources. The net OPEB liability is the difference between the total OPEB liability and the plan’s fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets.

GASB Statement No. 75 states the employer contributions made to the OPEB plan subsequent to the measurement date and before the end of the employer’s reporting period should be reported as a deferred outflow of resources. The information contained in this report does not incorporate any employer contributions made subsequent to the measurement date of June 30, 2020.

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

GASB Statement No. 74 requires defined benefit OPEB plans which are administered as trusts or equivalent arrangements to present two financial statements: a statement of fiduciary net position and a statement of changes in fiduciary net position. The statement of fiduciary net position presents the assets and liabilities of the OPEB plan at the end of the OPEB plan’s reporting period. The statement of changes in fiduciary net position presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expense, and net increase or decrease in the fiduciary net position.



## Experience During Year

Activity during the year for the Open Plan was less favorable than expected resulting in an experience loss of approximately \$216 thousand (or 5% of beginning of year total OPEB liability). The primary sources of the experience loss were data-related from the June 30, 2019 valuation, including rehires with more than 1 year of service and an increase in active members as well as new retirees entering the plan from deferred vested status. Investment losses supplemented the experience loss. The actual asset return for the year was \$11,617 versus the expected return of \$283,205 resulting in an asset loss of \$271,408.

## Notes to Financial Statements

GASB Statement No. 75 requires the notes of the employer's financial statements to disclose the total OPEB expense, the OPEB plan's liabilities and assets, and deferred outflows of resources and inflows of resources related to OPEB.

GASB Statement Nos. 74 and 75 require the notes of the financial statements for employers and OPEB plans to include certain additional information. The list of disclosure items should include:

- The name of the OPEB plan, the administrator of the OPEB plan; and the identification of whether the OPEB plan is a single-employer, agent, or cost-sharing OPEB plan;
- A description of the benefits provided by the plan;
- A brief description of changes in benefit terms or assumptions that affected the measurement of the total OPEB liability since the prior measurement date;
- The number of plan members by category and if the plan is closed;
- A description of the plan's funding policy, which includes member and employer contribution requirements;
- The OPEB plan's investment policies;
- The OPEB plan's fiduciary net position and the net pension liability;
- The net OPEB liability using +/- 1% on the discount rate;
- The net OPEB liability using +/- 1% on the healthcare trend rate;
- Significant assumptions and methods used to calculate the total pension liability;
- Inputs to the discount rates; and
- Certain information about mortality assumptions and the dates of experience studies.

OPEB plans that are administered through trusts or equivalent arrangements are required to disclose additional information in accordance with GASB Statement No. 74. This information includes:

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



## Required Supplementary Information

GASB Statement No. 74 requires a 10-year fiscal history of:

- Sources of changes in the net OPEB liability;
- Information about the components of the net OPEB liability and related ratios, including the OPEB plan's fiduciary net position as a percentage of the total OPEB liability, and the net OPEB liability as a percent of covered-employee payroll;
- Comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy; and
- For plans with an actuarially determined contribution, the schedule covering each of the 10 most recent fiscal years of the actuarially determined contribution, contributions to the OPEB plan and related ratios.

## Frequency and Timing of the Actuarial Valuation

An actuarial valuation to determine the total OPEB liability is required to be performed at least every two years. For the employer's financial reporting purposes, the net OPEB liability and OPEB expense should be measured as of the employer's "measurement date," which may not be earlier than the employer's prior fiscal year end-date. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total OPEB liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total OPEB liability shown in this report is based on an actuarial valuation performed as of June 30, 2019 and a measurement date of June 30, 2020.

## Single Discount Rate

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

For the purpose of this valuation, the expected rate of return on OPEB plan investments is 7.00%; the municipal bond rate is 2.45% (based on the daily rate closest to but not later than the measurement date of the Fidelity "20-Year Municipal GO AA Index"); and the resulting Single Discount Rate is 7.00%.

## Actuarial Assumptions

The actuarial assumptions used to value the liabilities are outlined in detail in Section F.



## Future Uncertainty or Risk

Future results may differ from those anticipated in this valuation. Reasons include, but are not limited to:

- Participant behavior differing from expected, e.g.,
  - Participants living longer or shorter than expected; and
  - Time of retirement or termination.

## Benefits Valued

The benefit provisions that were valued are described in Section E. The valuation is required to be performed on the current benefit terms and existing legal agreements. Consideration is to be given to the written plan document as well as other communications between the employer and plan members and an established pattern of practice for cost sharing. The summary of major plan provisions is designed to outline principal plan benefits.

## Effective Date and Transition

GASB Statement No. 74 is effective for an OPEB plan's fiscal years beginning after June 15, 2016. GASB Statement No. 75 is effective for an employer's fiscal year beginning after June 15, 2017.

## Open Plan vs. Closed Plan

In accordance with the City's plan of adjustment approved by the Bankruptcy Court, the Death Benefit Plan was split into two parts: an Open Plan and a Closed Plan. Members retired on or before December 10, 2014 are in the Closed Plan. Members who retire after December 10, 2014 (provided they were active on or after December 10, 2014) are in the Open Plan. The City has no further obligations to Closed Plan members. Closed Plan members will receive benefits only if the Closed Plan assets are sufficient. As agreed with the City's external auditors, we have excluded members (and liabilities and assets) of the Closed Plan from our calculations.

## Assets

The asset allocation for the City of Detroit Employee Death Benefit Plan shown on page 10 was provided by the Retirement System as of June 30, 2020 and includes assets for both the Open and Closed Plans, which are pooled for investment purposes. The revenues and expenditure shown on page 11 were provided separately for the Open and Closed Plans by the Retirement System. Only the Open Plan assets are shown on page 11 and only those assets were used in this valuation.

## Development of the Total OPEB Liability

The Total OPEB Liability (TPL) is reduced by the present value of future retiree contributions on behalf of the current and future retirees.

## SECTION B

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### FINANCIAL STATEMENTS

Auditor's Note – This information is intended to assist in preparation of the financial statements of the City of Detroit Death Benefit Plan. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

# Statement of OPEB Expense under GASB Statement No. 75

## Fiscal Year Ended June 30, 2020

### A. Expense

1. Total Service Cost	\$	142,198
2. Interest on the Total OPEB Liability		281,348
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(86,147)
5. Projected Earnings on Plan Investments (made negative for addition here)		(283,025)
6. OPEB Plan Administrative Expense		55,108
7. Other Changes in Plan Fiduciary Net Position		0
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		97,641
9. Recognition of Outflow (Inflow) of Resources due to Assets		52,898
<b>10. Total OPEB Expense</b>	<b>\$</b>	<b>260,021</b>

### Recognition of Deferred Outflows and Inflows of Resources

Differences between expected and actual experience and changes in assumptions are recognized in OPEB expense using a systematic and rational method over a closed period equal to the average of the expected remaining service lives of all employees that are provided with OPEB through the OPEB plan (active employees and inactive employees) determined as of the beginning of the measurement period.

At the beginning of the current measurement period, the expected remaining service lives of all active employees in the plan was approximately 79,489 years. Additionally, the total plan membership (active employees and inactive employees) was 10,671. As a result, the average of the expected remaining service lives for purposes of recognizing the applicable deferred outflows and inflows of resources established in the current measurement period is 7.44911 years.

Additionally, differences between projected and actual earnings on OPEB plan investments should be recognized in the OPEB expense using a systematic and rational method over a closed five-year period. For this purpose, the deferred outflows and inflows of resources are recognized in the OPEB expense as a level dollar amount over the closed period identified above.

# Statement of Outflows and Inflows Arising from Current Reporting Period Fiscal Year Ended June 30, 2020

## A. Outflows (Inflows) of Resources due to Liabilities

1. Difference between expected and actual experience of the Total OPEB Liability (gains) or losses	\$	215,945
2. Assumption Changes (gains) or losses	\$	0
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		7.4491
4. Outflow (Inflow) of Resources to be recognized in the current OPEB expense for the difference between expected and actual experience of the Total OPEB Liability	\$	28,989
5. Outflow (Inflow) of Resources to be recognized in the current OPEB expense for assumption changes	\$	0
6. Outflow (Inflow) of Resources to be recognized in the current OPEB expense due to Liabilities	\$	28,989
7. Deferred Outflow (Inflow) of Resources to be recognized in future OPEB expenses for the difference between expected and actual experience of the Total OPEB Liability	\$	186,956
8. Deferred Outflow (Inflow) of Resources to be recognized in future OPEB expenses for assumption changes	\$	0
9. Deferred Outflow (Inflow) of Resources to be recognized in future OPEB expenses due to Liabilities	\$	186,956

## B. Outflows (Inflows) of Resources due to Assets

1. Net difference between projected and actual earnings on OPEB plan investments (gains) or losses	\$	271,408
2. Recognition period for Assets {in years}		5.0000
3. Outflow (Inflow) of Resources to be recognized in the current OPEB expense due to Assets	\$	54,282
4. Deferred Outflow (Inflow) of Resources to be recognized in future OPEB expenses due to Assets	\$	217,126

# Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods

## Fiscal Year Ended June 30, 2020

### A. Outflows and Inflows of Resources by Source to be Recognized in Current OPEB Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ 97,641	\$ 0	\$ 97,641
2. Assumption changes	0	0	0
3. Net difference between projected and actual earnings on OPEB plan investments	59,422	6,524	52,898
<b>4. Total</b>	<b>\$ 157,063</b>	<b>\$ 6,524</b>	<b>\$ 150,539</b>

### B. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future OPEB Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ 529,621	\$ 0	\$ 529,621
2. Assumption changes	0	0	0
3. Net difference between projected and actual earnings on OPEB plan investments	232,547	13,048	219,499
<b>4. Total</b>	<b>\$ 762,168</b>	<b>\$ 13,048</b>	<b>\$ 749,120</b>

### C. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future OPEB Expenses

Year Ending June 30	Net Deferred Outflows of Resources
2021	\$ 150,539
2022	150,539
2023	157,064
2024	151,921
2025	80,141
Thereafter	58,916
<b>Total</b>	<b>\$ 749,120</b>

Employer contributions that were made subsequent to the measurement date of the net OPEB liability and prior to the end of the employer's reporting period should be reported by the employer as a deferred outflow of resources related to OPEB. The information contained in this report does not incorporate any contributions made subsequent to the measurement date.

See paragraph 44 of GASB 75 for single and agent employers with trusted plans.

Also, Question 4.32 of Implementation Guide No. 2017-1 provides additional guidance for trusted plans.

# Recognition of Deferred Outflows and Inflows of Resources

## Fiscal Year Ended June 30, 2020

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
<b>Deferred Outflow (Inflow) due to Differences Between Expected and Actual Experience on Liabilities</b>					
2018	\$ 325,148	7.5914	\$ 42,831	\$ 196,655	4.5914
2019	197,652	7.6548	25,821	146,010	5.6548
2020	215,945	7.4491	28,989	186,956	6.4491
<b>Total</b>			<b>\$ 97,641</b>	<b>\$ 529,621</b>	
<b>Deferred Outflow (Inflow) due to Assumption Changes</b>					
2018	\$ -	7.5914	\$ -	\$ -	4.5914
2019	-	7.6548	-	-	5.6548
2020	-	7.4491	-	-	6.4491
<b>Total</b>			<b>\$ -</b>	<b>\$ -</b>	
<b>Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments</b>					
2018	\$ (32,620)	5.0000	\$ (6,524)	\$ (13,048)	2.0000
2019	25,701	5.0000	5,140	15,421	3.0000
2020	271,408	5.0000	54,282	217,126	4.0000
<b>Total</b>			<b>\$ 52,898</b>	<b>\$ 219,499</b>	



## Statement of Fiduciary Net Position as of June 30, 2020

	<b>Plan Total</b>
<b>Assets</b>	
Cash and Equivalents	\$ 2,678,316
Receivables	-
Investments	
Bonds	\$ 2,104,404
Equities	14,911,126
Mutual Funds	4,730,774
Other	-
Total Investments	\$ 21,746,304
<b>Total Assets</b>	<b>\$ 24,424,620</b>
 <b>Liabilities</b>	
Accounts Payable - Other	\$ 45,629
<b>Total Liabilities</b>	<b>\$ 45,629</b>
<b>Information for this schedule was provided in total, but not split between the open and closed plans.</b>	
Portion Allocated to Closed Plan	\$ 20,354,292
<b>Net Position Restricted for OPEB</b>	<b>\$ 4,024,699</b>

## Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2020

	<b>Open Plan</b>
<b>Additions</b>	
Contributions	
Employer	\$ 113,842
Nonemployer contributing entities	0
Employer and Retiree Contributions	86,147
Other	0
<b>Total Contributions</b>	<b>\$ 199,989</b>
Investment Income	
Net Investment Income	\$ 11,617
Other	\$ 0
<b>Total Additions</b>	<b>\$ 211,606</b>
 <b>Deductions</b>	
Benefit Payments	\$ 205,148
OPEB Plan Administrative Expense	55,108
Other	0
<b>Total Deductions</b>	<b>\$ 260,256</b>
<b>Net Increase in Net Position</b>	<b>\$ (48,650)</b>
 <b>Net Position Restricted for OPEB</b>	
Beginning of Year	\$ 4,073,349
End of Year	\$ 4,024,699

## SECTION C

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### **REQUIRED SUPPLEMENTARY INFORMATION**

Auditor's Note – This information is intended to assist in preparation of the financial statements of the City of Detroit Death Benefit Plan. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

# Schedule of Changes in Net OPEB Liability and Related Ratios

## Current Reporting Period

### Fiscal Year Ended June 30, 2020

<b>A. Total OPEB liability</b>	
1. Service cost	\$ 142,198
2. Interest on the total OPEB liability	281,348
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the total OPEB liability	215,945
5. Changes of assumptions	0
6. Benefit payments, including refunds of employee contributions	(205,148)
<b>7. Net change in total OPEB liability</b>	<b>434,343</b>
<b>8. Total OPEB liability – beginning</b>	<b>4,050,730</b>
<b>9. Total OPEB liability – ending</b>	<b>\$ 4,485,073</b>
<b>B. Plan fiduciary net position</b>	
1. Contributions – employer	\$ 113,842
2. Contributions – nonemployer contributing entities	0
3. Contributions – employee	86,147
4. Net investment income	11,617
5. Benefit payments, including refunds of employee contributions	(205,148)
6. OPEB plan administrative expense	(55,108)
7. Other	0
<b>8. Net change in plan fiduciary net position</b>	<b>(48,650)</b>
<b>9. Plan fiduciary net position – beginning</b>	<b>4,073,349</b>
<b>10. Plan fiduciary net position – ending</b>	<b>\$ 4,024,699</b>
<b>C. Net OPEB liability</b>	<b>\$ 460,374</b>
<b>D. Plan fiduciary net position as a percentage of the total OPEB liability</b>	<b>89.74 %</b>
<b>E. Covered-employee payroll</b>	<b>N/A</b>
<b>F. Net OPEB liability as a percentage of covered-employee payroll</b>	<b>N/A</b>

# Schedules of Required Supplementary Information

## Schedule of Changes in Net OPEB Liability and Related Ratios Multiyear

Last 10 Fiscal Years (which may be built prospectively)

Fiscal year ending June 30,	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
<b>Total OPEB liability</b>										
Service cost	\$ 142,198	\$ 129,558	\$ 114,919	\$ 103,457						
Interest on the total OPEB liability	281,348	255,501	223,231	215,053						
Changes of benefit terms	0	0	0	0						
Difference between expected and actual experience	215,945	197,652	325,148	0						
Changes of assumptions	0	0	0	0						
Benefit payments, including refunds of employee contributions	(205,148)	(234,422)	(184,826)	(230,000)						
<b>Net change in total OPEB liability</b>	<b>434,343</b>	<b>348,289</b>	<b>478,472</b>	<b>88,510</b>						
<b>Total OPEB liability - beginning</b>	<b>4,050,730</b>	<b>3,702,441</b>	<b>3,223,969</b>	<b>3,135,459</b>						
<b>Total OPEB liability - ending (a)</b>	<b>\$ 4,485,073</b>	<b>\$ 4,050,730</b>	<b>\$ 3,702,441</b>	<b>\$ 3,223,969</b>						
<b>Plan fiduciary net position</b>										
Employer contributions	\$ 113,842	\$ 92,990	\$ 107,627	\$ 88,709						
Nonemployer contributing entities contributions	0	0	0	0						
Employee contributions*	86,147	73,457	96,337	80,151						
OPEB plan net investment income	11,617	246,685	296,957	315,310						
Benefit payments, including refunds of employee contributions	(205,148)	(234,422)	(184,826)	(230,000)						
OPEB plan administrative expense	(55,108)	(61,160)	(32,001)	(61,755)						
Other #	0	0	(221,948)	0						
<b>Net change in plan fiduciary net position</b>	<b>(48,650)</b>	<b>117,550</b>	<b>62,146</b>	<b>192,415</b>						
<b>Plan fiduciary net position - beginning</b>	<b>4,073,349</b>	<b>3,955,799</b>	<b>3,893,653</b>	<b>3,701,238</b>						
<b>Plan fiduciary net position - ending (b)</b>	<b>\$ 4,024,699</b>	<b>\$ 4,073,349</b>	<b>\$ 3,955,799</b>	<b>\$ 3,893,653</b>						
<b>Net OPEB liability - ending (a) - (b)</b>	<b>\$ 460,374</b>	<b>\$ (22,619)</b>	<b>\$ (253,358)</b>	<b>\$ (669,684)</b>						
<b>Plan fiduciary net position as a percentage of total OPEB liability</b>	89.74 %	100.56 %	106.84 %	120.77 %						
<b>Covered-employee payroll</b>	N/A	N/A	N/A	N/A						
<b>Net OPEB liability as a percentage of covered-employee payroll</b>	N/A	N/A	N/A	N/A						

Notes to Schedule:

# For fiscal year 2018, the "Other" line item is due to a restatement of the beginning plan fiduciary net position.

\* Employee contributions include contributions made by retirees. A separate categorization for the active and retired contributions was not provided.



# Schedules of Required Supplementary Information

## Schedule of the Net OPEB Liability Multiyear

Last 10 Fiscal Years (which may be built prospectively)

FY Ending June 30,	Total OPEB Liability	Plan Net Position	Net OPEB Liability	Plan Net Position as a % of Total OPEB Liability	Covered Payroll	Net OPEB Liability as a % of Covered Payroll
2011						
2012						
2013						
2014						
2015						
2016	\$ 3,135,459	\$ 3,701,238	\$ (565,779)	118.04 %	N/A	N/A
2017	3,223,969	3,893,653	(669,684)	120.77 %	N/A	N/A
2018	3,702,441	3,955,799	(253,358)	106.84 %	N/A	N/A
2019	4,050,730	4,073,349	(22,619)	100.56 %	N/A	N/A
2020	4,485,073	4,024,699	460,374	89.74 %	N/A	N/A

# Schedule of Contributions Multiyear

## Last 10 Fiscal Years

FY Ending June 30,	Estimated Actuarially Determined Contribution #@	Actual Contribution @	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2011					
2012					
2013					
2014					
2015					
2016					
2017	\$ 104,659	\$ 88,709	N/A	N/A	N/A
2018	93,797	107,627	N/A	N/A	N/A
2019	106,370	92,990	N/A	N/A	N/A
2020	113,842	113,842	N/A	N/A	N/A

# Board policy is to develop an employer contribution that is the larger of 1) the per active person rate in the ordinance; or 2) the per active person rate necessary to pay normal cost plus a UAAL payment based on a 30-year amortization period.

@ Estimated ADEC is based on applying the adopted per active person rate to the number of actives in the funding valuation (which is two years prior). Actual contributions are based (as we understand it) on applying the adopted per active rate to the actual number of actives employed when the contributions are made.

# Notes to Schedule of Contributions

**Valuation Date:** June 30, 2018  
**Notes** Employer contribution rates are calculated as of June 30 of the year 24 months prior to the end of the fiscal year in which contributions are reported. For example, the June 30, 2018 valuation determines rates for the fiscal year ending June 30, 2020.

## Methods and Assumptions Used to Determine Contribution Rates for FY Ending June 30, 2019:

Actuarial Cost Method	Level Dollar Entry Age Normal
Amortization Method	Level Dollar, Open
Remaining Amortization Period	30 years, per Board policy
Asset Valuation Method	3-Year smoothed market; no corridor
Inflation	N/A
Investment Rate of Return	7.00%, net of OPEB plan expenses, including price inflation at 2.50%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	Post-Retirement: General, EMS, and D.O.T. was 100% of the RP-2014 Blue Collar Annuitant Table set-forward 1 year for males and 100% of the RP-2014 Blue Collar Annuitant Table set-forward 1 year for females. For Police and Fire, the mortality tables used in evaluating death benefits to be paid to retired members was 100% of the RP-2014 Blue Collar Annuitant Table with no set-forward for males or females. Tables were extended below age 50 with a cubic spline to the published Juvenile rates. This table contains no margin for future improvements in life expectancies for conservatism.
Expenses	Investment and administrative expenses are assumed to be paid by investment returns.
<b>Other Information:</b>	
<b>Notes</b>	There were no benefit changes during the year.



# Schedule of Investment Returns Multiyear

## Last 10 Fiscal Years

<u>FY Ending June 30,</u>	<u>Annual Return<sup>1</sup></u>
2011	N/A
2012	N/A
2013	N/A
2014	N/A
2015	N/A
2016	N/A
2017	N/A
2018	N/A
2019	N/A
2020	N/A

<sup>1</sup> Annual money-weighted rate of return, net of investment expenses.

## SECTION D

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### NOTES TO FINANCIAL STATEMENTS

Auditor's Note – This information is intended to assist in preparation of the financial statements of the City of Detroit Death Benefit Plan. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

## Single Discount Rate

A Single Discount Rate of 7.00% was used to measure the total OPEB liability. This Single Discount Rate was based on the expected rate of return on OPEB plan investments of 7.00%. The projection of cash flows used to determine this Single Discount Rate assumed that employer contributions will be made at rates equal to the actuarially determined contribution rate. Based on these assumptions, the OPEB plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

## Summary of Membership Information – June 30, 2019

The following table provides a summary of the number of participants in the plan:

Inactive Plan Members or Beneficiaries Currently Receiving Retirement Benefits <sup>#</sup>	2,389
Inactive Plan Members Entitled to But Not Yet Receiving Retirement Benefits	-
Active Plan Members	8,282
Total Plan Members	<u>10,671</u>

*# Members must be in receipt of a retirement benefit and be current on their post retirement contributions to be eligible for the death benefit.*

Membership information as of the Measurement Date was not available.

## Sensitivity of Net OPEB Liability

Regarding the sensitivity of the net OPEB liability to changes in the Single Discount Rate, the following presents the plan's net OPEB liability, calculated using a Single Discount Rate of 7.00%, as well as what the plan's net OPEB liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher:

### Sensitivity of Net OPEB Liability to the Single Discount Rate Assumption

	Current Single Discount		
	1% Decrease 6.00%	Rate Assumption 7.00%	1% Increase 8.00%
Total OPEB Liability (TPL)	\$ 5,255,893	\$ 4,485,073	\$ 3,874,556
Net Position Restricted for OPEBs	\$ 4,024,699	\$ 4,024,699	\$ 4,024,699
Net OPEB Liability (NPL)	\$ 1,231,194	\$ 460,374	\$ (150,143)

# SECTION E

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## SUMMARY OF BENEFITS

## Summary of Benefit Provisions and Contributions June 30, 2019 (Open Plan Only)

Group	Amounts
<b>Active Members</b>	
Lump Sum Death Benefit:	
While Active	
- Police & Fire (Lieutenants and Sergeants Association (LSA) & Fire equivalents)	\$10,000
- Police & Fire (All Others)	\$ 4,900
- Civilian members	\$10,000
After Retirement:	
With 8-10 years service	\$1,860
With 10 or more years service	\$1,860 plus \$93 per year of service in excess of 10 years
Contributions:	
Members (non-refundable)	\$10.40/year*
Employer	\$13.30/year*
<b>Retired Employees</b>	
Lump Sum Death Benefit:	\$1,860 plus \$93 per year of service in excess of 10 years
Contributions:	
Retired members	\$1.08/year
Employer	None
<b>Other</b>	
<p>People in the Deferred Retirement Option Plan (DROP) are treated like any other retired member for purposes of this plan.</p> <p>People who terminate active service prior to retirement are not normally eligible for plan benefits. We understand that there are exceptions to this rule for former police officers and firefighters. We have made no adjustment to the valuation for exceptions.</p>	

\* Contributions for Police Lieutenants and Sergeants and Fire equivalents (approximately 627 members) are \$13.00/yr. for members and \$20.70/yr. for City.

## **SECTION F**

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### **VALUATION METHODS AND ACTUARIAL ASSUMPTIONS**

## Actuarial Cost Method

The death benefits provided through the EBP do not depend on individual salaries and are funded on a level dollar basis. Since individual pay projections are not a part of the valuation, the attribution of service cost is based on the projected inflation rate of 2.50% per year instead of salary in accordance with paragraph 54 b. of GASB Statement No. 74 and paragraph 42 b. of GASB Statement No. 75.

Normal cost and the allocation of benefit values between service rendered before and after the valuation date was determined using an individual **entry-age normal cost** valuation method having the following characteristics:

- (i) The annual normal costs for each individual active member, payable from the date of employment to the earlier of date of DROP or date of retirement, are sufficient to accumulate the value of the employer provided benefit at the time of retirement or death-in-service; and
- (ii) Normal cost is computed to grow each year with price inflation.

A reserve for claims Incurred But Not Reported (IBNR) of \$14,600 was added to the computed accrued liabilities for the Open Plan. This reserve is approximately 3 months of expected claims.

The present value of future retiree contributions includes all retiree contributions expected to be paid in the future on behalf of the current retirees and current active members. The present value of future benefits and actuarial accrued liability are net of the present value of future retiree contributions.



## Actuarial Assumptions Used for the Valuation

The actuary calculates the contribution requirements and benefit values of the Plan by applying actuarial assumptions adopted by the Board to the benefit provisions and people information furnished, using the actuarial cost methods described on the previous page.

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

- Long-term rates of investment return
- Rates of mortality among members, retirees and beneficiaries
- Rates of withdrawal from active membership
- Rates of disability among members
- The age patterns of service retirements

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Actual experience of the Plan will not coincide exactly with assumed experience, regardless of the wisdom of the assumptions, or the skill of the actuary and the precision of the many calculations made. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments (usually small) to the computed contribution rate.

From time-to-time it becomes appropriate to modify one or more of the assumptions to reflect experience trends (but not random year to year fluctuations). Methods and assumptions were last updated for the June 30, 2015 actuarial valuation.

All assumptions are adopted by the Board. The rationale for the mortality base table assumptions is the 2008-2013 Retired Mortality Experience Study issued to the respective Pension Boards. There is no assumption for future mortality improvement in this valuation for conservatism. The rationale for the other demographic assumptions is the 2002-2007 Experience Study issued to the respective Pension Boards unless otherwise stated. Based on our capital market assumption modeler, we believe the 7.00% investment return assumption is reasonable when used with a 2.50% price inflation assumption. All assumptions are expectations of future experience, not market measures.

***The assumed rate of investment return*** was 7.00% a year, net of expenses, compounded annually. This assumption is used to make money payable at one point in time equal in value to a different amount of money payable at another point in time.

***The rate of price inflation*** was 2.50% a year.

## Actuarial Assumptions Used for the Valuation

**The mortality table** used in evaluating death benefits to be paid to retired members in the General Retirement System was 100% of the RP-2014 Blue Collar Annuitant Table set-forward 1 year for males and 100% of the RP-2014 Blue Collar Annuitant Table set-forward 1 year for females. For Police and Fire, the mortality tables used in evaluating death benefits to be paid to retired members was 100% of the RP-2014 Blue Collar Annuitant Table with no set-forward for males or females. Tables were extended below age 50 with a cubic spline to the published Juvenile rates. This table contains no margin for future improvements in life expectancies for conservatism in this valuation. Sample values are shown below:

Sample Attained Ages	General, EMS, & DOT % Dying within Next Year				Police & Fire % Dying within Next Year			
	Healthy		Disabled		Healthy		Disabled	
	Men	Women	Men	Women	Men	Women	Men	Women
50	0.44%	0.30%	0.44%	0.30%	0.41%	0.28%	0.41%	0.28%
55	0.64%	0.43%	0.64%	0.43%	0.60%	0.40%	0.60%	0.40%
60	0.91%	0.62%	0.91%	0.62%	0.85%	0.57%	0.85%	0.57%
65	1.38%	0.96%	1.38%	0.96%	1.26%	0.87%	1.26%	0.87%
70	2.16%	1.54%	2.16%	1.54%	1.97%	1.40%	1.97%	1.40%
75	3.47%	2.54%	3.47%	2.54%	3.15%	2.30%	3.15%	2.30%
80	5.74%	4.24%	5.74%	4.24%	5.19%	3.82%	5.19%	3.82%

Pre-retirement mortality is based on the corresponding Employee tables. Sample values are shown below:

Sample Attained Ages	General, EMS, & DOT % of Active Members Dying within Next Year				Police & Fire % of Active Members Dying within Next Year			
	Non-Duty Death		Duty Death		Non-Duty Death		Duty Death	
	Men	Women	Men	Women	Men	Women	Men	Women
20	0.04%	0.01%	0.01%	0.00%	0.03%	0.01%	0.03%	0.01%
25	0.04%	0.02%	0.01%	0.01%	0.03%	0.01%	0.03%	0.01%
30	0.04%	0.02%	0.01%	0.01%	0.03%	0.01%	0.03%	0.01%
35	0.05%	0.03%	0.02%	0.01%	0.03%	0.02%	0.03%	0.02%
40	0.07%	0.04%	0.02%	0.01%	0.04%	0.02%	0.04%	0.02%
45	0.11%	0.06%	0.04%	0.02%	0.06%	0.04%	0.06%	0.04%
50	0.18%	0.10%	0.06%	0.03%	0.11%	0.06%	0.11%	0.06%

For General, EMS, and DOT, it is assumed that 25% of deaths before retirement are duty related. For Police and Fire, it is assumed that 50% of deaths before retirement are duty related.

## Actuarial Assumptions Used for the Valuation

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

### Probabilities of Age/Service Retirement for General Members with More Than 20 Years of Eligibility Service and Eligible to Retire in Component II Before Age 60 on June 30, 2014

Retirement Ages	Percent of Eligible Active Members Retiring within Next Year		
	EMS	General	DOT
45	25%		
46	25%		
47	25%		
48	22%		
49	20%		
50	18%	50%	55%
51	15%	50%	50%
52	15%	45%	50%
53	15%	45%	50%
54	15%	40%	55%
55	15%	30%	50%
56	15%	30%	50%
57	15%	30%	50%
58	15%	30%	50%
59	15%	40%	55%
60	40%	25%	40%
61	30%	25%	30%
62	30%	25%	30%
63	30%	25%	30%
64	30%	25%	30%
65	30%	35%	30%
66	30%	30%	30%
67	30%	25%	30%
68	30%	25%	50%
69	30%	25%	50%
70	100%	20%	100%
71		20%	
72		20%	
73		20%	
74		20%	
75		20%	
76		20%	
77		20%	
78		20%	
79		20%	
80		100%	

Members eligible to retire under Component II as described above are assumed to defer any Component I vested benefits until normal retirement age.

Note that the groups detailed above have different eligibility conditions under Component II.

The rationale for the retirement probabilities is the 2002-2007 Experience Study modified to account for the different eligibility in Component I and split to estimate which eligibility (Component I or Component II) would influence members based on the relative service under each component.

## Actuarial Assumptions Used for the Valuation

### *Rates of Retirement (Continued)*

**Probabilities of Age/Service Retirement for General Members With Less Than 20 Years of Eligibility Service or not Eligible to Retire in Component II Before age 60 on June 30, 2014**

Retirement Ages	Percent of Eligible Active Members Retiring within Next Year	
	EMS/DOT	General
62	40%	30%
63	40%	30%
64	40%	30%
65	40%	30%
66	40%	30%
67	40%	30%
68	40%	30%
69	40%	30%
70		30%
71		30%
72		30%
73		30%
74		30%
75		30%
76		30%
77		30%
78		30%
79		30%
80		100%

The rationale for the retirement probabilities is the 2002-2007 Experience Study modified to account for the different eligibility in Component I and split to estimate which eligibility (Component I or Component II) would influence members based on the relative service under each component.

# Actuarial Assumptions Used for the Valuation

## Rates of Retirement (Continued)

### Rates of Early Retirement for General Employees

Percent of Eligible Active Members Retiring Early within Next Year	
Retirement Ages	General
55	7%
56	8%
57	9%
58	10%
59	12%
60	12%
61	12%
62	12%
63	12%
64	12%

### Probabilities of Service Retirement for Police and Fire Members Older Than Age 43 or with 17 or More Years of Credited Service (Including Prior Service) as of June 30, 2014

#### 25 & Out Retirement Eligibility

Percent of Eligible Active Members Entering DROP within Next Year		
Years of Service	Police	Fire
24	40%	40%
25	40%	40%
26	40%	40%
27	40%	40%
28	40%	40%
29	100%	100%

#### 20 & Out Retirement Eligibility (DPOA & Fire Equivalent)

Percent of Eligible Active Members Entering DROP within Next Year		
Years of Service	Police	Fire
19	40%	40%
20	40%	40%
21	40%	40%
22	40%	40%
23	40%	40%
24	100%	100%

The rationale for the retirement probabilities is the 2002-2007 Experience Study modified to account for the different eligibility in Component I and split to estimate which eligibility (Component I or Component II) would influence members based on the relative service under each component.

## Actuarial Assumptions Used for the Valuation

### *Rates of Retirement (Concluded)*

#### Probabilities of Service Retirement for Police and Fire Members Age 43 or Younger and with Less Than 17 Years of Credited Service as of June 30, 2014

<b>Percent of Eligible Active Members Entering DROP within Next Year</b>		
<b>Retirement Ages</b>	<b>Police</b>	<b>Fire</b>
50-54	30%	20%
55-59	30%	20%
60	100%	100%

The rationale for the retirement probabilities is the 2002-2007 Experience Study modified to account for the different eligibility in Component I and split to estimate which eligibility (Component I or Component II) would influence members based on the relative service under each component.

#### Police and Fire

<b>Percent of Eligible Active Members Retiring or Entering DROP within Next Year</b>		
<b>Retirement Ages</b>	<b>Police</b>	<b>Fire</b>
60-64	40%	100%
65	100%	

Members eligible for 20 & Out are assumed to be first eligible for normal retirement after 19 years of service due to their ability to purchase service. Members eligible for 25 & Out are assumed to be eligible for normal retirement after 24 years of service due to their ability to purchase service. Members are also eligible to retire at age 60 with no service requirement.

## Actuarial Assumptions Used for the Valuation

**Rates of separation from active membership** were as shown below (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members remaining in employment.

Sample Ages	Years of Service	% of Active Members Withdrawing within the Next Year					
		General		EMS	DOT	Police	Fire
		Men	Women				
ALL	0	18.00%	20.00%	11.00%	18.00%	8.50%	5.00%
	1	15.00%	16.00%	10.00%	16.00%	7.50%	4.00%
	2	13.00%	14.00%	8.00%	14.00%	6.00%	3.00%
	3	11.00%	12.00%	8.00%	11.00%	5.00%	2.00%
	4	10.00%	10.00%	7.00%	9.00%	4.50%	2.00%
25	5 & Over	7.60%	7.60%	6.70%	8.00%	4.50%	1.96%
30		7.22%	7.22%	5.90%	7.60%	3.30%	1.62%
35		5.28%	5.28%	5.20%	5.56%	2.30%	1.11%
40		4.05%	4.05%	4.40%	4.26%	1.70%	0.77%
45		3.51%	3.51%	3.40%	3.69%	1.50%	0.60%
50		3.33%	3.33%	2.40%	3.50%	1.10%	0.51%
55		3.33%	3.33%	2.00%	3.50%	0.80%	0.51%
60		3.33%	3.33%	0.00%	3.50%	0.80%	0.51%

Sample Ages	% of Active Members Becoming Disabled within Next Year							
	General		DOT		Police		Fire	
	Ordinary	Duty	Ordinary	Duty	Ordinary	Duty	Ordinary	Duty
25	0.01%	0.25%	0.02%	0.03%	0.06%	0.13%	0.07%	0.34%
30	0.04%	0.29%	0.05%	0.08%	0.07%	0.19%	0.08%	0.52%
35	0.11%	0.34%	0.14%	0.21%	0.08%	0.34%	0.09%	0.90%
40	0.21%	0.39%	0.27%	0.42%	0.11%	0.49%	0.12%	1.30%
45	0.40%	0.45%	0.51%	0.79%	0.16%	0.73%	0.18%	1.92%
50	0.51%	0.52%	0.66%	1.03%	0.47%	1.16%	0.53%	3.06%
55	0.59%	0.60%	0.76%	1.18%	0.73%	1.96%	0.82%	5.18%
60	0.67%	0.70%	0.86%	1.34%	0.83%	2.82%	0.94%	7.47%

## **SECTION G**

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### **CALCULATION OF THE SINGLE DISCOUNT RATE**



## Calculation of the Single Discount Rate

GASB Statement No. 74 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total OPEB Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a municipal bond rate is required, as described in the following paragraph.

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

For the purpose of this valuation, the expected rate of return on OPEB plan investments is 7.00%; the municipal bond rate is 2.45%; and the resulting Single Discount Rate is 7.00%.

The tables in this section provide background for the development of the Single Discount Rate.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities).

The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years.

The **Present Values of Projected Benefit Payments** table shows the development of the Single Discount Rate. It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.

The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

The current Board policy is the greater of 1) a 30-year amortization plus normal cost (on a 30-year closed period starting with the 2019 funding valuation); or the rate specified in the ordinance. For this report, the Actuarial Accrued Liability (AAL) and the normal cost used in the contribution schedule are based on the results from the June 30, 2019 funding valuation rolled forward to June 30, 2020. Although this results in an Unfunded Actuarial Accrued Liability (UAAL), the Board policy ultimately results in excess assets by the end of the projection period shown in this report.

## Single Discount Rate Development

### Projection of Contributions Ending June 30 for 2021 to 2200

Year	Projected Contributions from Current Employees	Projected Service Cost and Expense Contributions	Projected UAL Contributions	Projected Total Contributions
0				
1	\$ 70,405	\$ 31,776	\$ 59,787	\$ 161,968
2	62,975	27,284	54,543	144,802
3	57,236	23,799	50,515	131,551
4	52,564	21,065	47,125	120,753
5	48,542	18,734	44,182	111,458
6	44,814	16,500	41,534	102,848
7	41,200	14,011	40,913	96,124
8	37,716	11,397	40,913	90,026
9	34,408	8,731	40,913	84,052
10	31,364	6,317	40,913	78,593
20	12,366	(1,599)	40,913	51,680
30	2,425	(709)	40,913	42,629
40	187	(87)	326	427
50	4	(2)	8	10
60	0	(0)	0	0
70	0	0	0	0
80	0	0	0	0
90	0	0	0	0
100	0	0	0	0

## Single Discount Rate Development

### Projection of Plan Net Position Ending June 30 for 2021 to 2200

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.00%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 4,024,699	\$ 161,968	\$ 178,084	\$ 0	\$ 281,174	\$ 4,289,757
2	4,289,757	144,802	184,866	0	298,904	4,548,598
3	4,548,598	131,551	193,002	0	316,287	4,803,434
4	4,803,434	120,753	205,354	0	333,329	5,052,163
5	5,052,163	111,458	220,126	0	349,912	5,293,408
6	5,293,408	102,848	236,413	0	365,943	5,525,786
7	5,525,786	96,124	255,754	0	381,312	5,747,469
8	5,747,469	90,026	274,995	0	395,958	5,958,458
9	5,958,458	84,052	298,610	0	409,710	6,153,609
10	6,153,609	78,593	311,361	0	422,744	6,343,585
20	7,533,209	51,680	518,170	0	511,274	7,577,993
30	6,951,627	42,629	674,052	0	464,888	6,785,092
40	4,558,212	427	554,583	0	300,007	4,304,063
50	2,361,095	10	322,174	0	154,192	2,193,122
60	1,040,411	0	163,651	0	67,198	943,958
70	360,795	0	52,986	0	23,432	331,241
80	319,863	0	4,024	0	22,252	338,090
90	608,866	0	37	0	42,619	651,449
100	1,197,588	0	0	0	83,831	1,281,419



# Single Discount Rate Development

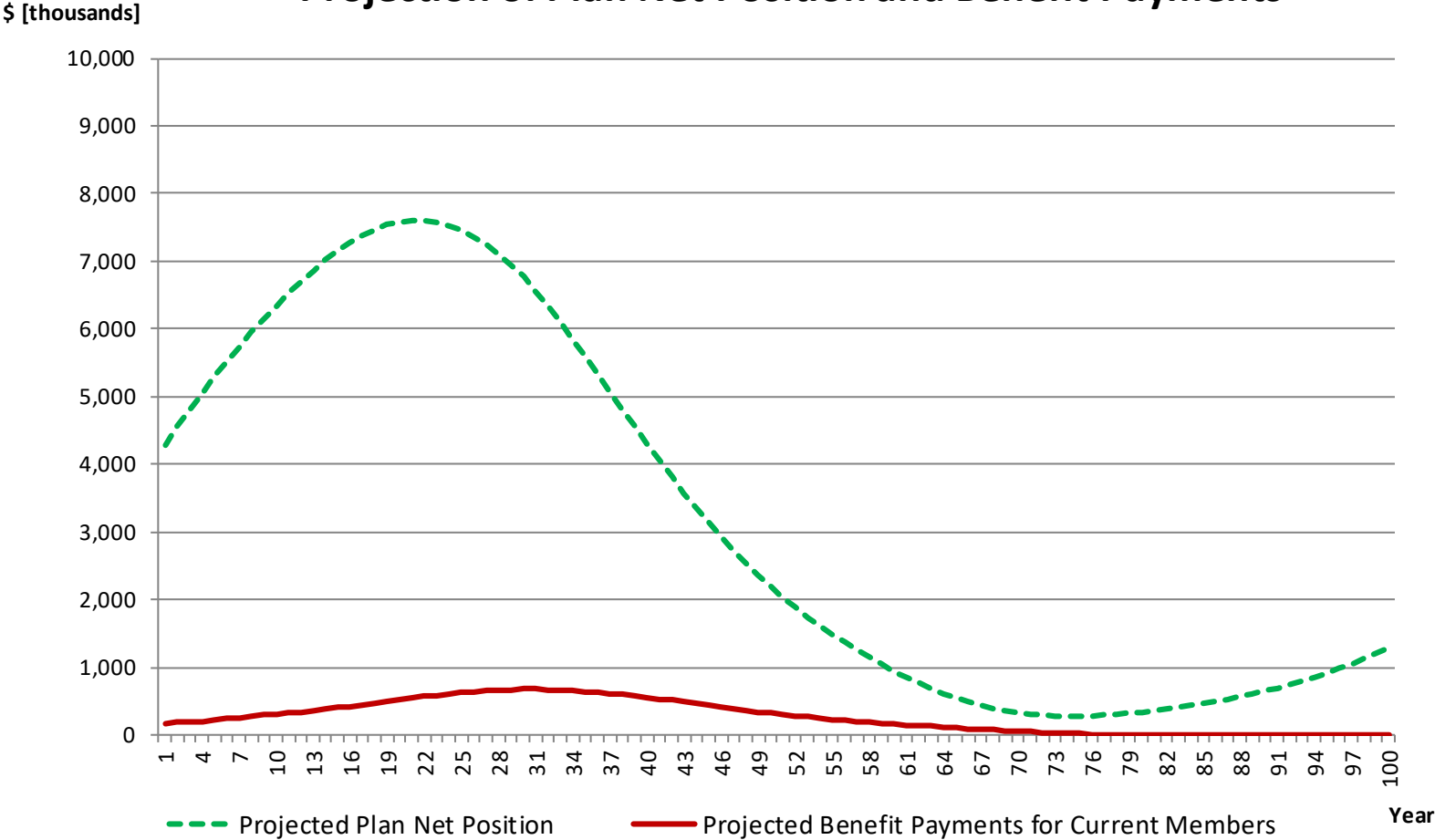
## Present Values of Projected Benefits Ending June 30 for 2021 to 2200

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Projected Benefit Payments	Unfunded Portion of Projected Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of All Benefit Payments using Single Discount Rate (SDR)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v <sup>((a)-.5)</sup>	(g)=(e)*vf <sup>((a)-.5)</sup>	(h)=(c)/(1+SDR) <sup>(a-.5)</sup>
1	\$ 4,024,699	\$ 178,084	\$ 178,084	\$ -	\$ 172,160	\$ -	\$ 172,160
2	4,289,757	184,866	184,866	-	167,025	-	167,025
3	4,548,598	193,002	193,002	-	162,968	-	162,968
4	4,803,434	205,354	205,354	-	162,054	-	162,054
5	5,052,163	220,126	220,126	-	162,347	-	162,347
6	5,293,408	236,413	236,413	-	162,952	-	162,952
7	5,525,786	255,754	255,754	-	164,751	-	164,751
8	5,747,469	274,995	274,995	-	165,557	-	165,557
9	5,958,458	298,610	298,610	-	168,013	-	168,013
10	6,153,609	311,361	311,361	-	163,726	-	163,726
20	7,533,209	518,170	518,170	-	138,512	-	138,512
30	6,951,627	674,052	674,052	-	91,595	-	91,595
40	4,558,212	554,583	554,583	-	38,310	-	38,310
50	2,361,095	322,174	322,174	-	11,313	-	11,313
60	1,040,411	163,651	163,651	-	2,921	-	2,921
70	360,795	52,986	52,986	-	481	-	481
80	319,863	4,024	4,024	-	19	-	19
90	608,866	37	37	-	0	-	0
100	1,197,588	-	-	-	-	-	-
<b>Totals<sup>1</sup></b>					\$ 5,193,692	\$ 0	\$ 5,193,692

<sup>1</sup> These totals are values that are summed over a period of 100 years. However, only select values from this 100-year period are shown above.



# Projection of Plan Net Position and Benefit Payments



# SECTION H

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## GLOSSARY OF TERMS

## Glossary of Terms

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

## Glossary of Terms

<b>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</b>	A calculated contribution into an OPEB plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.
<b>Amortization Method</b>	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be “open” (meaning, reset each year) or “closed” (the number of years remaining will decline each year).
<b>Amortization Payment</b>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<b>Cost-of-Living Adjustments</b>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<b>Cost-Sharing Multiple-Employer Defined Benefit OPEB Plan (cost-sharing OPEB plan)</b>	A multiple-employer defined benefit OPEB plan in which the OPEB obligations to the employees of more than one employer are pooled and OPEB plan assets can be used to pay the benefits of the employees of any employer that provides benefits through the OPEB plan.
<b>Covered-Employee Payroll</b>	The payroll of employees that are provided with benefits through the OPEB plan.
<b>Deferred Inflows and Outflows</b>	The deferred inflows and outflows of OPEB resources are amounts used under GASB Statement No. 75 in developing the annual OPEB expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in the OPEB expense should be included in the deferred inflows or outflows of resources.
<b>Discount Rate</b>	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: <ol style="list-style-type: none"><li>1. The benefit payments to be made while the OPEB plans’ fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and</li><li>2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.</li></ol>



## Glossary of Terms

<b>Entry Age Actuarial Cost Method (EAN)</b>	The EAN is a cost method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit ages(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.
<b>Fiduciary Net Position</b>	The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.
<b>GASB</b>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<b>Long-Term Expected Rate of Return</b>	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
<b>Money-Weighted Rate of Return</b>	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 74, the money-weighted rate of return is calculated as the internal rate of return on OPEB plan investments, net of OPEB plan investment expense.
<b>Multiple-Employer Defined Benefit OPEB Plan</b>	A multiple-employer plan is a defined benefit OPEB plan that is used to provide OPEB payments to the employees of more than one employer.
<b>Municipal Bond Rate</b>	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
<b>Net OPEB Liability (NOL)</b>	The NOL is the liability of employers and non-employer contributing entities to plan members for benefits provided through a defined benefit OPEB plan.
<b>Non-Employer Contributing Entities</b>	Non-employer contributing entities are entities that make contributions to an OPEB plan that is used to provide OPEB payments to the employees of other entities. For purposes of the GASB accounting statements, plan members are not considered non-employer contributing entities.

## Glossary of Terms

<b>Normal Cost</b>	The portion of the actuarial present value allocated to a valuation year is called the normal cost. For purposes of application to the requirements of this Statement, the term normal cost is the equivalent of service cost.
<b>Other Postemployment Benefits (OPEB)</b>	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other post-employment benefits do not include termination benefits.
<b>Real Rate of Return</b>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<b>Service Cost</b>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
<b>Total OPEB Expense</b>	The total OPEB expense is the sum of the following items that are recognized at the end of the employer's fiscal year: <ol style="list-style-type: none"><li>1. Service Cost</li><li>2. Interest on the Total OPEB Liability</li><li>3. Current-Period Benefit Changes</li><li>4. Employee Contributions (made negative for addition here)</li><li>5. Projected Earnings on Plan Investments (made negative for addition here)</li><li>6. OPEB Plan Administrative Expense</li><li>7. Other Changes in Plan Fiduciary Net Position</li><li>8. Recognition of Outflow (Inflow) of Resources due to Liabilities</li><li>9. Recognition of Outflow (Inflow) of Resources due to Assets</li></ol>
<b>Total OPEB Liability (TOL)</b>	The TOL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
<b>Unfunded Actuarial Accrued Liability (UAAL)</b>	The UAAL is the difference between actuarial accrued liability and valuation assets.
<b>Valuation Assets</b>	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of GASB Statement Nos. 74 and 75, the valuation assets are equal to the market value of assets.



October 13, 2020

Governing Board  
City of Detroit Employees Death Benefit Plan  
One Detroit Center  
500 Woodward Avenue, Suite 3000  
Detroit, Michigan 48226

Dear Governing Board:

Please find enclosed copies of the GASB Statements Nos. 74 and 75 report of the City of Detroit Death Benefit Plan.

GASB Statement No. 74 is the accounting standard, which applies to Other Postemployment Benefits (OPEB) plans that are administered through trusts or equivalent arrangements. GASB Statement No. 75 establishes accounting and financial reporting requirements for OPEB that are provided to employees of state and local governments.

Sincerely,

A handwritten signature in black ink, appearing to read "Kenneth G. Alberts". The signature is fluid and cursive.

Kenneth G. Alberts

KGA:rmn  
Enclosures

cc: John Naglick, City of Detroit  
David Cetlinski, City of Detroit Retirement Systems  
Gail Oxendine, City of Detroit Retirement Systems  
Kelly Tapper, City of Detroit Retirement System  
Judith A. Kermans, GRS  
David T. Kausch, GRS