

# The General Retirement System of the City of Detroit

GASB Statement Nos. 67 and 68 Accounting and Financial  
Reporting for Pension Plans of Component I  
June 30, 2020





November 23, 2020

Board of Trustees  
The General Retirement System of the City of Detroit

Dear Board Members:

This report provides information required for the General Retirement System of the City of Detroit in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67 "Financial Reporting for Pension Plans" and Statement No. 68 "Employer Reporting for Pension Plans." These calculations have been made on a basis that is consistent with our understanding of these Statements. This information is subject to the System's Auditor's review. Please let us know if the System's Auditor recommends any changes. This report covers the General Retirement System Plan known as Component I (also known as the Hybrid Plan). The Component II information is detailed in a separate report.

Our 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. 67 and 68. The calculation of the plan's liability for this report is not applicable for the purpose of funding for the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement Nos. 67 and 68 may produce significantly different results. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. Gabriel, Roeder, Smith & Company is not responsible for unauthorized use of this report.

The appendix of this report also provides some of the information necessary to complete the reporting requirements for the State of Michigan's Local Government Retirement System Annual Report (Form No. 5572). This information is not required to be included in your financial statements. The calculations in the appendix are based on assumptions that satisfy the Uniform Assumptions criteria published by the Michigan Treasury for Fiscal Year 2020 reporting requirements.

This report is based upon information, furnished to us by System staff, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. This report is based on the valuation date of June 30, 2019. The total pension liability was rolled-forward from the valuation date to the plan year ending June 30, 2020 using generally accepted actuarial principles. The asset information as of June 30, 2020 was provided by the System. This information was checked for internal consistency, but it was not audited by Gabriel, Roeder, Smith & Company. A description of certain adjustments that we made to the data is provided in the June 30, 2019 actuarial valuation report issued March 17, 2020. If, in your view, those adjustments are not reasonable, please let us know and do not rely on this report until you are satisfied that the adjustments are reasonable. GRS is not responsible for the accuracy of the data provided by the Retirement System.

At the direction of the System and approval of the System's Auditor, the long-term expected return on assets used to determine the discount rate is 7.06%, net of investment expenses, as of June 30, 2020 down from 7.38% as of June 30, 2019. We have reviewed this assumption based on the System's asset allocation and have determined it does not significantly conflict with what, in our professional judgement, would be reasonable for purposes of the measurement.

The benefit provisions reflected in this valuation for the development of the end of year Total Pension Liability (TPL) are those in effect for Component I as of the end of the plan year on June 30, 2019. There were no changes in benefit provisions between the June 30, 2019 GASB Statement Nos. 67 and 68 valuation and this valuation.

To the best of our knowledge, the information contained within this report is accurate and fairly represents the actuarial position of the System on the measurement date for purposes of GASB Statement Nos. 67 and 68 reporting. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

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.

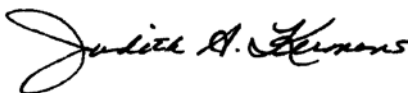
The signing individuals are independent of the plan sponsor.

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,



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# SECTION A



## EXECUTIVE SUMMARY

# Executive Summary as of June 30, 2020

Actuarial Valuation Date	June 30, 2019
Measurement Date of the Net Pension Liability	June 30, 2020
Employer's Fiscal Year Ending Date (GASB No. 68 Reporting Date)	June 30, 2021

## Membership

Number of	
- Retirees and Beneficiaries	314
- Legacy Disabled Members	123
- Inactive, Nonretired Members	838
- Active Members	5,794
- Total	7,069
Covered Payroll	\$ 280,105,756

## Net Pension Liability

Total Pension Liability	\$ 168,354,404
Plan Fiduciary Net Position	152,560,705
Net Pension Liability	\$ 15,793,699
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	90.62%
Net Pension Liability as a Percentage of Covered Payroll	5.64%

## Development of the Single Discount Rate

Single Discount Rate	7.06%
Long-Term Expected Rate of Investment Return	7.06%
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 Pension Expense** \$ 14,218,175

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

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ 10,090,852	\$ 8,396,419
Changes in assumptions	7,407,057	3,531,865
Net difference between projected and actual earnings on pension plan investments	13,153,747	2,472,635
<b>Total</b>	<b>\$ 30,651,656</b>	<b>\$ 14,400,919</b>

*\*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 taxexempt securities.*



# Discussion

## Changes Compared to Funding Valuation

For purposes of determining the Total Pension Liability (TPL) as of June 30, 2020, we note the following differences from those used in the June 30, 2019 funding valuation:

- At the direction of the System and approval of the System's Auditor, the long-term expected return on assets was 7.06% net of investment expenses, as of June 30, 2020. It was 6.75% net of investment and administrative expenses, in the June 30, 2019 funding valuation, as required by the Plan of Adjustment.
- Administrative expenses are assumed to be 3.0% of Component I payroll, shared 60% with Component II and 40% with Component I. This was reflected in our modeling, where appropriate.
- Attribution period for normal cost starts at the later of date of hire or July 1, 2014 (plan effective date) for each individual.

All other actuarial assumptions were the same as those used in the June 30, 2019 actuarial valuation (the funding valuation).

## Changes Compared to Prior Year's GASB Report

The changes in actuarial assumptions compared to the June 30, 2019 GASB No. 68 reporting was:

- The long-term expected rate of investment return and single discount rate decreased from 7.38% to 7.06%.

This change increased the TPL by \$6.5 million resulting in a new deferred outflow for recognition in the pension expense.

There have been no changes in plan provisions.

## System Data Audit

Subsequent to starting this valuation, the System provided information to us indicating that nine participants that were reported as deferred for the June 30, 2019 funding valuation were, in fact, deceased (as determined in a data audit performed by the System). This change would have lowered the June 30, 2019 liabilities by approximately \$60 thousand (or approximately 0.04% of the June 30, 2019 accrued liability). We do not believe this difference is material from an actuarial perspective. After discussions with the System and their auditor, we were informed that neither the System nor the auditor felt it was necessary to restart this project (and delay the delivery date) to reflect this change. We understand that the information will be corrected in future data submissions and will be reflected as an experience gain in future GASB valuations.

## Funding

Employee contributions are initially set to 4.0% of payroll but can be increased if necessary to maintain funding levels at 100%. Employer contributions are initially set at 5.0% of payroll. Employer contributions are actuarially determined beginning in 2024 to be the amount necessary to fund the plan on an actuarial basis.



## Post Retirement COLA

This plan has a post retirement COLA feature known as the Variable Pension Improvement Factor or VPIF of a 2% simple COLA. It can be granted beginning July 1, 2018 only if a five-year projection shows the plan funded status at 100% based upon a 6.75% future investment return. Beginning in fiscal 2024, employer contributions will be actuarially determined. It is reasonable to assume that there will be years in which a 2% simple COLA will be granted, however, it is unlikely to be granted every year. For purposes of the TPL, we have therefore assumed a 0.50% simple COLA to model the potential average COLA over time. In the Notes section we report the TPL based on 1) 0% VPIF, and 2) 2% simple VPIF.

## Data Approximations and Assumptions

A description of the data approximations and assumptions used in making this report are included in the June 30, 2019 funding valuation report.

## Magnitude of Administrative Expenses

Administrative expenses are assumed to be 3.0% of Component I payroll, shared 60% with Component II and 40% with Component I. The allocation is consistent with this year's allocation as shown in the assets.

## Transfers of Assets from Component II

In the event that the rate of interest credited to the Annuity Savings Fund (ASF) of the Component II (Legacy) Plan is less than the rate earned by the Component II portion of the trust, a transfer of the difference (in rates applied to the Component II ASF balance) to the Component I portion of the trust may occur to fund transition liabilities. Amounts transferred into Component I have been allocated by system staff. For purposes of this valuation, future transfers were assumed not to occur. Historic transfers related to this activity are shown below:

- Fiscal Year Ending June 30, 2019: \$9,015,677
  - General: \$4,537,434
  - DOT: \$2,565,553
  - DWSD: \$1,260,469
  - Library: \$652,221
- Fiscal Year Ending June 30, 2020: \$1,178,130
  - General: \$654,730
  - DOT: \$115,215
  - DWSD: \$355,213
  - Library: \$52,972

## Development of Employer Proportionate Shares

Consistent with past instructions, we have developed the proportionate employer shares as follows:

- General, DOT, DWSD, and Library have contribution rates assessed on separate relationships and are therefore accounted for separately under Paragraph 49 of GASB No. 68.
- The component units in the General Division were 1) General City; 2) Parking; and 3) Airport.
- Proportionate shares in the General Division were determined by prorating based on total reported payroll.





## Plan

The General Retirement System has two components. It is our understanding that Component I and Component II are separate plans and that the assets from one plan cannot be used to satisfy the liabilities of the other, even though assets may be pooled for investment purposes. Therefore, this report only includes the liabilities and reported assets of Component I. The liabilities and reported assets of Component II are detailed in a separate report.

## Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability. Similarly, GASB Statement No. 68 establishes standards for state and local government employers (as well as non-employer contributing entities) to account for and disclose the net pension liability, pension expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic 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 and the retirement system and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

## Financial Statements

GASB Statement No. 68 requires state or local governments to recognize the net pension liability and the pension expense on their financial statements. The net pension liability is the difference between the total pension 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 (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Paragraph 57 of GASB Statement No. 68 states, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to the General Retirement System of the City of Detroit subsequent to the measurement date of June 30, 2020.

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

Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position in accordance with GASB Statement No. 67. The *statement of fiduciary net position* presents the assets and liabilities of the pension plan at the end of the pension 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 expenses, and net increase or decrease in the fiduciary net position.



## Notes to Financial Statements

GASB Statement No. 68 requires the notes of the employer's financial statements to disclose the total pension expense, the pension plan's liabilities and assets, and deferred outflows and inflows of resources related to pensions.

GASB Statement Nos. 67 and 68 require the notes of the financial statements for the employers and pension plans to include certain additional information. The list of disclosure items should include:

- A description of benefits provided by the plan;
- The type of employees and number of members covered by the pension plan;
- A description of the plan's funding policy, which includes member and employer contribution requirements;
- The pension plan's investment policies;
- The pension plan's fiduciary net position and the net pension liability;
- The net pension liability using a discount rate that is 1% higher and 1% lower than used to calculate the total pension liability and net pension liability for financial reporting purposes;
- 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.

Retirement systems that issue stand-alone financial statements are required to disclose additional information in accordance with GASB Statement No. 67. This information includes:

- The composition of the pension 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. 67 requires a 10-year fiscal history of:

- Sources of changes in the net pension liability;
- Information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll; and
- A comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

## Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. The net pension liability and pension expense should be measured as of the pension plan's fiscal year end (measurement date) on a date that is within the employer's prior fiscal year. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of June 30, 2019, rolled forward to the plan year end 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 pension 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 pension plan investments is 7.06%; 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 7.06%.

For purposes of calculating the SDR, the following simplifications were made to the projections:

- 1) Voluntary employee contributions were excluded.
- 2) The VPIF was assumed to be a 0.50% simple increase each year beginning in Fiscal Year 2020.
- 3) Mandatory employee contributions were assumed to be fixed at the current rate of 4%.
- 4) The VPIF reduction under Section 9.5 of the plan was assumed not to occur.
- 5) Employer contributions were determined in a manner to fully fund the liabilities beginning in 2024, in accordance with the plan.

## Limitation of Assets as a Percent of Total Pension Liability Measurements

This report includes a measure of the plan fiduciary net position as a percent of total pension liability (90.62% as of June 30, 2020). Unless otherwise indicated, with regard to any such measurements in this report:

- (1) This measurement is not intended to be a funded ratio or a measure of funded progress.
- (2) This measurement is inappropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations.
- (3) The measurement is inappropriate for assessing the need for or amount of future employer contributions.

## Limitations of Project Scope

Actuarial Standards do not require the actuary to evaluate the ability of the Plan sponsor or other contributing entities to make required contributions when due. Such an evaluation was not within the scope of this project and is not within our area of expertise.



## **SECTION B**

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### **FINANCIAL STATEMENTS**

This information is subject to the System's Auditor's review. Please let us know if the System's Auditor recommends any changes.

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

### Assets

Cash and Cash Equivalents	\$	63,276,170
Receivables	\$	2,286,608
Investments at Fair Value	\$	85,882,169
Cash and Investments held as collateral for securities lending	\$	5,958,490
Capital Assets - Net	\$	<u>1,219,936</u>
<b>Total Assets</b>	<b>\$</b>	<b><u>158,623,373</u></b>

### Liabilities

Accounts Payable	\$	<u>6,062,668</u>
<b>Total Liabilities</b>	<b>\$</b>	<b><u>6,062,668</u></b>

<b>Total Fund Balances</b>	<b>\$</b>	<b><u><u>152,560,705</u></u></b>
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Accumulated Voluntary Contribution Fund	\$	29,508,796
Other Reserves	\$	<u>123,051,909</u>
<b>Plan Fiduciary Net Position</b>	<b>\$</b>	<b><u><u>152,560,705</u></u></b>

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

### Additions

Contributions	
Employer	\$ 12,515,861
Mandatory Employee	10,205,770
Voluntary Employee	5,723,982
<b>Total Contributions</b>	<u>\$ 28,445,613</u>
Investment Income	
Net Appreciation in Fair Value of Investments	\$ (7,001,014)
Interest and Dividends	5,390,219
Less Investment Expense	(605,372)
<b>Net Investment Income</b>	<u>\$ (2,216,167)</u>
Other	<u>\$ 1,237,613</u>
<b>Total Additions</b>	<u>\$ 27,467,059</u>

### Deductions

Benefit Payments, including Refunds of Mandatory Employee Contributions	\$ 2,048,198
Pension Plan Administrative Expense	1,540,433
Voluntary Contributions, Benefit Payments and Refunds	1,581,635
<b>Total Deductions</b>	<u>\$ 5,170,266</u>
<b>Net Increase in Net Position</b>	\$ 22,296,793

### Net Position Restricted for Pensions

Total Fund Balances Beginning of Year	<u>\$ 130,263,912</u>
Total Fund Balances End of Year	<u>\$ 152,560,705</u>



## Statement of Pension Expense Under GASB Statement No. 68 Fiscal Year Ended June 30, 2020\*

A. Expense	General	DOT	DWSD	Library	Total
1. Service Cost <sup>#</sup>	\$ 19,505,900	\$ 4,589,240	\$ 2,901,789	\$ 1,259,055	\$ 28,255,984
2. Interest on the Total Pension Liability	6,541,378	1,738,842	1,476,696	513,706	10,270,622
3. Current-Period Benefit Changes	0	0	0	0	0
4. Employee Contributions (made negative for addition here) <sup>#</sup>	(10,969,499)	(2,652,124)	(1,720,273)	(587,856)	(15,929,752)
5. Projected Earnings on Plan Investments (made negative for addition here)	(6,787,314)	(1,764,440)	(1,482,747)	(483,504)	(10,518,005)
6. Pension Plan Administrative Expense	983,249	263,345	221,800	72,039	1,540,433
7. Other Changes in Plan Fiduciary Net Position	(789,961)	(211,576)	(178,199)	(57,877)	(1,237,613)
8. Recognition of Outflow (Inflow) of Resources due to Liabilities	1,435,013	(138,948)	(1,414,015)	(205,142)	(323,092)
9. Recognition of Outflow (Inflow) of Resources due to Assets	1,510,970	319,003	224,303	105,322	2,159,598
<b>10. Total Pension Expense</b>	<b>\$ 11,429,736</b>	<b>\$ 2,143,342</b>	<b>\$ 29,354</b>	<b>\$ 615,743</b>	<b>\$ 14,218,175</b>

\* Totals may not add due to rounding.

# Includes voluntary member contributions made during the year.



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

A. Outflows (Inflows) of Resources due to Liabilities	General	DOT	DWSD	Library	Total
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ (3,366,651)	\$ (1,932,651)	\$ (848,439)	\$ (1,316,683)	\$ (7,464,424)
2. Assumption Changes (gains) or losses	\$ 4,480,911	\$ 874,002	\$ 880,759	\$ 282,528	\$ 6,518,200
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	8.2365	6.5709	4.1621	6.5162	N/A
4. Outflow (Inflow) of Resources to be recognized in the current pension expense for the difference between expected and actual experience of the Total Pension Liability	\$ (408,748)	\$ (294,123)	\$ (203,849)	\$ (202,063)	\$ (1,108,783)
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ 544,031	\$ 133,011	\$ 211,614	\$ 43,358	\$ 932,014
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$ 135,283	\$ (161,112)	\$ 7,765	\$ (158,705)	\$ (176,769)
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the difference between expected and actual experience of the Total Pension Liability	\$ (2,957,903)	\$ (1,638,528)	\$ (644,590)	\$ (1,114,620)	\$ (6,355,641)
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$ 3,936,880	\$ 740,991	\$ 669,145	\$ 239,170	\$ 5,586,186
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	\$ 978,977	\$ (897,537)	\$ 24,555	\$ (875,450)	\$ (769,455)
<b>B. Outflows (Inflows) of Resources due to Assets</b>					
1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ 8,297,879	\$ 1,977,472	\$ 1,816,881	\$ 641,940	\$ 12,734,172
2. Recognition period for Assets {in years}	5.0000	5.0000	5.0000	5.0000	5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	\$ 1,659,576	\$ 395,494	\$ 363,376	\$ 128,388	\$ 2,546,834
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ 6,638,303	\$ 1,581,978	\$ 1,453,505	\$ 513,552	\$ 10,187,338

\* Totals may not add due to rounding.





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

## A. Outflows and Inflows of Resources due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ 2,522,716	\$ 1,087,703	\$ 1,435,013
2. Due to Assets	2,550,537	1,039,567	1,510,970
<b>3. Total</b>	<b>\$ 5,073,253</b>	<b>\$ 2,127,270</b>	<b>\$ 2,945,983</b>

## B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ 1,635,881	\$ 565,060	\$ 1,070,821
2. Assumption Changes	886,835	522,643	364,192
3. Net Difference between projected and actual earnings on pension plan investments	2,550,537	1,039,567	1,510,970
<b>4. Total</b>	<b>\$ 5,073,253</b>	<b>\$ 2,127,270</b>	<b>\$ 2,945,983</b>

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

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ 9,128,622	\$ 3,532,102	\$ 5,596,520
2. Assumption Changes	5,158,963	2,530,322	2,628,641
3. Net Difference between projected and actual earnings on pension plan investments	8,583,123	1,449,814	7,133,309
<b>4. Total</b>	<b>\$ 22,870,708</b>	<b>\$ 7,512,238</b>	<b>\$ 15,358,470</b>

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

Year Ending June 30	Net Deferred Outflows of Resources
2021	\$ 2,703,293
2022	3,332,617
2023	3,757,852
2024	3,038,317
2025	1,272,146
Thereafter	1,254,245
<b>Total</b>	<b>\$ 15,358,470</b>



# Recognition of Deferred Outflows and Inflows of Resources

## Fiscal Year Ended June 30, 2020

### General

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>					
2015	\$ -	8.7829	\$ -	\$ -	2.7829
2016	381,500	8.4005	45,414	154,430	3.4005
2017	(1,199,447)	7.6734	(156,312)	(574,199)	3.6734
2018	6,985,621	8.1547	856,637	4,415,710	5.1547
2019	6,026,142	8.2119	733,830	4,558,482	6.2119
2020	(3,366,651)	8.2365	(408,748)	(2,957,903)	7.2365
<b>Total</b>			<b>\$ 1,070,821</b>	<b>\$ 5,596,520</b>	
<b>Deferred Outflow (Inflow) due to Assumption Changes</b>					
2015	\$ (606,362)	8.7829	\$ (69,039)	\$ (192,128)	2.7829
2016	1,144,153	8.4005	136,201	463,148	3.4005
2017	1,585,347	7.6734	206,603	758,935	3.6734
2018	(3,699,006)	8.1547	(453,604)	(2,338,194)	5.1547
2019	-	8.2119	-	-	6.2119
2020	4,480,911	8.2365	544,031	3,936,880	7.2365
<b>Total</b>			<b>\$ 364,192</b>	<b>\$ 2,628,641</b>	
<b>Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments</b>					
2015	\$ 258,732	5.0000	\$ -	\$ -	0.0000
2016	1,213,444	5.0000	242,688	-	0.0000
2017	(3,146,617)	5.0000	(629,323)	(629,325)	1.0000
2018	(2,051,221)	5.0000	(410,244)	(820,489)	2.0000
2019	3,241,366	5.0000	648,273	1,944,820	3.0000
2020	8,297,879	5.0000	1,659,576	6,638,303	4.0000
<b>Total</b>			<b>\$ 1,510,970</b>	<b>\$ 7,133,309</b>	

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

## A. Outflows and Inflows of Resources due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ 315,293	\$ 454,241	\$ (138,948)
2. Due to Assets	601,404	282,401	319,003
<b>3. Total</b>	<b>\$ 916,697</b>	<b>\$ 736,642</b>	<b>\$ 180,055</b>

## B. Outflows and Inflows of Resources by Source to be recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ 69,763	\$ 303,037	\$ (233,274)
2. Assumption Changes	245,530	151,204	94,326
3. Net Difference between projected and actual earnings on pension plan investments	601,404	282,401	319,003
<b>4. Total</b>	<b>\$ 916,697</b>	<b>\$ 736,642</b>	<b>\$ 180,055</b>

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

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ 303,106	\$ 1,656,193	\$ (1,353,087)
2. Assumption Changes	997,517	536,103	461,414
3. Net Difference between projected and actual earnings on pension plan investments	1,997,242	338,506	1,658,736
<b>4. Total</b>	<b>\$ 3,297,865</b>	<b>\$ 2,530,802</b>	<b>\$ 767,063</b>

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

Year Ending June 30	Net Deferred Outflows of Resources
2021	\$ 112,568
2022	350,590
2023	346,166
2024	184,138
2025	(134,422)
Thereafter	(91,977)
<b>Total</b>	<b>\$ 767,063</b>



# Recognition of Deferred Outflows and Inflows of Resources

## Fiscal Year Ended June 30, 2020

### DOT

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>					
2015	\$ -	7.4547	\$ -	\$ -	1.4547
2016	(62,235)	6.9818	(8,914)	(17,665)	1.9818
2017	2,441	6.4760	377	933	2.4760
2018	167,430	6.9149	24,213	94,791	3.9149
2019	297,728	6.5909	45,173	207,382	4.5909
2020	(1,932,651)	6.5709	(294,123)	(1,638,528)	5.5709
<b>Total</b>			<b>\$ (233,274)</b>	<b>\$ (1,353,087)</b>	
<b>Deferred Outflow (Inflow) due to Assumption Changes</b>					
2015	\$ (169,220)	7.4547	\$ (22,700)	\$ (33,020)	1.4547
2016	311,819	6.9818	44,662	88,509	1.9818
2017	439,445	6.4760	67,857	168,017	2.4760
2018	(888,595)	6.9149	(128,504)	(503,083)	3.9149
2019	-	6.5909	-	-	4.5909
2020	874,002	6.5709	133,011	740,991	5.5709
<b>Total</b>			<b>\$ 94,326</b>	<b>\$ 461,414</b>	
<b>Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments</b>					
2015	\$ 55,763	5.0000	\$ -	\$ -	0.0000
2016	337,444	5.0000	67,488	-	0.0000
2017	(1,131,479)	5.0000	(226,296)	(226,295)	1.0000
2018	(280,526)	5.0000	(56,105)	(112,211)	2.0000
2019	692,108	5.0000	138,422	415,264	3.0000
2020	1,977,472	5.0000	395,494	1,581,978	4.0000
<b>Total</b>			<b>\$ 319,003</b>	<b>\$ 1,658,736</b>	

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

## A. Outflows and Inflows of Resources due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ 677,329	\$ 2,091,344	\$ (1,414,015)
2. Due to Assets	620,219	395,916	224,303
<b>3. Total</b>	<b>\$ 1,297,548</b>	<b>\$ 2,487,260</b>	<b>\$ (1,189,712)</b>

## B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ 261,524	\$ 1,820,623	\$ (1,559,099)
2. Assumption Changes	415,805	270,721	145,084
3. Net Difference between projected and actual earnings on pension plan investments	620,219	395,916	224,303
<b>4. Total</b>	<b>\$ 1,297,548</b>	<b>\$ 2,487,260</b>	<b>\$ (1,189,712)</b>

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

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ 541,406	\$ 1,905,860	\$ (1,364,454)
2. Assumption Changes	888,512	271,961	616,551
3. Net Difference between projected and actual earnings on pension plan investments	1,893,155	532,724	1,360,431
<b>4. Total</b>	<b>\$ 3,323,073</b>	<b>\$ 2,710,545</b>	<b>\$ 612,528</b>

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

Year Ending June 30	Net Deferred Outflows of Resources
2021	\$ (648,200)
2022	461,499
2023	434,592
2024	364,637
2025	-
Thereafter	-
<b>Total</b>	<b>\$ 612,528</b>



# Recognition of Deferred Outflows and Inflows of Resources

## Fiscal Year Ended June 30, 2020

### DWSD

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>					
2015	\$ -	8.5457	\$ -	\$ -	2.5457
2016	(1,577,654)	7.5653	(208,538)	(534,964)	2.5653
2017	(3,118,495)	4.3150	(722,710)	(227,655)	0.3150
2018	(2,555,229)	3.7274	(685,526)	(498,651)	0.7274
2019	1,064,454	4.0702	261,524	541,406	2.0702
2020	(848,439)	4.1621	(203,849)	(644,590)	3.1621
<b>Total</b>			<b>\$ (1,559,099)</b>	<b>\$ (1,364,454)</b>	
<b>Deferred Outflow (Inflow) due to Assumption Changes</b>					
2015	\$ (352,686)	8.5457	\$ (41,271)	\$ (105,060)	2.5457
2016	521,263	7.5653	68,902	176,753	2.5653
2017	583,770	4.3150	135,289	42,614	0.3150
2018	(855,251)	3.7274	(229,450)	(166,901)	0.7274
2019	-	4.0702	-	-	2.0702
2020	880,759	4.1621	211,614	669,145	3.1621
<b>Total</b>			<b>\$ 145,084</b>	<b>\$ 616,551</b>	
<b>Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments</b>					
2015	\$ 147,445	5.0000	\$ -	\$ -	0.0000
2016	551,465	5.0000	110,293	-	0.0000
2017	(1,295,534)	5.0000	(259,107)	(259,106)	1.0000
2018	(684,045)	5.0000	(136,809)	(273,618)	2.0000
2019	732,750	5.0000	146,550	439,650	3.0000
2020	1,816,881	5.0000	363,376	1,453,505	4.0000
<b>Total</b>			<b>\$ 224,303</b>	<b>\$ 1,360,431</b>	

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

## A. Outflows and Inflows of Resources due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ 110,151	\$ 315,293	\$ (205,142)
2. Due to Assets	208,207	102,885	105,322
<b>3. Total</b>	<b>\$ 318,358</b>	<b>\$ 418,178</b>	<b>\$ (99,820)</b>

## B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ 25,408	\$ 258,969	\$ (233,561)
2. Assumption Changes	84,743	56,324	28,419
3. Net Difference between projected and actual earnings on pension plan investments	208,207	102,885	105,322
<b>4. Total</b>	<b>\$ 318,358</b>	<b>\$ 418,178</b>	<b>\$ (99,820)</b>

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

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ 117,718	\$ 1,302,264	\$ (1,184,546)
2. Assumption Changes	362,065	193,479	168,586
3. Net Difference between projected and actual earnings on pension plan investments	680,227	151,591	528,636
<b>4. Total</b>	<b>\$ 1,160,010</b>	<b>\$ 1,647,334</b>	<b>\$ (487,324)</b>

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

Year Ending June 30	Net Deferred Outflows of Resources
2021	\$ (124,081)
2022	(69,902)
2023	(21,794)
2024	(47,003)
2025	(142,619)
Thereafter	(81,925)
<b>Total</b>	<b>\$ (487,324)</b>



# Recognition of Deferred Outflows and Inflows of Resources

## Fiscal Year Ended June 30, 2020

### Library

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>					
2015	\$ -	8.2882	\$ -	\$ -	2.2882
2016	(5,371)	7.5909	(708)	(1,831)	2.5909
2017	(351,986)	7.2520	(48,536)	(157,842)	3.2520
2018	(50,957)	6.6506	(7,662)	(27,971)	3.6506
2019	168,534	6.6330	25,408	117,718	4.6330
2020	(1,316,683)	6.5162	(202,063)	(1,114,620)	5.5162
<b>Total</b>			<b>\$ (233,561)</b>	<b>\$ (1,184,546)</b>	
<b>Deferred Outflow (Inflow) due to Assumption Changes</b>					
2015	\$ (73,841)	8.2882	\$ (8,909)	\$ (20,387)	2.2882
2016	134,216	7.5909	17,681	45,811	2.5909
2017	171,900	7.2520	23,704	77,084	3.2520
2018	(315,337)	6.6506	(47,415)	(173,092)	3.6506
2019	-	6.6330	-	-	4.6330
2020	282,528	6.5162	43,358	239,170	5.5162
<b>Total</b>			<b>\$ 28,419</b>	<b>\$ 168,586</b>	
<b>Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments</b>					
2015	\$ 32,182	5.0000	\$ -	\$ -	0.0000
2016	121,305	5.0000	24,261	-	0.0000
2017	(270,895)	5.0000	(54,179)	(54,179)	1.0000
2018	(243,530)	5.0000	(48,706)	(97,412)	2.0000
2019	277,791	5.0000	55,558	166,675	3.0000
2020	641,940	5.0000	128,388	513,552	4.0000
<b>Total</b>			<b>\$ 105,322</b>	<b>\$ 528,636</b>	



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

## A. Outflows and Inflows of Resources due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ 3,625,489	\$ 3,948,581	\$ (323,092)
2. Due to Assets	3,980,367	1,820,769	2,159,598
<b>3. Total</b>	<b>\$ 7,605,856</b>	<b>\$ 5,769,350</b>	<b>\$ 1,836,506</b>

## B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ 1,992,576	\$ 2,947,689	\$ (955,113)
2. Assumption Changes	1,632,913	1,000,892	632,021
3. Net Difference between projected and actual earnings on pension plan investments	3,980,367	1,820,769	2,159,598
<b>4. Total</b>	<b>\$ 7,605,856</b>	<b>\$ 5,769,350</b>	<b>\$ 1,836,506</b>

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

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ 10,090,852	\$ 8,396,419	\$ 1,694,433
2. Assumption Changes	7,407,057	3,531,865	3,875,192
3. Net Difference between projected and actual earnings on pension plan investments	13,153,747	2,472,635	10,681,112
<b>4. Total</b>	<b>\$ 30,651,656</b>	<b>\$ 14,400,919</b>	<b>\$ 16,250,737</b>

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

Year Ending June 30	Net Deferred Outflows of Resources
2021	\$ 2,043,580
2022	4,074,804
2023	4,516,816
2024	3,540,089
2025	995,105
Thereafter	1,080,343
<b>Total</b>	<b>\$ 16,250,737</b>



## Schedule of Proportionate Employer Share for Year Ended June 30, 2020 General Subgroup

### Deferred Outflows of Resources

Salary	Employer	Prop. Share	Net Pension Liability	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assum.	Changes in Proportion and Differences Between Employer Cont. and Share of Cont.	Total Deferred Outflows of Resources
\$ 200,753,002	General City	98.31%	\$ 9,785,358	\$ 8,974,348	\$ 8,438,069	\$ 5,071,776	\$ 443,351	\$ 22,927,544
3,155,731	Parking	1.55%	154,280	141,494	133,038	79,964	-	354,496
279,322	Airport	0.14%	13,935	12,780	12,016	7,223	342	32,361
<b>\$ 204,188,055</b>	<b>Total for All Employers</b>	<b>100.00%</b>	<b>\$ 9,953,573</b>	<b>\$ 9,128,622</b>	<b>\$ 8,583,123</b>	<b>\$ 5,158,963</b>	<b>\$ 443,693</b>	<b>\$ 23,314,401</b>

### Deferred Inflows of Resources

### Pension Expense

Employer	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assum.	Changes in Proportion and Differences Between Employer Cont. and Share of Cont.	Total Deferred Inflows of Resources	Prop. Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Cont. and Proportionate Share of Cont.	Total Employer Pension Expense
General City	\$ 3,472,409	\$ 1,425,312	\$ 2,487,560	\$ -	\$ 7,385,281	\$ 11,236,573	\$ 79,865	\$ 11,316,438
Parking	54,748	22,472	39,220	407,009	523,449	177,161	(73,351)	103,810
Airport	4,945	2,030	3,542	36,683	47,200	16,002	(6,514)	9,488
<b>Total for All Employers</b>	<b>\$ 3,532,102</b>	<b>\$ 1,449,814</b>	<b>\$ 2,530,322</b>	<b>\$ 443,692</b>	<b>\$ 7,955,930</b>	<b>\$ 11,429,736</b>	<b>\$ -</b>	<b>\$ 11,429,736</b>

Totals may not add due to rounding.



## Schedule of Proportionate Employer Share for Year Ended June 30, 2020 General Subgroup

Employer	Employer Allocation Percentage	Schedule of Deferred Inflows and Outflows						Total
		2021	2022	2023	2024	2025	Thereafter	
General City	98.31%	\$ 2,737,472	\$ 3,356,161	\$ 3,774,115	\$ 3,059,111	\$ 1,315,743	\$ 1,299,660	\$ 15,542,263
Parking	1.55%	(31,450)	(21,695)	(14,986)	(19,055)	(39,946)	(41,820)	(168,953)
Airport	0.14%	(2,729)	(1,848)	(1,277)	(1,739)	(3,651)	(3,594)	(14,839)
<b>TOTAL</b>	<b>100.00%</b>	<b>\$ 2,703,293</b>	<b>\$ 3,332,617</b>	<b>\$ 3,757,852</b>	<b>\$ 3,038,317</b>	<b>\$ 1,272,146</b>	<b>\$ 1,254,246</b>	<b>\$ 15,358,471</b>

## Determination of Employer Contribution Allocation for Year Ended June 30, 2020

Employer	General City	Parking	Airport	General Total	DOT	DWSD	Library	Total
Contributions Before General Breakdown				\$9,114,703	\$1,550,898	\$1,447,354	\$402,906	\$12,515,861
General Employer Allocation Percent	100.00%	0.00%	0.00%	100.00%	N/A	N/A	N/A	N/A
Times General Total	\$9,114,703	\$9,114,703	\$9,114,703	\$9,114,703	N/A	N/A	N/A	N/A
Contribution Allocation Dollar	\$9,114,703	\$ 0	\$ 0	\$9,114,703	\$1,550,898	\$1,447,354	\$402,906	\$12,515,861

We understand that the General contributions should be split between the General Component units (General City, Parking and Airport) according to the above schedule. Please let us know if a different allocation should be used.

Totals may not add due to rounding.



## Recognition of Deferred Outflows and Inflows of Resources Due to Employer Specific Change in Proportion Fiscal Year Ended June 30, 2020

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
<b>General City</b>					
2015	\$ 3,767	8.7829	\$ 429	\$ 1,193	2.7829
2016	80,472	8.4005	9,579	32,577	3.4005
2017	36,533	7.6734	4,761	17,489	3.6734
2018	238,886	8.1547	29,294	151,004	5.1547
2019	144,280	8.2119	17,569	109,142	6.2119
2020	150,179	8.2365	18,233	131,946	7.2365
<b>Total</b>			<b>\$ 79,865</b>	<b>\$ 443,351</b>	
<b>Parking</b>					
2015	\$ (4,841)	8.7829	\$ (551)	\$ (1,535)	2.7829
2016	(72,760)	8.4005	(8,661)	(29,455)	3.4005
2017	(34,338)	7.6734	(4,475)	(16,438)	3.6734
2018	(220,049)	8.1547	(26,984)	(139,096)	5.1547
2019	(128,280)	8.2119	(15,621)	(97,038)	6.2119
2020	(140,506)	8.2365	(17,059)	(123,447)	7.2365
<b>Total</b>			<b>\$ (73,351)</b>	<b>\$ (407,009)</b>	
<b>Airport</b>					
2015	\$ 1,074	8.7829	\$ 122	\$ 342	2.7829
2016	(7,712)	8.4005	(918)	(3,122)	3.4005
2017	(2,195)	7.6734	(286)	(1,051)	3.6734
2018	(18,837)	8.1547	(2,310)	(11,907)	5.1547
2019	(16,000)	8.2119	(1,948)	(12,104)	6.2119
2020	(9,673)	8.2365	(1,174)	(8,499)	7.2365
<b>Total</b>			<b>\$ (6,514)</b>	<b>\$ (36,341)</b>	

## SECTION C

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### REQUIRED SUPPLEMENTARY INFORMATION

## Schedule of Changes in Net Pension Liability and Related Ratios Current Period Fiscal Year Ended June 30, 2020<sup>^</sup>

A. Total pension liability	General	DOT	DWSO	Library	Total
1. Service cost					
1a. Normal Cost	\$ 15,739,417	\$ 3,209,134	\$ 2,390,105	\$ 1,193,346	\$ 22,532,002
1b. Voluntary Employee Contributions	3,766,483	1,380,106	511,684	65,709	5,723,982
1c. Service Cost (Total)	\$ 19,505,900	\$ 4,589,240	\$ 2,901,789	\$ 1,259,055	\$ 28,255,984
2. Interest on the Total Pension Liability (and Service Cost)	6,541,378	1,738,842	1,476,696	513,706	10,270,622
3. Changes of benefit terms	0	0	0	0	0
4. Difference between expected and actual experience of the Total Pension Liability	(3,366,651)	(1,932,651)	(848,439)	(1,316,683)	(7,464,424)
5. Changes of assumptions	4,480,911	874,002	880,759	282,528	6,518,200
6. Benefit payments, including refunds of employee contributions	(2,246,265)	(873,028)	(453,391)	(57,149)	(3,629,833)
7. Net change in total pension liability	\$ 24,915,273	\$ 4,396,405	\$ 3,957,414	\$ 681,457	\$ 33,950,549
8. Total pension liability – beginning	84,319,079	23,884,501	19,805,171	6,395,104	134,403,855
9. Total pension liability – ending	<b>\$ 109,234,352</b>	<b>\$ 28,280,906</b>	<b>\$ 23,762,585</b>	<b>\$ 7,076,561</b>	<b>\$ 168,354,404</b>
<b>B. Plan fiduciary net position</b>					
1. Contributions – employer	\$ 9,114,703	\$ 1,550,898	\$ 1,447,354	\$ 402,906	\$ 12,515,861
2. Contributions – employee mandatory	7,203,016	1,272,018	1,208,589	522,147	10,205,770
3. Net investment income	(1,510,565)	(213,032)	(334,134)	(158,436)	(2,216,167)
4. Benefit payments, including refunds of employee contributions	(1,417,723)	(315,094)	(258,232)	(57,149)	(2,048,198)
5. Benefit Payments and Refunds based on Voluntary Contributions	(828,542)	(557,934)	(195,159)	-	(1,581,635)
6. Pension Plan Administrative Expense	(983,249)	(263,345)	(221,800)	(72,039)	(1,540,433)
7. Voluntary Employee Contributions	3,766,483	1,380,106	511,684	65,709	5,723,982
8. Other	789,961	211,576	178,199	57,877	1,237,613
9. Net change in plan fiduciary net position	\$ 16,134,084	\$ 3,065,193	\$ 2,336,501	\$ 761,015	\$ 22,296,793
10. Plan fiduciary net position – beginning	83,146,695	22,269,291	18,756,108	6,091,818	130,263,912
11. Plan fiduciary net position – ending	<b>\$ 99,280,779</b>	<b>\$ 25,334,484</b>	<b>\$ 21,092,609</b>	<b>\$ 6,852,833</b>	<b>\$ 152,560,705</b>
<b>C. Net pension liability</b>	<b>\$ 9,953,573</b>	<b>\$ 2,946,422</b>	<b>\$ 2,669,976</b>	<b>\$ 223,728</b>	<b>\$ 15,793,699</b>
<b>D. Plan fiduciary net position as a percentage of the total pension liability</b>	<b>90.89%</b>	<b>89.58%</b>	<b>88.76%</b>	<b>96.84%</b>	<b>90.62%</b>
<b>E. Covered-employee payroll</b>	<b>\$ 204,188,055</b>	<b>\$ 35,147,908</b>	<b>\$ 27,685,882</b>	<b>\$ 13,083,911</b>	<b>\$ 280,105,756</b>
<b>F. Net pension liability as a percentage of covered-employee payroll</b>	<b>4.87%</b>	<b>8.38%</b>	<b>9.64%</b>	<b>1.71%</b>	<b>5.64%</b>

<sup>^</sup> Totals may not add due to rounding.

\* Includes voluntary member contributions made during the year.

A Special Funding Situation may occur if a non-city entity has a legal obligation to contribute directly to the Retirement System. The Net Pension Liability shown here has not been adjusted for any potential special funding situation.



# Schedules of Required Supplementary Information

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

Ultimately 10 Fiscal Years Will Be Displayed

Fiscal year ending June 30,	2020	2019	2018	2017	2016	2015
<b>Total Pension Liability</b>						
Service Cost						
1a. Normal Cost	\$ 22,532,002	\$ 20,171,596	\$ 17,056,732	\$ 18,417,036	\$ 18,302,706	\$ 19,318,576
1b. Voluntary Employee Contributions	5,723,982	5,804,274	5,302,650	5,043,347	5,213,744	5,775,885
1c. Service Cost (Total)	\$ 28,255,984	\$ 25,975,870	\$ 22,359,382	\$ 23,460,383	\$ 23,516,450	\$ 25,094,461
Interest on the Total Pension Liability (and Service Cost)	10,270,622	7,531,400	5,438,061	4,084,390	2,495,896	695,469
Benefit Changes	-	-	-	-	-	-
Difference between Expected and Actual Experience	(7,464,424)	7,556,858	4,546,865	(4,667,487)	(1,263,760)	-
Assumption Changes	6,518,200	-	(5,758,189)	2,780,462	2,111,451	(1,202,108)
Benefit Payments	(731,280)	(518,565)	(399,127)	(288,290)	(40,162)	-
Refunds	(2,898,553)	(3,020,819)	(1,991,465)	(1,846,519)	(2,247,052)	-
<b>Net Change in Total Pension Liability</b>	<b>33,950,549</b>	<b>37,524,744</b>	<b>24,195,527</b>	<b>23,522,939</b>	<b>24,572,823</b>	<b>24,587,822</b>
<b>Total Pension Liability - Beginning</b>	<b>134,403,855</b>	<b>96,879,111</b>	<b>72,683,584</b>	<b>49,160,645</b>	<b>24,587,822</b>	<b>-</b>
<b>Total Pension Liability - Ending (a)</b>	<b>\$ 168,354,404</b>	<b>\$ 134,403,855</b>	<b>\$ 96,879,111</b>	<b>\$ 72,683,584</b>	<b>\$ 49,160,645</b>	<b>\$ 24,587,822</b>
<b>Plan Fiduciary Net Position</b>						
Employer Contributions	\$ 12,515,861	\$ 12,205,700	\$ 14,673,644	\$ 9,484,992	\$ 9,048,831	\$ 8,811,369
Mandatory Employee Contributions	10,205,770	9,765,911	8,837,967	7,752,057	7,345,515	6,970,544
Pension Plan Net Investment Income	(2,216,167)	3,270,861	8,445,590	9,100,741	(76,608)	20,690
Benefit Payments	(731,280)	(518,565)	(399,127)	(288,290)	(40,162)	-
Refunds of Mandatory Contributions	(1,316,918)	(1,401,985)	(909,423)	(733,557)	(990,898)	-
Benefit Payments and Refunds based on Voluntary Contributions	(1,581,635)	(1,618,834)	(1,082,042)	(1,112,962)	(1,256,154)	(10,603)
Pension Plan Administrative Expense	(1,540,433)	(1,942,063)	(2,171,693)	(2,639,392)	(3,094,197)	(1,481,589)
Voluntary Employee Contributions	5,723,982	5,804,274	5,302,650	5,043,347	5,213,744	5,786,488
Other	1,237,613	9,066,287	12,436	61,833	6,586	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>22,296,793</b>	<b>34,631,586</b>	<b>32,710,002</b>	<b>26,668,769</b>	<b>16,156,657</b>	<b>20,096,899</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>130,263,912</b>	<b>95,632,326</b>	<b>62,922,324</b>	<b>36,253,555</b>	<b>20,096,898</b>	<b>-</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 152,560,705</b>	<b>\$ 130,263,912</b>	<b>\$ 95,632,326</b>	<b>\$ 62,922,324</b>	<b>\$ 36,253,555</b>	<b>\$ 20,096,899</b>
<b>Net Pension Liability - Ending (a) - (b)</b>	<b>\$ 15,793,699</b>	<b>\$ 4,139,943</b>	<b>\$ 1,246,785</b>	<b>\$ 9,761,260</b>	<b>\$ 12,907,090</b>	<b>\$ 4,490,923</b>
<b>Plan Fiduciary Net Position as a Percentage of Total Pension Liability</b>	90.62 %	96.92 %	98.71 %	86.57 %	73.75 %	81.74 %
<b>Covered-Employee Payroll</b>	\$ 280,105,756	\$ 263,291,986	\$ 229,954,351	\$ 169,014,411	\$ 199,135,119	\$ 203,507,079
<b>Net Pension Liability as a Percentage of Covered-Employee Payroll</b>	5.64 %	1.57 %	0.54 %	5.78 %	6.48 %	2.21 %
<b>Notes to Schedule:</b>						
N/A						

A Special Funding Situation may occur if a non-city entity has a legal obligation to contribute directly to the Retirement System. The Net Pension Liability shown here has not been adjusted for any potential special funding situation.



## Schedules of Required Supplementary Information

### Schedule of the Net Pension Liability Multiyear

Ultimately 10 Fiscal Years Will Be Displayed

FY Ending June 30,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll*	Net Pension Liability as a % of Covered Payroll
2015	\$ 24,587,822	\$ 20,096,899	\$ 4,490,923	81.74%	\$ 203,507,079	2.21%
2016	49,160,645	36,253,555	12,907,090	73.75%	199,135,119	6.48%
2017	72,683,584	62,922,324	9,761,260	86.57%	169,014,411	5.78%
2018	96,879,111	95,632,326	1,246,785	98.71%	229,954,351	0.54%
2019	134,403,855	130,263,912	4,139,943	96.92%	263,291,986	1.57%
2020	168,354,404	152,560,705	15,793,699	90.62%	280,105,756	5.64%

\* Covered payroll shown is the reported payroll from the actuarial valuation date (census date). Actual covered payroll paid during the year was unavailable.





# Schedule of Employer Contributions Multiyear

## Last 10 Fiscal Years

<b>FY Ending June 30,</b>	<b>Actuarially Determined Contribution<sup>#</sup></b>	<b>Actual Contribution</b>	<b>Contribution Deficiency (Excess)</b>	<b>Covered Payroll*</b>	<b>Actual Contribution as a % of Covered Payroll</b>
2015	N/A	\$ 8,811,369	N/A	\$ 203,507,079	4.33%
2016	N/A	9,048,831	N/A	199,135,119	4.54%
2017	N/A	9,484,992	N/A	169,014,411	5.61%
2018	N/A	14,673,644	N/A	229,954,351	6.38%
2019	N/A	12,205,700	N/A	263,291,986	4.64%
2020	N/A	12,515,861	N/A	280,105,756	4.47%

\* Covered payroll shown is the reported payroll from the actuarial valuation date (census date). Actual covered payroll paid during the year was unavailable.

# Employer contribution amounts are set in the plan until Fiscal Year 2024.

## Notes to Schedule of Contributions

**Employers Contribution:** 5% of Compensation commencing July 1, 2014 and ending June 30, 2023, to be split between the Pension Accumulation Fund (PAF) and the Rate Stabilization Reserve (RSR). For Plan years 2024 and later, contributions shall be determined by an Actuary using reasonable and appropriate assumptions approved by the Board and the Investment Committee. We understand that 100% of the employer contributions has gone to PAF and 0% to the RSR.

## Schedule of Investment Returns

This information should be provided by the Plan's investment consultant.

## **SECTION D**

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### **NOTES TO FINANCIAL STATEMENTS**

## Single Discount Rate

The projection of contributions used to determine the Single Discount Rate assumed that the Single Discount Rate of 7.06% was used to measure the total pension liability as of June 30, 2020. This Single Discount Rate was based on the expected rate of return on pension plan investments of 7.06% as directed by the System and approved by the System's Auditor. The projection of cash flows used to determine this Single Discount Rate assumed that plan member contributions will be made at 4.00% of compensation and that employer contributions will be made at 5.00% of compensation through June 30, 2023. Beyond 2023, the employer contributions will be actuarially determined, however, the Board does not have a funding policy at this time. For purposes of the GASB projections only, the employer contribution shown in this report is the rate which, when applied to the closed group payroll, is sufficient to fund the benefits. The rate as determined is 6.61% of the closed group payroll. The actual contributions to this plan will be on open group payroll under different assumptions and methods and are expected to be at a lower rate. The distortion caused by the required GASB projection should not be interpreted as a funding recommendation or requirement. Based on these assumptions, the pension plan's fiduciary net position was determined to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability to changes in the Single Discount Rate, the following presents the plan's net pension liability, calculated using a Single Discount Rate of 7.06%, as well as what the plan's net pension liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher.

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

	1% Decrease 6.06%	Current Single Discount Rate Assumption 7.06%	1% Increase 8.06%
Total Pension Liability (TPL)	\$191,904,854	\$168,354,404	\$149,291,733
Net Position Restricted for Pensions	152,560,705	152,560,705	152,560,705
Net Pension Liability (NPL)	\$ 39,344,149	\$ 15,793,699	\$(3,268,972)

The interest rates shown above (other than the current assumption) are shown for purposes of demonstrating sensitivity. Their inclusion in this report does not imply we believe them to be reasonable estimates of future investment returns.

### Expected Real Returns by Asset Class

This information should be provided by the Plan's investment consultant.



## Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	314
Inactive Plan Members - Legacy Disabled Members	123
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	838
Active Plan Members	5,794
Total Plan Members	7,069

Additional information regarding the plan population may be found in the June 30, 2019 actuarial valuation of the System.

### Additional Note

Liabilities and reported assets for Component II are not included in this report and will be detailed in a separate report.

The Total Pension Liability in this report is based on an average assumed VPIF of 0.5% simple increase per year.

The Total Pension Liability is sensitive to the assumption regarding the VPIF. The sensitivity may increase as the plan matures. To illustrate the sensitivity, we are showing the Total Pension Liability below based on two alternate VPIF assumptions: 1) 0%, and 2) 2% (the maximum amount payable).

#### VPIF Assumption

	Minimum (0%)	Current Assumption (0.5%)	Maximum (2%)
Total Pension Liability (TPL)	\$162,765,696	\$168,354,404	\$185,121,819
Net Position Restricted for Pensions	152,560,705	152,560,705	152,560,705
Net Pension Liability (NPL)	10,204,991	\$ 15,793,699	\$ 32,561,114



## **SECTION E**

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### **SUMMARY OF BENEFITS**

# City of Detroit General Retirement System

## Summary of Component I Benefit Provisions Evaluated

### Plan Year

**The Plan Year** is the 12-month period commencing on July 1, and ending on June 30. The first plan year starts July 1, 2014.

### Full-Time Employees

**Full-Time Employees** are individuals who are required to work 600 hours per year. Part-time transit operators working 25 hours per week are not full-time employees. Special Service Operators are required to work 1,440 hours per year. However, once a Special Service Operator meets the requirement in any year, he or she is deemed to meet it in all future years.

### Plan Membership

**The membership** of the Retirement System shall consist of all persons who are full time employees of the City of Detroit except persons who are members of the Police and Fire Retirement System of the City of Detroit and those individuals who are active members in any other public employee pension plan adopted by either the State of Michigan (other than the Michigan National Guard), or any other political subdivision of the State of Michigan.

### Service Credit

**Credited Service:** A member is credited with one month of Credited Service for each calendar month in which the individual performs 140 hours or more of service for the employer as an employee. Credited Service is recorded from the later of July 1, 2014, or the date of hire, whichever is later.

**Prior Service:** Refers to service credit awarded to a member prior to July 1, 2014 under the terms of the Retirement System in effect on June 30, 2014.

**Vesting Service:** A member is credited with a year of vesting service for each Plan Year commencing on or after July 1, 2014 during which the member performs 1,000 or more hours of work for the employer. Prior Service, as defined above, is also Vesting Service.

**Military Service:** A member who enters the military while employed by the City and returns to employment with the City following military service receives service credit in the Retirement System for the military service time as though there had been no interruption of employment. In order to receive such service credit, the individual must pay contributions to the Retirement System for the military service time upon return to employment.



# City of Detroit General Retirement System

## Summary of Component I Benefit Provisions Evaluated

### Average Final Compensation

**Compensation:** Compensation is base salary or wages, excluding bonuses, overtime pay, payment of unused accrued sick leave, longevity pay, payment for unused accrued vacation, the cost or value of fringe benefits, termination or severance pay, reimbursement of expenses or other extra payment of any kind. Compensation includes deferred compensation and “picked up” employee contributions to the Retirement System. Compensation is limited by IRC Section 401(a)(17).

**Average Final Compensation:** The average of the compensation received during the 10 consecutive years of Credited Service (including Prior Service) immediately preceding the date of the members last termination with the employer. If the member has less than ten years of Credited Service (including Prior Service), the Average Final Compensation is the average of the compensation received during all years of Credited Service.

### Normal Retirement

**Normal Retirement Age:** The Normal Retirement Age is 62. For individuals who were active employees and who had 10 or more years of Vesting Service as of June 30, 2014 the normal retirement age is reduced as follows.

<u>Age as of July 1, 2014</u>	<u>Normal Retirement Age</u>
52 years or younger	62 Years
53 years	61 years and 9 months
54 years	61 years and 6 months
55 years	61 years and 3 months
56 years	61 years
57 years	60 years and 9 months
58 years	60 years and 6 months
59 years	60 years and 3 months
60 years	60 years
61 years	60 years

**Normal Retirement Date:** The later of 10 years of Vesting Service and attainment of Normal Retirement Age.

**Normal Retirement Amount:** The retirement allowance payable to a member who retires on or after the normal retirement date is 1.5% times average final compensation times Credited Service (after June 30, 2014) measured to the nearest month.

### Early Retirement

**Eligibility:** Age 55 with 30 or more years of credited service plus prior service.

**Early Retirement Amount:** *The early retirement amount is the actuarial equivalent of the deferred retirement allowance that would be payable to the member on the Normal Retirement Date, assuming that the member terminated employment on the early retirement date.*





# City of Detroit General Retirement System

## Summary of Component I Benefit Provisions Evaluated

### Deferred Retirement (Vested Benefit)

**Eligibility:** 10 years of Vesting Service.

**Benefit Commencement:** Age 62.

**Annual Amount:** Same as Normal Retirement but based on Average Final Compensation and Credited Service at the time of termination.

### Disability Retirement

**Eligibility:** The individual must be eligible for long-term disability benefits under a policy or plan of insurance or self-insurance maintained by the employer.

**Amount:** The Normal Retirement Allowance payable at Age 62. For members disabled in the line of duty, credited service accrues while a member is entitled to receive long-term disability under the employer's plan or policy.

### Accidental (Line of Duty) Death before Retirement

**Eligibility:** Death resulting directly from performance of duty in the service of the employer or as a result of illness contracted or injuries received while in the service of the employer.

**Amount:** The surviving spouse is eligible to receive a monthly amount equal to the member's Retirement Allowance at time of death (minimum 10% of Average Final Compensation), unreduced for early payment, and payable until the surviving Spouse's death. Amounts payable from Worker's Comp or similar programs are offset against the amount payable to the spouse.

### Ordinary (Other than Line of Duty) Death before Retirement

**Eligibility:** 10 or more years of credited service (or death during disability, but prior to commencement of the retirement allowance). The individual must be employed by the employer at time of death.

**Amount:** The Surviving Spouse shall receive a retirement allowance computed as though the member had retired the day before death, notwithstanding that the death was prior to the Normal retirement Date, elected the Joint and 100% Option in favor of the spouse, and then died. Amounts payable from Worker's Comp or similar programs are offset against the amount payable to the spouse.



# City of Detroit General Retirement System

## Summary of Component I Benefit Provisions Evaluated

### Refund of Mandatory Contributions

A member who ceases to be an employee for reasons other than retirement, death, or disability, may elect to receive a refund of mandatory Accumulated Contributions (without interest) in lieu of any other Component I benefit payable. In the case of a member who dies while employed by the City, or following termination of employment with the City, if no Surviving Spouse benefit is payable, the accumulated mandatory Employee Contributions (without interest) are paid to the member's estate.

### Variable Pension Improvement Factor (VPIF Escalator)

**Eligibility:** Attainment of at least Age 62, and in receipt of a retirement allowance for at least 12 months as of the first day of the Plan Year.

**Amount:** Beginning July 1, 2018 and effective the first date of each Plan year thereafter, the Board may determine that a retiree's Component I Retirement Allowance shall be increased by 2% of the original retirement allowance. The VPIF Escalator may not be awarded in the event that the funding level of Component I of the Retirement System projected over a 5-year period falls below 100%. The VPIF escalator is not compounded.

### Contributions

**Members:** 4% of Compensation. Member contributions are "picked up" in accordance with IRC 414(h).

**Employers:** 5% of Compensation commencing July 1, 2014 and ending June 30, 2023, to be split between the Pension Accumulation Fund and the Rate Stabilization reserve. For Plan years beginning July 1, 2023 and later, contributions shall be determined by an Actuary using reasonable and appropriate assumptions approved by the Board and the Investment Committee.

### Voluntary Employee Contributions

**Eligibility:** Non-union member, or union member with Coverage by a collective bargaining agreement that permits the member to make Voluntary Employee Contributions to Component I.

**Amount:** 3%, 5%, or 7% of compensation at the election of the member. All voluntary employee contributions are made on an after-tax basis.

**Earnings Crediting:** Each Plan Year, accounts are credited with earnings at a rate equal to the net investment rate of return of Retirement System Assets for the second Plan Year immediately preceding the Plan Year in which earnings are to be credited. The earnings rate may not be less than 0% and may not exceed 5.25%.

**Distribution:** Upon termination of employment, accounts may be distributed in a lump sum, in equal monthly installments for a period not exceeding three years, or, at the option of the member, in the form of an actuarially equivalent life annuity payable in the same form as and added to the member's Retirement Allowance. The determination of actuarial equivalent for this purpose is based upon market rates of investment return and other market related assumptions. In case of a member who dies before receiving a distribution of his or her voluntary account, the value of the account is payable to the nominated beneficiary, or to the estate.



# City of Detroit General Retirement System

## Summary of Component I Benefit Provisions Evaluated

### Forms of Payment

**Normal Form of Payment:** The normal form of payment is a straight life allowance with no death benefit, and, in particular, no residual refund of mandatory employee contributions. Until the date the first Retirement Allowance payment check is issued, any Member may elect to receive payment either in the Normal Form or in the Actuarial Equivalent of the Normal Form computed as of the effective date of retirement and payable in one of the forms described below.

**Option One. Modified Cash Refund Annuity:** If a Retiree who elected a Modified Cash Refund Annuity dies before payment has been received in an aggregate amount equal to, but not exceeding the Retiree's Accumulated Mandatory Employee Contributions at the time of retirement, the difference between said Accumulated Mandatory Employee Contributions and the aggregate amount of annuity payments already received, shall be paid in a single lump sum to a Beneficiary nominated by written designation duly executed by the Member and filed with the Board. If there are no such designated Beneficiaries surviving said Retiree, any such difference shall be paid to the Retiree's estate.

**Option Two. Joint and One Hundred Percent Survivor Allowance:** Upon the death of a Retiree who elected a Joint and One Hundred Percent Survivor Allowance, one hundred percent of the reduced Retirement Allowance shall be paid to and continued throughout the life of the Beneficiary nominated by written designation duly executed and filed with the Board prior to the date the first payment of the Retirement Allowance becomes due.

**Option "A." Joint and Seventy-Five Percent Survivor Allowance:** Upon the death of a Retiree who elected a Joint and Seventy-Five Percent Survivor Allowance, seventy-five percent of the reduced Retirement Allowance shall be continued throughout the life of and paid to the Beneficiary nominated by written designation duly executed by the Member and filed with the Board prior to the date the first payment of the Retirement Allowance becomes due.

**Option Three. Joint and Fifty Percent Survivor Allowance:** Upon the death of a Retiree who elected a Joint and Fifty Percent Survivor Allowance, fifty percent of the reduced Retirement Allowance shall be continued throughout the life of and paid to the Beneficiary nominated by written designation duly executed by the Member and filed with the Board prior to the date the first payment of the Retirement Allowance becomes due.

**Option "B." Joint and Twenty-Five Percent Survivor Allowance:** Upon the death of a Retiree who elected a Joint and Twenty-Five Percent Survivor Allowance, twenty-five percent of the reduced Retirement Allowance shall be paid throughout the life of the Beneficiary nominated by written designation duly executed and filed with the Board prior to the date the first payment of the Retirement Allowance becomes due.

**Joint and Survivor Optional Forms of Payment:** The Joint and Survivor Optional Forms of Payment provided under the Retirement System shall be made available in either the standard form or the pop-up form, as follows:

**Standard Form:** Under the Standard Form, the reduced Retirement Allowance shall be paid throughout the lifetime of the Retiree.



# City of Detroit General Retirement System

## Summary of Component I Benefit Provisions Evaluated

**Pop-up Form:** Under the Pop-up Form, the reduced Retirement Allowance shall be paid throughout the lifetime of the Retiree and the designated Beneficiary. In the event of the death of the designated Beneficiary during the lifetime of the Retiree, the amount of the Retirement Allowance shall be changed to the amount that would have been payable had the Retiree elected the Straight Life Retirement Allowance Form of Payment.

**Coordination of Benefits:** According to such rules and regulations as the Board shall adopt, until the first payment of a Retirement Allowance becomes due, but not thereafter, a Member under age sixty-five may elect to have the Member's Straight Life Retirement Allowance provided for under Component I equated on an Actuarial Equivalent basis to provide an increased Retirement Allowance payable to age sixty-two or age sixty-five, and to provide a decreased Retirement Allowance thereafter. The increased Retirement Allowance payable to such age shall approximate the total of the decreased Retirement Allowance payable thereafter and the estimated Social Security benefit. If a Member elects to receive increased and then decreased Retirement Allowance payments provided for in this paragraph, he or she may also elect to have such payments reduced by electing one of the optional forms of payment described above.

**Disposition of Residue:** If under a Joint and One Hundred Percent Survivor allowance, a Joint and Seventy-Five Percent Survivor allowance, a Joint and Fifty Percent Survivor allowance, or a Joint and Twenty-Five Percent Survivor allowance as provided above, both the Retiree and the Beneficiary die before they have received, in Retirement Allowance payments, an aggregate amount equal to the Retiree's Accumulated Mandatory Employee Contributions at the time of retirement, the difference between the said Accumulated Mandatory Employee Contributions and the aggregate amount of Retirement Allowances paid to the Retiree and Beneficiary, shall be paid in a single lump sum to such person or persons nominated by written designation of the Retiree duly executed and filed with the Board. If there are no such person or persons surviving the Retiree and the Beneficiary, any such difference shall be paid to the estate of the second to die of the Retiree or Beneficiary.

# City of Detroit General Retirement System

## Summary of Component I Benefit Provisions Evaluated

### Rehire before or after Retirement

**A non-vested former member** who is reemployed (except as a part time transit operator) within six years of termination may repay mandatory contributions. In such case, forfeited Credited Service and Vesting service are restored. If the member is reemployed more than 6 years following separation, mandatory contributions cannot be repaid. Vesting Service and Credited Service start over beginning with the date of reemployment.

**A former member who is vested** but has not yet begun to receive a Retirement Allowance and who is rehired **prior to being separated for six years** shall have the benefit pertaining to total Credited Service earned on and after July 1, 2014 calculated in accordance with the terms of Component I of the Retirement System in effect at the time of the last separation from service. If the former member has previously withdrawn mandatory accumulated contributions, and such withdrawn contributions are not repaid within two years of the rehire date, only the Credited Service earned on and after the rehire date shall be taken into consideration in determining the retirement allowance.

**A former member who is vested** but has not begun to receive a Retirement Allowance and **who is rehired after being separated for more than six years** shall be entitled to two separate and distinct pension benefits under Component I, each to be calculated in accordance with the provisions of Component I of the Retirement System in effect at the time of each separation from service. If the former member has previously withdrawn mandatory accumulated contributions, and such withdrawn contributions are not repaid within two years of the rehire date, only the Credited Service earned on and after the rehire date shall be taken into consideration in determining the retirement allowance.

**Retirement benefits for a Retiree who returns to active full-time employment** with an Employer shall be subject to the following provisions:

- A Retiree who returns to work will have the Retirement Allowance suspended upon re-employment. The variable pension improvement factor (escalator) shall not be added to the amount of the original Retirement Allowance during the Retiree's re-employment period.
- A Retiree who returns to work will be entitled to receive a second Retirement Allowance in accordance with the provisions of the Retirement System in effect during the re-employment period.
- A Retiree's Average Final Compensation for purposes of determining the second Retirement Allowance will be based upon the Compensation earned by the Retiree after the return to work.
- An individual who retires for a second time will not be allowed to change the payment option selected with respect to the original Retirement Allowance. However, the individual may select a separate payment option with respect to the second Retirement Allowance.
- The Coordination of Benefits (Equated Social Security) option will not be available with respect to payment of the second Retirement Allowance.



## **SECTION F**

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### **ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS**

# Summary of Assumptions and Methods Used for GASB Valuation

## Funding Methods

**The entry age actuarial cost method** was used in determining age & service pension liabilities and normal cost, vesting liabilities and normal cost, and casualty pension liabilities and normal cost. Under this method, each individual's normal cost is determined as a level percent of pay from plan entry to retirement. Plan entry is the later of date of hire or plan effective date.

**Unfunded Actuarial Accrued Liabilities** - Actual employer contributions through June 30, 2023 are set at 5.0% of pay. The amortization period and method after 2023 has not yet been established by the Board. For the purposes of the projection of employer contributions, employer contributions after June 30, 2023 were set at 6.61% of compensation for purposes of illustrating that actuarially determined employer contributions will not result in a crossover date for the GASB Statement No. 67 required projection. This is not a funding recommendation. Recommendations on employer and member funding requirements will be included in actuarial funding reports.

**Present assets** are set equal to the Market Value.

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**The data about persons now covered and about present assets** were furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the Actuary.

# Summary of Assumptions and Methods Used for GASB Valuation Adopted by Board of Trustees

All demographic assumptions are estimates of future experience except as noted. The rationale for the assumptions is based on the 2002-2007 experience study of the Component II plan unless noted otherwise. The Board has elected to defer the next experience study until the five-year period of experience after the City's bankruptcy from July 1, 2015 through June 30, 2020 in order to avoid any distortions during the bankruptcy.

## Economic Assumptions

### Actuarial Assumptions

The assumptions and methods are those adopted by the Board with the exception of the discount rate. For purposes of plan funding, the discount rate is 6.75% as prescribed by Section 1.16(3) of the Combined GRS Plan.

**The investment return rate** used in making the valuation was 7.06% per year, compounded annually (net after investment expenses) as of June 30, 2020. This is a prescribed assumption set by another party. We determined it to be reasonable when using 2.25% assumed price inflation.

**Pay increase assumptions** for individual active members are shown on page 39. Part of the assumption for each age is for a merit and/or seniority increase, and the other recognizes wage inflation (as of June 30, 2014 assumed to be 2.00% for five years, 2.50% for the next five years after that and 3.00% thereafter). The rationale for this assumption is that it is consistent with expectations by the employer used during the plan design.

**Price inflation** is not directly used in the valuation. For purposes of assessing the reasonableness of the assumed rate of return, we assumed a price inflation of 2.25% per year.

## Non-Economic Assumptions

**The mortality table** used to measure retired life mortality 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. Tables were extended below age 50 with a cubic spline to the published Juvenile rates. Pre-retirement mortality is based on the corresponding Employee tables. The tables are projected to be fully generational, based on the 2-dimensional, sex distinct mortality improvement scale MP-2014 (which was published and intended to be used with RP-2014). For disabled members, the same tables are used. The rationale for the mortality assumption is provided in the 2008-2013 Mortality Experience Study issued February 4, 2015.

**The probabilities of retirement** for members eligible to retire are shown on pages 40 through 42. The rationale is based on the 2002-2007 Experience Study modified as necessary to account for the difference in eligibility of the Component I plan.

**The probabilities of separation** from service (excluding *death-in-service* and including *disability*) are shown for sample ages on page 43. The rationale is based on the 2002-2007 Experience Study for the Component II plan.





## Sample Salary Adjustment Rates

Sample Ages	Salary Increase Assumptions For an Individual Member		
	Merit & Seniority	Wage* (Economic)	Increase Next Year
20	4.9%	3.0%	7.9%
25	4.9%	3.0%	7.9%
30	4.1%	3.0%	7.1%
35	3.0%	3.0%	6.0%
40	2.3%	3.0%	5.3%
45	1.8%	3.0%	4.8%
50	1.3%	3.0%	4.3%
55	0.9%	3.0%	3.9%
60	0.5%	3.0%	3.5%
Ref	81		

\* Select and ultimate wage inflation rates as of June 30, 2014 are assumed to be 2.00% for five years, 2.50% for the next five years after that and 3.00% thereafter.

## Single Life Retirement Values

Based on RP-2014 Blue Collar  
 100% of Male Rates Set-Forward 1 Year  
 100% of Female Rates Set-Forward 1 Year

Sample Attained Ages in 2019	Future Life Expectancy (years)	
	Men	Women
45	38.73	42.07
50	33.77	37.01
55	29.00	32.10
60	24.45	27.35
65	20.14	22.78
70	16.15	18.46
75	12.52	14.50
80	9.33	10.98

## Probabilities of Age/Service Retirement for 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 with Unreduced Benefits		
	E.M.S.	D.O.T.	Others
45	25%		
46	25%		
47	25%		
48	22%		
49	20%		
50	18%	55%	50%
51	15%	50%	50%
52	15%	50%	45%
53	15%	50%	45%
54	15%	55%	40%
55	15%	50%	30%
56	15%	50%	30%
57	15%	50%	30%
58	15%	50%	30%
59	15%	55%	40%
60	40%	40%	25%
61	30%	30%	25%
62	30%	30%	25%
63	30%	30%	25%
64	30%	30%	25%
65	30%	30%	35%
66	30%	30%	30%
67	30%	30%	25%
68	30%	50%	25%
69	30%	50%	25%
70	100%	100%	20%
71			20%
72			20%
73			20%
74			20%
75			20%
76			20%
77			20%
78			20%
79			20%
80			100%
Ref	537	1648	1647

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.



## Probabilities of Age/Service Retirement for 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 with Unreduced Benefits	
	E.M.S. and D.O.T.	Others
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	100%	30%
71		30%
72		30%
73		30%
74		30%
75		30%
76		30%
77		30%
78		30%
79		30%
80		100%
Ref	851	1292

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.

# Probabilities of Early Retirement for Members Eligible for Early Retirement

<b>Retirement Ages</b>	<b>Percent of Eligible Active Members Retiring Within Next Year with Reduced Benefits</b>
55	7%
56	8%
57	9%
58	10%
59	12%
60	12%
61	12%
62	12%
Ref	1649

## Sample Rates of Separation from Active Employment Before Retirement

Sample Ages	Years of Service	% of Active Members Separating Within Next Year			
		Withdrawal		Others	
		E.M.S.	D.O.T.	Men	Women
ALL	0	11.00%	18.00%	18.00%	20.00%
	1	10.00%	16.00%	15.00%	16.00%
	2	8.00%	14.00%	13.00%	14.00%
	3	8.00%	11.00%	11.00%	12.00%
	4	7.00%	9.00%	10.00%	10.00%
25	5 & Over	6.70%	8.00%	7.60%	7.60%
30		5.90%	7.60%	7.22%	7.22%
35		5.20%	5.56%	5.28%	5.28%
40		4.40%	4.26%	4.05%	4.05%
45		3.40%	3.69%	3.51%	3.51%
50		2.40%	3.50%	3.33%	3.33%
55		2.00%	3.50%	3.33%	3.33%
60		0.00%	3.50%	3.33%	3.33%
Ref		338	143	584	188
		1068	212	212 x 0.95	212 x 0.95

Sample Ages	% of Active Members Becoming Disabled Within Next Year											
	D.O.T.				Others							
	Ordinary		Duty		Ordinary		Duty					
25	0.02%		0.03%		0.01%		0.25%					
30	0.05%		0.08%		0.04%		0.29%					
35	0.14%		0.21%		0.11%		0.34%					
40	0.27%		0.42%		0.21%		0.39%					
45	0.51%		0.79%		0.40%		0.45%					
50	0.66%		1.03%		0.51%		0.52%					
55	0.76%		1.18%		0.59%		0.60%					
60	0.86%		1.34%		0.67%		0.70%					
Ref	23	x	0.45	23	x	0.70	23	x	0.35	423	x	0.90

## Miscellaneous and Technical Assumptions

<b>Benefit Service</b>	Exact Fractional service is used to determine the amount of benefit payable.
<b>Decrement Operation</b>	Disability and mortality decrements do not operate during the first 5 years of service. Disability and withdrawal also do not operate during retirement eligibility.
<b>Decrement Timing</b>	Decrement of all types are assumed to occur mid-year.
<b>Eligibility Testing</b>	Eligibility for benefits is determined based upon the age nearest birthday and rounded service on the date the decrement is assumed to occur.
<b>Forfeitures</b>	None.
<b>Marriage Assumption</b>	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
<b>Normal Form of Benefit</b>	Straight life is the normal form of benefit.
<b>Service Credit Accruals</b>	Service accruals for calculating benefits begin as of June 30, 2014 for Component I liabilities. However, service in Component II may be used to satisfy benefit eligibility requirement in Component I.
<b>Administrative Expenses</b>	3.00% of Component I payroll. 60% was allocated to Component II and 40% to Component I.
<b>Sick Leave</b>	None.
<b>Pay Increase Timing</b>	End of (Fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year starting on the valuation date.
<b>Disability Benefits</b>	Duty Disability benefits were increased by 3.5% to account for the Death While Disabled provision. The 3.5% increase was determined by examining the effect of the Death While Disabled provision on several hypothetical test cases.
<b>Workers Compensation</b>	Workers compensation for duty death-in-service benefits was assumed to equally offset the 10% AFC minimum benefit.
<b>Actuarial Equivalent</b>	No adjustments have been made for Actuarial Equivalent benefits. The Board adopted assumptions for Actuarial Equivalence to be an 80%/20% unisex blend of RP-2014 mortality (Male/Female) with Blue Collar Adjustment, set ahead 1 year for males and females, projected 11 years with MP-2014, an interest rate of 6.75, and a 0.5% simple COLA starting the later of 1 year after retirement or age 62 for optional forms of payment and early retirement reduction. Assumptions for annuitizing member contributions are the same except for using a 60%/40% unisex blend, a 5.25% assumed rate of interest, and no COLA.
<b>IRC Section 415 Limit</b>	No adjustments have been made for 415 limits. The limit is assumed to grow with wage inflation.
<b>IRC Section 401(a)(17) Limit</b>	All of the member salary provided falls below the 401(a)(17) limit. The limit is assumed to grow with wage inflation.
<b>IRC Section 401(h) Limit</b>	We did not test for the IRC Section 401(h) limit on employer contributions for medical benefits. No such employer contributions are anticipated in this valuation.



## Miscellaneous and Technical Assumptions (Concluded)

<b>COLA (VPIF)</b>	The valuation assumption is that on average future COLAs will be 0.5%. The rationale for this assumption is that COLAs are not guaranteed. This assumption was set based on some scenario analysis at plan inception and will be reviewed as experience emerges and the plan evolves. Unless otherwise stated, all costs shown in this report are based on a 0.5% VPIF. Transition Costs are based on a 0.0% VPIF.
<b>Voluntary Contributions</b>	For the valuation, future voluntary contributions will be reflected in future valuations as they occur. No adjustments have been made to reflect future interest crediting to voluntary contributions. For fiscal responsibility calculation, see Section C of the valuation report for assumptions.
<b>New Entrant Assumption</b>	New entrants are assumed to replace the current workforce as members separate from service under current valuation assumptions. Total payroll is expected to grow with wage inflation.
<b>Pop-Up Benefits</b>	For current retirees with a pop-up benefit, the value of the pop-up was estimated by valuing a non-pop-up option and increasing the associated liabilities by 2%.

## **SECTION G**

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



## Calculation of the Single Discount Rate at End of Year

GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension 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 pension 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 pension plan investments is 7.06% net of investment expenses; the municipal bond rate is 2.45%; and the resulting Single Discount Rate is 7.06% as of June 30, 2020.

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 benefits). For purposes of determining the discount rate as of June 30, 2020, the employer contributions for the 10-year period ending June 30, 2023 are set at 5.00% of payroll. Subsequent employer contributions were set at 6.61% of payroll including contributions for expenses for the purpose of these projections. The actual employer rate will be determined by future funding valuations and is expected to be lower when based on an open group payroll. Member contributions were set at 4.00% for the entire period. The voluntary member contributions were excluded for the projections (and assets). The VPIF was assumed to be 0.50% simple each year. The remedial actions under Section 9.5 of the plan were assumed not to occur. Note that contributions shown in this report are strictly for the purpose of projecting for a GASB crossover date. Nothing in this report should be construed as a recommendation for plan funding requirements. For purposes of these projections, voluntary employee contributions are excluded from the plan fiduciary net position and total pension liability.

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 SDR. It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR. For purposes of determining the discount rate as of June 30, 2020, the benefit payments reflect the plan provisions in force as of June 30, 2020.

# Single Discount Rate Development

## Projection of Contributions End of Year

### (Excluding Voluntary Employee Contributions)

Fiscal Year Ending June 30,	Payroll for Current Employees	Projected Contributions from Current Employees	Projected Employer Service Cost Contribution	Employer Administrative Expense Contributions	Projected Employer UAL Contributions	Projected Total Contributions
2021	\$ 237,065,386	\$ 9,482,615	\$ 10,969,688	\$ 2,844,785	\$ (1,961,204)	\$ 21,335,885
2022	218,955,590	8,758,224	9,983,068	2,627,467	(1,662,756)	19,706,003
2023	205,287,795	8,211,512	9,206,534	2,463,454	(1,405,598)	18,475,902
2024	194,705,419	7,788,217	8,588,347	2,336,465	1,953,896	20,666,925
2025	185,733,038	7,429,322	8,054,364	2,228,796	2,002,074	19,714,556
2026	177,934,486	7,117,379	7,578,894	2,135,214	2,055,294	18,886,782
2027	169,546,416	6,781,857	7,091,170	2,034,557	2,088,850	17,996,433
2028	160,665,135	6,426,605	6,584,308	1,927,982	2,114,839	17,053,734
2029	151,579,727	6,063,189	6,081,393	1,818,957	2,125,827	16,089,367
2030	142,665,025	5,706,601	5,592,512	1,711,980	2,132,027	15,143,119
2031	134,339,225	5,373,569	5,136,936	1,612,071	2,136,805	14,259,381
2032	126,469,160	5,058,766	4,708,402	1,517,630	2,139,218	13,424,016
2033	118,940,638	4,757,626	4,301,844	1,427,288	2,138,146	12,624,904
2034	111,851,102	4,474,044	3,927,146	1,342,213	2,128,985	11,872,388
2035	105,232,609	4,209,304	3,587,495	1,262,791	2,110,281	11,169,871
2036	98,966,988	3,958,680	3,274,334	1,187,604	2,084,192	10,504,810
2037	92,951,726	3,718,069	2,981,267	1,115,421	2,051,565	9,866,322
2038	87,289,951	3,491,598	2,714,409	1,047,479	2,011,869	9,265,355
2039	81,936,414	3,277,457	2,470,474	983,237	1,965,939	8,697,106
2040	76,817,800	3,072,712	2,245,673	921,814	1,913,594	8,153,793
2041	71,979,517	2,879,181	2,040,953	863,754	1,856,348	7,640,236
2042	67,332,533	2,693,301	1,852,173	807,990	1,793,519	7,146,984
2043	62,925,922	2,517,037	1,679,211	755,111	1,727,887	6,679,246
2044	58,656,390	2,346,256	1,519,646	703,877	1,656,280	6,226,058
2045	54,393,625	2,175,745	1,367,491	652,723	1,577,630	5,773,589
2046	50,206,129	2,008,245	1,225,354	602,474	1,493,035	5,329,109
2047	46,017,500	1,840,700	1,090,488	552,210	1,401,110	4,884,508
2048	41,686,073	1,667,443	958,859	500,233	1,298,216	4,424,751
2049	37,142,253	1,485,690	827,112	445,707	1,183,940	3,942,449
2050	32,504,924	1,300,197	699,640	390,059	1,060,325	3,450,222
2051	28,035,729	1,121,429	582,023	336,429	935,959	2,975,841
2052	23,845,223	953,809	476,926	286,143	814,163	2,531,041
2053	20,041,421	801,657	385,634	240,497	699,501	2,127,288
2054	16,705,773	668,231	309,159	200,469	595,369	1,773,227
2055	13,797,937	551,917	245,215	165,575	501,869	1,464,576
2056	11,271,463	450,859	193,263	135,258	417,025	1,196,405
2057	9,107,390	364,296	149,876	109,289	343,239	966,700
2058	7,250,504	290,020	115,384	87,006	277,192	769,602
2059	5,668,803	226,752	87,292	68,026	219,642	601,713
2060	4,344,465	173,779	64,523	52,134	170,705	461,141
2061	3,252,263	130,091	47,568	39,027	128,525	345,210
2062	2,376,320	95,053	33,859	28,516	94,805	252,233
2063	1,691,944	67,678	24,044	20,303	67,566	179,591
2064	1,190,264	47,611	16,759	14,283	47,688	126,340
2065	834,788	33,392	11,726	10,017	33,474	88,608
2066	584,187	23,367	8,292	7,010	23,339	62,008
2067	406,702	16,268	5,499	4,880	16,522	43,169
2068	282,047	11,282	3,861	3,385	11,410	29,938
2069	194,735	7,789	2,576	2,337	7,968	20,670
2070	134,295	5,372	1,691	1,612	5,580	14,255

Employer contributions as shown may differ substantially from those determined by a funding valuation. Based on 0.5% VPIF.



# Single Discount Rate Development Projection of Contributions End of Year (Excluding Voluntary Employee Contributions) (Concluded)

Fiscal Year Ending June 30,	Payroll for Current Employees	Projected Contributions from Current Employees	Projected Employer Service Cost Contribution	Employer Administrative Expense Contributions	Projected Employer UAL Contributions	Projected Total Contributions
2071	\$ 92,129	\$ 3,685	\$ 1,075	\$ 1,106	\$ 3,913	\$ 9,779
2072	63,021	2,521	585	756	2,828	6,689
2073	42,792	1,712	358	513	1,960	4,542
2074	28,800	1,152	235	346	1,324	3,057
2075	19,102	764	197	229	837	2,028
2076	12,317	493	44	148	623	1,307
2077	7,847	314	107	94	318	833
2078	4,692	188	(38)	56	292	498
2079	2,487	99	(77)	30	212	264
2080	1,035	41	(41)	12	98	110
2081	237	9	(9)	3	22	25
2082	37	1	(1)	-	4	4
2083	-	-	-	-	-	-
2084	-	-	-	-	-	-
2085	-	-	-	-	-	-
2086	-	-	-	-	-	-
2087	-	-	-	-	-	-
2088	-	-	-	-	-	-
2089	-	-	-	-	-	-
2090	-	-	-	-	-	-
2091	-	-	-	-	-	-
2092	-	-	-	-	-	-
2093	-	-	-	-	-	-
2094	-	-	-	-	-	-
2095	-	-	-	-	-	-
2096	-	-	-	-	-	-
2097	-	-	-	-	-	-
2098	-	-	-	-	-	-
2099	-	-	-	-	-	-
2100	-	-	-	-	-	-
2101	-	-	-	-	-	-
2102	-	-	-	-	-	-
2103	-	-	-	-	-	-
2104	-	-	-	-	-	-
2105	-	-	-	-	-	-
2106	-	-	-	-	-	-
2107	-	-	-	-	-	-
2108	-	-	-	-	-	-
2109	-	-	-	-	-	-
2110	-	-	-	-	-	-
2111	-	-	-	-	-	-
2112	-	-	-	-	-	-
2113	-	-	-	-	-	-
2114	-	-	-	-	-	-
2115	-	-	-	-	-	-
2116	-	-	-	-	-	-
2117	-	-	-	-	-	-
2118	-	-	-	-	-	-
2119	-	-	-	-	-	-
2120	-	-	-	-	-	-

Employer contributions as shown may differ substantially from those determined by a funding valuation. Based on 0.5% VPIF.



# Single Discount Rate Development

## Projection of Plan Fiduciary Net Position End of Year (Excluding Voluntary Employee Contributions)

Fiscal Year Ending	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.06%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2021	\$ 123,051,909	\$ 21,335,885	\$ 3,342,766	\$ 2,844,785	\$ 9,213,082	\$ 147,413,325
2022	147,413,325	19,706,003	4,002,861	2,627,467	10,861,081	171,350,081
2023	171,350,081	18,475,902	4,725,864	2,463,454	12,488,938	195,125,602
2024	195,125,602	20,666,925	5,422,213	2,336,465	14,223,758	222,257,608
2025	222,257,608	19,714,556	6,335,224	2,228,796	16,078,289	249,486,432
2026	249,486,432	18,886,782	7,472,806	2,135,214	17,935,697	276,700,890
2027	276,700,890	17,996,433	8,641,202	2,034,557	19,789,096	303,810,661
2028	303,810,661	17,053,734	10,002,757	1,927,982	21,626,790	330,560,446
2029	330,560,446	16,089,367	11,330,308	1,818,957	23,439,583	356,940,131
2030	356,940,131	15,143,119	13,181,558	1,711,980	25,208,633	382,398,345
2031	382,398,345	14,259,381	15,068,231	1,612,071	26,913,322	406,890,746
2032	406,890,746	13,424,016	17,024,344	1,517,630	28,548,904	430,321,692
2033	430,321,692	12,624,904	19,042,549	1,427,288	30,108,508	452,585,267
2034	452,585,267	11,872,388	21,017,509	1,342,213	31,588,630	473,686,564
2035	473,686,564	11,169,871	22,916,474	1,262,791	32,990,871	493,668,041
2036	493,668,041	10,504,810	24,762,964	1,187,604	34,317,026	512,539,309
2037	512,539,309	9,866,322	26,662,178	1,115,421	35,563,789	530,191,822
2038	530,191,822	9,265,355	28,456,390	1,047,479	36,729,306	546,682,614
2039	546,682,614	8,697,106	30,208,349	983,237	37,815,279	562,003,414
2040	562,003,414	8,153,793	31,961,743	921,814	38,819,367	576,093,018
2041	576,093,018	7,640,236	33,650,648	863,754	39,739,687	588,958,538
2042	588,958,538	7,146,984	35,365,065	807,990	40,573,325	600,505,792
2043	600,505,792	6,679,246	36,928,074	755,111	41,319,933	610,821,786
2044	610,821,786	6,226,058	38,472,757	703,877	41,980,698	619,851,908
2045	619,851,908	5,773,589	40,070,357	652,723	42,548,866	627,451,283
2046	627,451,283	5,329,109	41,477,618	602,474	43,022,874	633,723,173
2047	633,723,173	4,884,508	42,779,189	552,210	43,406,825	638,683,108
2048	638,683,108	4,424,751	44,146,763	500,233	43,695,395	642,156,258
2049	642,156,258	3,942,449	45,589,859	445,707	43,875,684	643,938,825
2050	643,938,825	3,450,222	47,391,734	390,059	43,923,863	643,531,116
2051	643,531,116	2,975,841	49,446,630	336,429	43,809,179	640,533,077
2052	640,533,077	2,531,041	51,483,066	286,143	43,513,168	634,808,077
2053	634,808,077	2,127,288	53,236,777	240,497	43,035,707	626,493,798
2054	626,493,798	1,773,227	54,480,585	200,469	42,394,665	615,980,637
2055	615,980,637	1,464,576	55,431,136	165,575	41,609,955	603,458,458
2056	603,458,458	1,196,405	56,107,573	135,258	40,694,165	589,106,196
2057	589,106,196	966,700	56,470,666	109,289	39,661,227	573,154,169
2058	573,154,169	769,602	56,641,825	87,006	38,523,010	555,717,950
2059	555,717,950	601,713	56,549,745	68,026	37,290,041	536,991,932
2060	536,991,932	461,141	56,267,229	52,134	35,973,461	517,107,171
2061	517,107,171	345,210	55,789,101	39,027	34,582,619	496,206,871
2062	496,206,871	252,233	55,054,347	28,516	33,129,691	474,505,933
2063	474,505,933	179,591	54,025,746	20,303	31,631,059	452,270,533
2064	452,270,533	126,340	52,630,583	14,283	30,108,011	429,860,018
2065	429,860,018	88,608	51,039,423	10,017	28,579,877	407,479,063
2066	407,479,063	62,008	49,341,615	7,010	27,057,874	385,250,320
2067	385,250,320	43,169	47,576,103	4,880	25,549,204	363,261,710
2068	363,261,710	29,938	45,758,607	3,385	24,059,465	341,589,121
2069	341,589,121	20,670	43,902,234	2,337	22,593,507	320,298,727
2070	320,298,727	14,255	42,017,436	1,612	21,155,607	299,449,540

Employer contributions as shown may differ substantially from those determined by a funding valuation. Based on 0.5% VPIF.



# Single Discount Rate Development

## Projection of Plan Fiduciary Net Position End of Year (Excluding Voluntary Employee Contributions) (Concluded)

Fiscal Year Ending	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.06%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2071	\$ 299,449,540	\$ 9,779	\$ 40,113,593	\$ 1,106	\$ 19,749,576	\$ 279,094,197
2072	279,094,197	6,689	38,198,085	756	18,378,858	259,280,903
2073	259,280,903	4,542	36,277,758	513	17,046,605	240,053,779
2074	240,053,779	3,057	34,358,409	346	15,755,722	221,453,803
2075	221,453,803	2,028	32,445,353	229	14,508,911	203,519,160
2076	203,519,160	1,307	30,543,337	148	13,308,699	186,285,681
2077	186,285,681	833	28,656,767	94	12,157,462	169,787,115
2078	169,787,115	498	26,790,791	56	11,057,398	154,054,165
2079	154,054,165	264	24,950,565	30	10,010,497	139,114,331
2080	139,114,331	110	23,141,722	12	9,018,503	124,991,210
2081	124,991,210	25	21,370,322	3	8,082,872	111,703,783
2082	111,703,783	4	19,642,736	-	7,204,723	99,265,774
2083	99,265,774	-	17,965,633	-	6,384,792	87,684,932
2084	87,684,932	-	16,345,015	-	5,623,416	76,963,333
2085	76,963,333	-	14,786,246	-	4,920,558	67,097,646
2086	67,097,646	-	13,294,342	-	4,275,806	58,079,110
2087	58,079,110	-	11,874,222	-	3,688,373	49,893,262
2088	49,893,262	-	10,530,834	-	3,157,065	42,519,493
2089	42,519,493	-	9,268,942	-	2,680,262	35,930,813
2090	35,930,813	-	8,092,810	-	2,255,911	30,093,914
2091	30,093,914	-	7,005,938	-	1,881,538	24,969,515
2092	24,969,515	-	6,010,701	-	1,554,288	20,513,102
2093	20,513,102	-	5,108,159	-	1,270,982	16,675,925
2094	16,675,925	-	4,297,924	-	1,028,191	13,406,192
2095	13,406,192	-	3,578,116	-	822,324	10,650,400
2096	10,650,400	-	2,945,480	-	649,716	8,354,636
2097	8,354,636	-	2,395,604	-	506,715	6,465,746
2098	6,465,746	-	1,923,287	-	389,747	4,932,207
2099	4,932,207	-	1,522,757	-	295,377	3,704,827
2100	3,704,827	-	1,187,800	-	220,346	2,737,373
2101	2,737,373	-	911,828	-	161,620	1,987,165
2102	1,987,165	-	688,028	-	116,421	1,415,558
2103	1,415,558	-	509,618	-	82,256	988,196
2104	988,196	-	370,024	-	56,928	675,099
2105	675,099	-	262,975	-	38,537	450,661
2106	450,661	-	182,627	-	25,480	293,514
2107	293,514	-	123,710	-	16,430	186,234
2108	186,234	-	81,602	-	10,317	114,949
2109	114,949	-	52,334	-	6,299	68,914
2110	68,914	-	32,576	-	3,735	40,073
2111	40,073	-	19,643	-	2,148	22,578
2112	22,578	-	11,460	-	1,196	12,314
2113	12,314	-	6,465	-	645	6,494
2114	6,494	-	3,526	-	336	3,304
2115	3,304	-	1,857	-	169	1,615
2116	1,615	-	944	-	81	753
2117	753	-	463	-	37	327
2118	327	-	216	-	16	127
2119	127	-	131	-	4	0
2120	0	-	-	-	0	0

Employer contributions as shown may differ substantially from those determined by a funding valuation. Based on 0.5% VPIF.



# Single Discount Rate Development

## Present Values of Projected Benefits End of Year

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of 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 Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^(a)-.5	(g)=(e)*vf^(a)-.5	(h)=(c)/(1+sdr)^(a)-.5
2021	\$ 123,051,909	\$ 3,342,766	\$ 3,342,766	\$ -	\$ 3,230,668	\$ -	\$ 3,230,668
2022	147,413,325	4,002,861	4,002,861	-	3,613,513	-	3,613,513
2023	171,350,081	4,725,864	4,725,864	-	3,984,860	-	3,984,860
2024	195,125,602	5,422,213	5,422,213	-	4,270,524	-	4,270,524
2025	222,257,608	6,335,224	6,335,224	-	4,660,574	-	4,660,574
2026	249,486,432	7,472,806	7,472,806	-	5,134,923	-	5,134,923
2027	276,700,890	8,641,202	8,641,202	-	5,546,220	-	5,546,220
2028	303,810,661	10,002,757	10,002,757	-	5,996,743	-	5,996,743
2029	330,560,446	11,330,308	11,330,308	-	6,344,687	-	6,344,687
2030	356,940,131	13,181,558	13,181,558	-	6,894,583	-	6,894,583
2031	382,398,345	15,068,231	15,068,231	-	7,361,668	-	7,361,668
2032	406,890,746	17,024,344	17,024,344	-	7,768,857	-	7,768,857
2033	430,321,692	19,042,549	19,042,549	-	8,116,795	-	8,116,795
2034	452,585,267	21,017,509	21,017,509	-	8,367,843	-	8,367,843
2035	473,686,564	22,916,474	22,916,474	-	8,522,222	-	8,522,222
2036	493,668,041	24,762,964	24,762,964	-	8,601,623	-	8,601,623
2037	512,539,309	26,662,178	26,662,178	-	8,650,599	-	8,650,599
2038	530,191,822	28,456,390	28,456,390	-	8,623,888	-	8,623,888
2039	546,682,614	30,208,349	30,208,349	-	8,551,121	-	8,551,121
2040	562,003,414	31,961,743	31,961,743	-	8,450,828	-	8,450,828
2041	576,093,018	33,650,648	33,650,648	-	8,310,651	-	8,310,651
2042	588,958,538	35,365,065	35,365,065	-	8,158,096	-	8,158,096
2043	600,505,792	36,928,074	36,928,074	-	7,956,898	-	7,956,898
2044	610,821,786	38,472,757	38,472,757	-	7,743,070	-	7,743,070
2045	619,851,908	40,070,357	40,070,357	-	7,532,790	-	7,532,790
2046	627,451,283	41,477,618	41,477,618	-	7,283,149	-	7,283,149
2047	633,723,173	42,779,189	42,779,189	-	7,016,341	-	7,016,341
2048	638,683,108	44,146,763	44,146,763	-	6,763,162	-	6,763,162
2049	642,156,258	45,589,859	45,589,859	-	6,523,669	-	6,523,669
2050	643,938,825	47,391,734	47,391,734	-	6,334,306	-	6,334,306
2051	643,531,116	49,446,630	49,446,630	-	6,173,137	-	6,173,137
2052	640,533,077	51,483,066	51,483,066	-	6,003,526	-	6,003,526
2053	634,808,077	53,236,777	53,236,777	-	5,798,645	-	5,798,645
2054	626,493,798	54,480,585	54,480,585	-	5,542,801	-	5,542,801
2055	615,980,637	55,431,136	55,431,136	-	5,267,615	-	5,267,615
2056	603,458,458	56,107,573	56,107,573	-	4,980,288	-	4,980,288
2057	589,106,196	56,470,666	56,470,666	-	4,681,971	-	4,681,971
2058	573,154,169	56,641,825	56,641,825	-	4,386,476	-	4,386,476
2059	555,717,950	56,549,745	56,549,745	-	4,090,552	-	4,090,552
2060	536,991,932	56,267,229	56,267,229	-	3,801,715	-	3,801,715
2061	517,107,171	55,789,101	55,789,101	-	3,520,839	-	3,520,839
2062	496,206,871	55,054,347	55,054,347	-	3,245,347	-	3,245,347
2063	474,505,933	54,025,746	54,025,746	-	2,974,700	-	2,974,700
2064	452,270,533	52,630,583	52,630,583	-	2,706,782	-	2,706,782
2065	429,860,018	51,039,423	51,039,423	-	2,451,848	-	2,451,848
2066	407,479,063	49,341,615	49,341,615	-	2,213,981	-	2,213,981
2067	385,250,320	47,576,103	47,576,103	-	1,993,987	-	1,993,987
2068	363,261,710	45,758,607	45,758,607	-	1,791,344	-	1,791,344
2069	341,589,121	43,902,234	43,902,234	-	1,605,334	-	1,605,334
2070	320,298,727	42,017,436	42,017,436	-	1,435,097	-	1,435,097

Based on 0.5% VPIF.



# Single Discount Rate Development

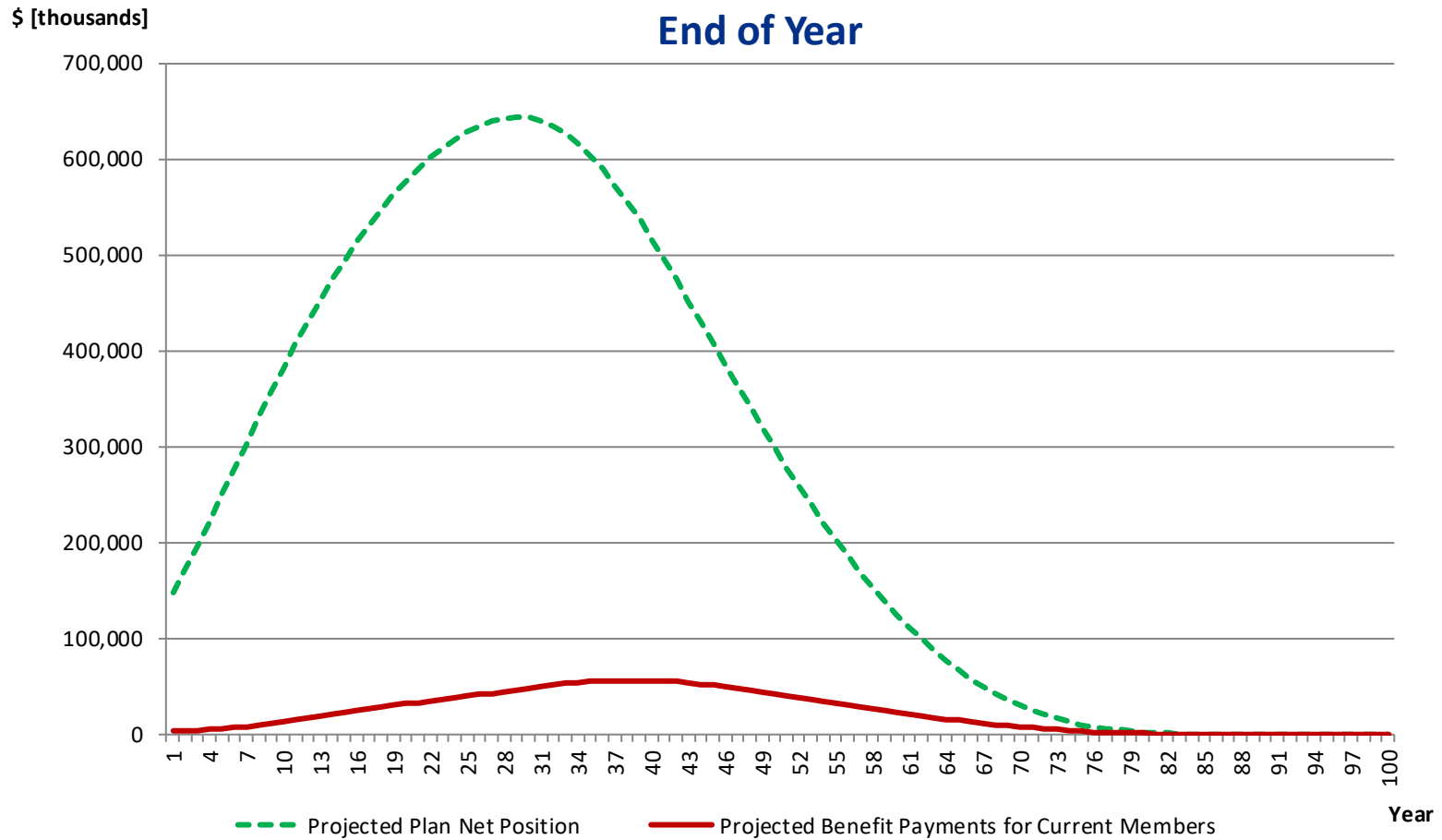
## Present Values of Projected Benefits (Concluded)

Fiscal Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of 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 Benefit Payments using Single Discount Rate (sdr)	
Ending June 30,	(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>
2071	\$ 299,449,540	\$ 40,113,593	\$ 40,113,593	\$ -	\$ 1,279,723	\$ -	\$ 1,279,723	
2072	279,094,197	38,198,085	38,198,085	-	1,138,253	-	1,138,253	
2073	259,280,903	36,277,758	36,277,758	-	1,009,742	-	1,009,742	
2074	240,053,779	34,358,409	34,358,409	-	893,256	-	893,256	
2075	221,453,803	32,445,353	32,445,353	-	787,894	-	787,894	
2076	203,519,160	30,543,337	30,543,337	-	692,795	-	692,795	
2077	186,285,681	28,656,767	28,656,767	-	607,139	-	607,139	
2078	169,787,115	26,790,791	26,790,791	-	530,175	-	530,175	
2079	154,054,165	24,950,565	24,950,565	-	461,197	-	461,197	
2080	139,114,331	23,141,722	23,141,722	-	399,554	-	399,554	
2081	124,991,210	21,370,322	21,370,322	-	344,638	-	344,638	
2082	111,703,783	19,642,736	19,642,736	-	295,888	-	295,888	
2083	99,265,774	17,965,633	17,965,633	-	252,778	-	252,778	
2084	87,684,932	16,345,015	16,345,015	-	214,811	-	214,811	
2085	76,963,333	14,786,246	14,786,246	-	181,510	-	181,510	
2086	67,097,646	13,294,342	13,294,342	-	152,434	-	152,434	
2087	58,079,110	11,874,222	11,874,222	-	127,173	-	127,173	
2088	49,893,262	10,530,834	10,530,834	-	105,347	-	105,347	
2089	42,519,493	9,268,942	9,268,942	-	86,609	-	86,609	
2090	35,930,813	8,092,810	8,092,810	-	70,633	-	70,633	
2091	30,093,914	7,005,938	7,005,938	-	57,114	-	57,114	
2092	24,969,515	6,010,701	6,010,701	-	45,770	-	45,770	
2093	20,513,102	5,108,159	5,108,159	-	36,332	-	36,332	
2094	16,675,925	4,297,924	4,297,924	-	28,553	-	28,553	
2095	13,406,192	3,578,116	3,578,116	-	22,204	-	22,204	
2096	10,650,400	2,945,480	2,945,480	-	17,073	-	17,073	
2097	8,354,636	2,395,604	2,395,604	-	12,970	-	12,970	
2098	6,465,746	1,923,287	1,923,287	-	9,726	-	9,726	
2099	4,932,207	1,522,757	1,522,757	-	7,193	-	7,193	
2100	3,704,827	1,187,800	1,187,800	-	5,241	-	5,241	
2101	2,737,373	911,828	911,828	-	3,758	-	3,758	
2102	1,987,165	688,028	688,028	-	2,648	-	2,648	
2103	1,415,558	509,618	509,618	-	1,832	-	1,832	
2104	988,196	370,024	370,024	-	1,243	-	1,243	
2105	675,099	262,975	262,975	-	825	-	825	
2106	450,661	182,627	182,627	-	535	-	535	
2107	293,514	123,710	123,710	-	339	-	339	
2108	186,234	81,602	81,602	-	209	-	209	
2109	114,949	52,334	52,334	-	125	-	125	
2110	68,914	32,576	32,576	-	73	-	73	
2111	40,073	19,643	19,643	-	41	-	41	
2112	22,578	11,460	11,460	-	22	-	22	
2113	12,314	6,465	6,465	-	12	-	12	
2114	6,494	3,526	3,526	-	6	-	6	
2115	3,304	1,857	1,857	-	3	-	3	
2116	1,615	944	944	-	1	-	1	
2117	753	463	463	-	1	-	1	
2118	327	216	216	-	0	-	0	
2119	127	131	131	-	0	-	0	
2120	0	-	-	-	-	-	-	
<b>Totals</b>					\$ 290,866,255	\$ -	\$ 290,866,255	

Based on 0.5% VPIF.



## Projection of Plan Net Position and Benefit Payments End of Year





## **SECTION H**

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### **GLOSSARY OF TERMS**

## Glossary of Terms

<b><i>Accrued Service</i></b>	Service credited under the system which was rendered before the date of the actuarial valuation.
<b><i>Actuarial Accrued Liability (AAL)</i></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><i>Actuarial Assumptions</i></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><i>Actuarial Cost Method</i></b>	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension 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><i>Actuarial Equivalent</i></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><i>Actuarial Gain (Loss)</i></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><i>Actuarial Present Value (APV)</i></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><i>Actuarial Valuation</i></b>	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.
<b><i>Actuarial Valuation Date</i></b>	The date as of which an actuarial valuation is performed.
<b><i>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</i></b>	A calculated contribution into a defined benefit pension 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><i>AFC</i></b>	Average Final Compensation.

# Glossary of Terms

<b><i>Amortization Method</i></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><i>Amortization Payment</i></b>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<b><i>APTE</i></b>	Association of Professional and Technical Employees.
<b><i>ASF</i></b>	Annuity Savings Fund of the Component II (Legacy) Plan.
<b><i>Cost-of-Living Adjustments (COLA)</i></b>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<b><i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i></b>	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
<b><i>Covered-Employee Payroll</i></b>	The payroll of covered employees, which is typically only the pensionable pay and does not include pay above any pay cap.
<b><i>Deferred Inflows and Outflows</i></b>	The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.
<b><i>Discount Rate</i></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 pension 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>
<b><i>D.O.T.</i></b>	Department of Transportation.
<b><i>E.M.S.</i></b>	Emergency Medical Service.



## Glossary of Terms

<b><i>Entry Age Actuarial Cost Method (EAN)</i></b>	The EAN is a funding 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 age(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><i>GASB</i></b>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<b><i>GLWA</i></b>	Great Lakes Water Authority.
<b><i>Fiduciary Net Position</i></b>	The fiduciary net position is the value of the assets of the trust.
<b><i>Long-Term Expected Rate of Return</i></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><i>Money-Weighted Rate of Return</i></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. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
<b><i>Multiple-Employer Defined Benefit Pension Plan</i></b>	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
<b><i>Municipal Bond Rate</i></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><i>Net Pension Liability (NPL)</i></b>	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.
<b><i>Non-Employer Contribution Entities</i></b>	Non-employer contribution entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB Accounting statement plan members are not considered non-employer contribution entities.
<b><i>Normal Cost</i></b>	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method. Also known as service cost.

## Glossary of Terms

<b><i>Other Postemployment Benefits (OPEB)</i></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><i>POA</i></b>	The 8 <sup>th</sup> Amended Plan for the Adjustment of the Debt of the City of Detroit.
<b><i>Real Rate of Return</i></b>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<b><i>Reserve Account</i></b>	An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.
<b><i>RSF</i></b>	Rate Stabilization Fund.
<b><i>Service Cost</i></b>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year. Also known as normal cost.
<b><i>Total Pension Expense</i></b>	The total pension 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 Pension 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. Pension 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><i>Total Pension Liability (TPL)</i></b>	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
<b><i>Unfunded Actuarial Accrued Liability (UAAL)</i></b>	The UAAL is the difference between actuarial accrued liability and valuation assets.
<b><i>Valuation Assets</i></b>	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of the GASB Statement No. 67, the valuation asset is equal to the market value of assets.
<b><i>VPIF</i></b>	Variable Pension Improvement Factor. Discussed in Section 6.2 of the Plan Document. This is analogous to a post-retirement Cost-of-Living Adjustment (COLA).

## APPENDIX

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### MICHIGAN PUBLIC ACT 202

## State Reporting Assumptions for Fiscal Year 2020 Calculations as of June 30, 2019

The Protecting Local Government Retirement and Benefits Act, Public Act 202 of 2017, was put into law effective December 20, 2017. One outcome of the law is the requirement for the local unit of government to provide select reporting disclosures to the State. Sec. 5(1) of the Act provides the State treasurer with the authority to annually establish uniform actuarial assumptions for purposes of developing the requisite disclosures. Below you will find information which may be used to assist the local unit of government with required reporting.

Uniform Assumptions, as applicable to the measurement and the required disclosures under uniform assumptions, are denoted below. Additional discussion of PA 202 and uniform assumptions may be found on the State website in the *Public Act 202: Selection of the Uniform Assumptions for Fiscal Year 2020* memo dated October 21, 2019.

	Assumptions Used for GASB	Uniform Assumptions Used
Investment Rate of Return Discount Rate	7.38%	7.00%^
Salary Increase	3.00% + Merit and seniority	3.00% + Merit and seniority
Mortality	A version of RP-2014. First used for the September 30, 2014 valuation.	<b>Pub-2010, Amount Weighted, General tables with fully generational projection using Scale MP-2018. The corresponding Disabled Retiree and Employee tables are used for disability and pre-retirement mortality, respectively.</b>
Amortization of the Unfunded Accrued Actuarial Liability: Period	N/A	<b>19 years</b>
Method	Other	<b>Level Percent</b>

^ A blended rate calculated using GASB 68 methodology. For periods in which projected plan assets are sufficient to make projected benefit payments – maximum of 7.00%; for periods in which projected plan assets are NOT sufficient to make projected benefit payments – 3.50%.

With the exception of the assumptions and methods listed above, all other assumptions and methods are the same as those listed in the June 30, 2020 GASB report. In particular, the attribution period for the normal cost was based on the GASB method.

## State Reporting for Fiscal Year 2020 Calculations as of June 30, 2019

The following information has been prepared to provide some of the information necessary to complete the pension reporting requirements for the State of Michigan's Local Government Retirement System Annual Report (Form 5572). The local unit of government is required to complete/develop all of the remaining reporting requirements necessary for Form 5572. Additional resources are available on the State website.

Line	Descriptive Information	
<b>18</b>	<b>Actuarial Assumptions</b>	
19	Actuarial assumed Rate of Investment Return	6.75%
20	Amortization method utilized for funding the system's unfunded actuarial accrued liability, if any	Other
21	Amortization period utilized for funding the system's unfunded actuarial accrued liability, if any	N/A
22	Is each division within the system closed to new employees? ~	no
<b>23</b>	<b>Uniform Assumptions<sup>^</sup></b>	
24	Enter retirement pension system's actuarial value of assets using uniform assumptions <sup>+</sup>	\$ 130,263,912.00
25	Enter retirement pension system's actuarial accrued liabilities using uniform assumptions	\$ 135,140,243.00
26	Funded ratio using uniform assumptions	96.4%
27	Actuarially Determined Contribution (ADC) using uniform assumptions	\$ 14,609,558.00
28	All systems combined ADC/Governmental fund revenues	Auto*

<sup>^</sup> Information on lines 23-28 is based on the Uniform Assumptions used, listed on the prior page, as of the most recent valuation date, June 30, 2019.

<sup>+</sup> The actuarial value of assets is equal to the market value of assets as of the June 30, 2019.

<sup>\*</sup> Automatically calculated by State of Michigan Form 5572.

<sup>~</sup> This Component I plan is open to new employees. The Component II plan is closed to new employees and its PA 202 information is in the Component II GASB No. 68 report.



# The General Retirement System of the City of Detroit

GASB Statement Nos. 67 and 68 Accounting and Financial  
Reporting for Pension Plans of Component II  
June 30, 2020





November 18, 2020

Board of Trustees  
The General Retirement System of the City of Detroit

Dear Board Members:

This report provides information required for the General Retirement System of the City of Detroit in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67 "Financial Reporting for Pension Plans" and Statement No. 68 "Employer Reporting for Pension Plans." These calculations have been made on a basis that is consistent with our understanding of this Statement. This information is subject to a review by the System's Auditor. Please let us know if the System's Auditor recommends any changes.

Our 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. 67 and 68. 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. 67 and 68 may produce significantly different results. In particular, this is not a funding report and nothing in this report should be construed as a funding recommendation. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

The Appendix of this report also provides some of the information necessary to complete the reporting requirements for the State of Michigan's Local Government Retirement System Annual Report (Form No. 5572). This information is not required to be included in your financial statements. The calculations in the Appendix are based on assumptions that satisfy the Uniform Assumptions criteria published by the Michigan Treasury for Fiscal Year 2020 reporting requirements.

This report is based upon information, furnished to us by System staff, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. This report is based on the valuation date of June 30, 2019. The total pension liability was rolled-forward from the valuation date to the plan year ending June 30, 2020 using generally accepted actuarial principles. The asset information as of June 30, 2020 was provided by the System. This information was checked for internal consistency, but it was not audited by Gabriel, Roeder, Smith & Company. A description of the adjustments made to the data is incorporated in this report (either directly or by reference). GRS is not responsible for the accuracy of the data provided by the Retirement System. This report is based upon estimates of frozen accrued benefits. Future measurements based on final calculation of benefit amounts will differ.

At the direction of the System and approval of the System's Auditor, the long-term expected return on assets used to determine the discount rate is 7.06%, net of investment expenses, as of June 30, 2020 down from 7.38% as of June 30, 2019. We have reviewed this assumption based on the System's asset allocation and have determined it does not significantly conflict with what, in our professional judgement, would be reasonable for purposes of the measurement.

The benefit provisions reflected in this valuation for the development of the end of year Total Pension Liability (TPL) are those in effect for Component II as of the end of the plan year on June 30, 2020. We understand that Component I is a separate plan for GASB Statement Nos. 67 and 68 purposes and will, therefore, be disclosed in a separate report.

To the best of our knowledge, the information contained within this report is accurate and fairly represents the actuarial position of the System on the measurement date for purposes of GASB Statement Nos. 67 and 68 reporting. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

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.

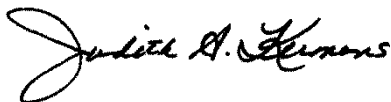
The signing individuals are independent of the plan sponsor.

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, FCA, MAAA, PhD  
Senior Consultant and Chief Actuary



Judith A. Kermans, EA, FCA, MAAA  
Senior Consultant and President



Kenneth G. Alberts  
Consultant

DTK/JAK/KGA:rmn



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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 Pension Liability	June 30, 2020
Employer's Fiscal Year Ending Date (GASB No. 68 Reporting Date)	June 30, 2021

## Membership

Number of	
- Retirees and Beneficiaries	11,557
- Inactive, Nonretired Members <sup>^</sup>	2,779
- Active Members	2,793
- Total	17,129
Covered Payroll	\$ 142,215,060

## Net Pension Liability

Total Pension Liability	\$ 2,698,450,060
Plan Fiduciary Net Position	1,596,101,989
Net Pension Liability	\$ 1,102,348,071
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	59.15%
Net Pension Liability as a Percentage of Covered Payroll	775.13%

## Development of the Single Discount Rate

Single Discount Rate	7.06%
Long-Term Expected Rate of Investment Return	7.06%
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

<b>Total Pension Expense</b>	<b>\$ 134,638,261</b>
------------------------------	-----------------------

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

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ -	\$ -
Changes in assumptions	-	-
Net difference between projected and actual earnings on pension plan investments	165,282,550	24,993,829
Total	\$ 165,282,550	\$ 24,993,829

\*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.

<sup>^</sup> Net of 430 deferred members who were reported on the deferred rolls for the June 30, 2019 funding valuation and subsequently reported as having died prior to June 30, 2019 (see System Data Audit comment).



# Discussion

## Changes Compared to Funding Valuation

For purposes of determining the Total Pension Liability (TPL) as of June 30, 2020, we note the following differences from the assumptions used in the June 30, 2019 funding valuation:

- At the direction of the System and approval of the System's Auditor, the long-term expected return on assets was 7.06% net of investment expenses, as of June 30, 2020. It was 6.75% net of investment and administrative expenses, in the June 30, 2019 funding valuation, as required by the Plan of Adjustment.
- The June 30, 2019 funding valuation included approximately \$4.1 million in liabilities to account for an anticipated excess ASF earnings transfer to Component I expected to occur in the future as a result of FY 2018 investment performance. We have discussed this additional liability with the Plan's auditor who indicated that the excess earnings transfer should not be included as a liability in the GASB Statement Nos. 67/68 reports until it actually occurs. As such, the excess earnings transfer is not included as a liability in this report. Please see the funding valuation for more details.
- Administrative expenses are assumed to be shared 60% with Component II and 40% with Component I. This was reflected in our modeling, where appropriate.
- Liabilities were removed for 430 deferred members who were reported on the deferred rolls for the June 30, 2019 funding valuation and subsequently reported as having died prior to June 30, 2019 (see System Data Audit comment).

All other actuarial assumptions were the same as those used in the June 30, 2019 actuarial valuation (the funding valuation).

## Changes Compared to Prior Year's GASB Report

The changes in actuarial assumptions compared to the June 30, 2019 GASB No. 68 reporting was:

- The long-term expected rate of investment return and single discount rate decreased from 7.38% to 7.06%.

This change increased the TPL by \$68 million resulting in a new deferred outflow for recognition in the pension expense.

## System Data Audit

Between the June 30, 2019 funding valuation and this (GASB) valuation the System provided information to us indicating that 430 participants that were reported as deferred for the June 30, 2019 funding valuation were, in fact, deceased (as determined in a data audit performed by the System). There were approximately \$33.2 million in liabilities included in the June 30, 2019 funding valuation associated with these 430 participants. In accordance with our discussions with the System's auditor, that \$33.2 million of liabilities was excluded from this GASB valuation.

## Data Approximations and Assumptions

A description of the data approximations and assumptions used in completing this report are included in the June 30, 2019 funding valuation report.



# Discussion

## Administrative Expenses

We allocated 60% of the expenses to Component II and 40% to Component I, consistent with this year's allocation as shown in the assets.

## Development of Employer Proportionate Shares

As instructed, we have developed the proportionate employer shares as follows:

- General, DOT, DWSD, and Library have contribution rates assessed on separate relationships and are therefore accounted for separately under Paragraph 49 of GASB Statement No. 68.
- The component units in the General Division were 1) General City; 2) Parking; and 3) Airport.
- Proportionate shares in the General Division were determined by prorating based on the Total Pension Liability.

## Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability. Similarly, GASB Statement No. 68 establishes standards for state and local government employers (as well as non-employer contributing entities) to account for and disclose the net pension liability, pension expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic 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 and the retirement system and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

## Financial Statements

GASB Statement No. 68 requires state or local governments to recognize the net pension liability and the pension expense on their financial statements. The net pension liability is the difference between the total pension 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 (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Paragraph 57 of GASB Statement No. 68 states, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to the General Retirement System of the City of Detroit subsequent to the measurement date of June 30, 2020.





## Discussion

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

Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position in accordance with GASB Statement No. 67. The *statement of fiduciary net position* presents the assets and liabilities of the pension plan at the end of the pension 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 expenses, and net increase or decrease in the fiduciary net position.

### Notes to Financial Statements

GASB Statement No. 68 requires the notes of the employer’s financial statements to disclose the total pension expense, the pension plan’s liabilities and assets, and deferred outflows and inflows of resources related to pensions.

GASB Statement Nos. 67 and 68 require the notes of the financial statements for the employers and pension plans to include certain additional information. The list of disclosure items should include:

- A description of benefits provided by the plan;
- The type of employees and number of members covered by the pension plan;
- A description of the plan’s funding policy, which includes member and employer contribution requirements;
- The pension plan’s investment policies;
- The pension plan’s fiduciary net position and the net pension liability;
- The net pension liability using a discount rate that is 1% higher and 1% lower than used to calculate the total pension liability and net pension liability for financial reporting purposes;
- 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.

Retirement systems that issue stand-alone financial statements are required to disclose additional information in accordance with GASB Statement No. 67. This information includes:

- The composition of the pension 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.

# Discussion

## Required Supplementary Information

GASB Statement No. 67 requires a 10-year fiscal history of:

- Sources of changes in the net pension liability;
- Information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll; and
- A comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

## Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. The net pension liability and pension expense should be measured as of the pension plan's fiscal year end (measurement date) on a date that is within the employer's prior fiscal year. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of June 30, 2019, rolled to the plan year end 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 pension 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 pension plan investments is 7.06%; 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 7.06%.

The expected rate of return was provided by the Retirement System and approved by the System's auditor.

# Discussion

## Limitation of Assets as a Percent of Total Pension Liability Measurements

This report includes a measure of the plan fiduciary net position as a percent of total pension liability (59.15% as of June 30, 2020). Unless otherwise indicated, with regard to any such measurements presented in this report:

- (1) This measurement is not intended to be a funded ratio or a measure of funded progress.
- (2) This measurement is inappropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations.
- (3) The measurement is inappropriate for assessing the need for or amount of future employer contributions.

## Limitations of Project Scope

Actuarial Standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entities to make required contributions when due. Such an evaluation was not within the scope of this project and is not within our area of expertise. Consequently, we have not made such an evaluation.

## ASF Recoupments

The reported June 30, 2020 assets included a receivable, computed by the System's auditor, that accounts for future ASF recoupments. We understand this amount was originally determined as of June 30, 2015 and updated to June 30, 2020 in accordance with GAAP accounting.

## **SECTION B**

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### **FINANCIAL STATEMENTS**

This information is subject to the System's Auditor's review. Please let us know if the System's Auditor recommends any changes.

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

## Assets

Cash and Cash Equivalents	\$ 26,869,406
Receivables	106,835,905
Investments at Fair Value	1,464,526,814
Cash and Investments held as collateral for securities lending	65,263,754
Capital Assets - Net	<u>1,849,036</u>
<b>Total Assets</b>	<u>\$ 1,665,344,915</u>

## Liabilities

Accounts Payable	<u>\$ 69,242,926</u>
<b>Total Liabilities</b>	<u>\$ 69,242,926</u>

**Net Position Restricted for Pensions** \$ 1,596,101,989

<b>ASF Reserve</b>	\$ 114,225,043
<b>Other Reserves</b>	<u>1,481,876,946</u>
<b>Plan Fiduciary Net Position</b>	<u>\$ 1,596,101,989</u>

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

### Additions

Contributions	
Employer	\$ 47,900,000
Employee	-
Foundation Contribution	375,000
Total Contributions	<u>\$ 48,275,000</u>
Investment Income	
Investment Income	\$ (14,002,111)
Net Investment Income	<u>\$ (14,002,111)</u>
Other Income (Including ASF Interest)^	<u>\$ 8,044,086</u>
<b>Total Additions</b>	<u>\$ 42,316,975</u>

### Deductions

Benefit Payments, including Refunds of Employee Contributions	\$ 239,881,652
Pension Plan Administrative Expense	2,351,273
Other (including ASF write-offs and transfers to Comp I)	<u>2,888,888</u>
<b>Total Deductions</b>	<u>\$ 245,121,813</u>
<b>Net Increase in Net Position</b>	<u>\$ (202,804,838)</u>

### Net Position Restricted for Pensions

Beginning of Year	<u>\$ 1,798,906,827</u>
End of Year	<u>\$ 1,596,101,989</u>

^ Following discussions with the auditor, we understand that for purposes of determining the Pension Expense for GASB Statement No. 68, ASF Interest should be treated as Other Changes in Plan Fiduciary Net Position and recognized immediately.

## Statement of Pension Expense Under GASB Statement No. 68 Fiscal Year Ended June 30, 2020\*

A. Expense	General	DOT	DWSD	Library	Total
1. Service Cost	\$ -	\$ -	\$ -	\$ -	-
2. Interest on the Total Pension Liability	104,816,536	29,873,108	51,613,228	6,585,373	192,888,245
3. Current-Period Benefit Changes	-	-	-	-	-
4. Employee Contributions (made negative for addition here)	-	-	-	-	-
5. Projected Earnings on Plan Investments (made negative for addition here)	(69,004,761)	(11,677,120)	(39,305,585)	(5,805,037)	(125,792,503)
6. Pension Plan Administrative Expense	2,015,612	229,941	-	105,720	2,351,273
7. Other Changes in Plan Fiduciary Net Position	(2,515,215)	(812,432)	(1,681,568)	(145,983)	(5,155,198)
8. Recognition of Outflow (Inflow) of Resources due to Liabilities	5,921,498	3,578,466	4,036,927	(1,696,105)	11,840,786
9. Recognition of Outflow (Inflow) of Resources due to Assets	32,576,608	5,906,868	17,382,460	2,639,722	58,505,658
<b>10. Total Pension Expense</b>	<b>\$ 73,810,278</b>	<b>\$ 27,098,831</b>	<b>\$ 32,045,462</b>	<b>\$ 1,683,690</b>	<b>\$ 134,638,261</b>

*\*Totals may not add due to rounding.*



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

A. Outflows (Inflows) of Resources due to Liabilities	General	DOT	DWSO	Library	Total
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ (30,326,230)	\$ (7,081,563)	\$ (14,601,904)	\$ (3,827,052)	\$ (55,836,749)
2. Assumption Changes (gains) or losses	\$ 36,247,728	\$ 10,660,029	\$ 18,638,831	\$ 2,130,947	\$ 67,677,535
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	1.0000	1.0000	1.0000	1.0000	1.0000
4. Outflow (Inflow) of Resources to be recognized in the current pension expense for the difference between expected and actual experience of the Total Pension Liability	\$ (30,326,230)	\$ (7,081,563)	\$ (14,601,904)	\$ (3,827,052)	\$ (55,836,749)
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ 36,247,728	\$ 10,660,029	\$ 18,638,831	\$ 2,130,947	\$ 67,677,535
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$ 5,921,498	\$ 3,578,466	\$ 4,036,927	\$ (1,696,105)	\$ 11,840,786
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the difference between expected and actual experience of the Total Pension Liability	\$ -	\$ -	\$ -	\$ -	\$ -
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$ -	\$ -	\$ -	\$ -	\$ -
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	\$ -	\$ -	\$ -	\$ -	\$ -
<b>B. Outflows (Inflows) of Resources due to Assets</b>					
1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ 77,171,447	\$ 11,940,910	\$ 44,446,541	\$ 6,235,716	\$ 139,794,614
2. Recognition period for Assets {in years}	5.0000	5.0000	5.0000	5.0000	5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	\$ 15,434,289	\$ 2,388,182	\$ 8,889,308	\$ 1,247,143	\$ 27,958,923
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ 61,737,158	\$ 9,552,728	\$ 35,557,233	\$ 4,988,573	\$ 111,835,691

\*Totals may not add due to rounding.





# Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30 General

## A. Outflows and Inflows of Resources Due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ 36,247,728	\$ 30,326,230	\$ 5,921,498
2. Due to Assets	\$ 44,340,436	11,763,828	32,576,608
<b>3. Total</b>	<b>\$ 80,588,164</b>	<b>\$ 42,090,058</b>	<b>\$ 38,498,106</b>

## B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ 30,326,230	\$ (30,326,230)
2. Assumption Changes	\$ 36,247,728	-	36,247,728
3. Net Difference between projected and actual earnings on pension plan investments	\$ 44,340,436	11,763,828	32,576,608
<b>4. Total</b>	<b>\$ 80,588,164</b>	<b>\$ 42,090,058</b>	<b>\$ 38,498,106</b>

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

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ -	\$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	\$ 91,716,642	14,915,737	76,800,905
<b>4. Total</b>	<b>\$ 91,716,642</b>	<b>\$ 14,915,737</b>	<b>\$ 76,800,905</b>

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

Year Ending June 30	Net Deferred Outflows of Resources General Total
2021	\$ 13,663,623
2022	22,275,542
2023	25,427,449
2024	15,434,291
2025	-
Thereafter	-
<b>Total</b>	<b>\$ 76,800,905</b>



# Recognition of Deferred Outflows and Inflows of Resources

## Fiscal Year Ended June 30, 2020

### General

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>					
2016	\$ (29,429,615)	1.0000	\$ -	\$ -	0.0000
2017	(23,006,975)	1.0000	-	-	0.0000
2018	3,041,504	1.0000	-	-	0.0000
2019	10,605,505	1.0000	-	-	0.0000
2020	(30,326,230)	1.0000	(30,326,230)	-	0.0000
<b>Total</b>			<b>\$ (30,326,230)</b>	<b>\$ -</b>	
<b>Deferred Outflow (Inflow) due to Assumption Changes</b>					
2016	\$ 49,169,719	1.0000	\$ -	\$ -	0.0000
2017	41,844,061	1.0000	-	-	0.0000
2018	(59,163,587)	1.0000	-	-	0.0000
2019	-	1.0000	-	-	0.0000
2020	36,247,728	1.0000	36,247,728	-	0.0000
<b>Total</b>			<b>\$ 36,247,728</b>	<b>\$ -</b>	
<b>Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments</b>					
2016	\$ 94,564,921	5.0000	\$ 18,912,985	\$ -	0.0000
2017	(43,059,585)	5.0000	(8,611,917)	(8,611,917)	1.0000
2018	(15,759,553)	5.0000	(3,151,911)	(6,303,820)	2.0000
2019	49,965,808	5.0000	9,993,162	29,979,484	3.0000
2020	77,171,447	5.0000	15,434,289	61,737,158	4.0000
<b>Total</b>			<b>\$ 32,576,608</b>	<b>\$ 76,800,905</b>	

# Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30 DOT

## A. Outflows and Inflows of Resources Due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ 10,660,029	\$ 7,081,563	\$ 3,578,466
2. Due to Assets	\$ 7,897,599	1,990,731	5,906,868
<b>3. Total</b>	<b>\$ 18,557,628</b>	<b>\$ 9,072,294</b>	<b>\$ 9,485,334</b>

## B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ 7,081,563	\$ (7,081,563)
2. Assumption Changes	\$ 10,660,029	-	10,660,029
3. Net Difference between projected and actual earnings on pension plan investments	\$ 7,897,599	1,990,731	5,906,868
<b>4. Total</b>	<b>\$ 18,557,628</b>	<b>\$ 9,072,294</b>	<b>\$ 9,485,334</b>

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

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ -	\$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	\$ 14,581,486	2,407,162	12,174,324
<b>4. Total</b>	<b>\$ 14,581,486</b>	<b>\$ 2,407,162</b>	<b>\$ 12,174,324</b>

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

Year Ending June 30	Net Deferred Outflows of Resources
2021	\$ 2,073,704
2022	3,648,002
2023	4,064,436
2024	2,388,182
2025	-
Thereafter	-
<b>Total</b>	<b>\$ 12,174,324</b>



# Recognition of Deferred Outflows and Inflows of Resources

## Fiscal Year Ended June 30, 2020

### DOT

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>					
2016	\$ (3,435,546)	1.0000	\$ -	\$ -	0.0000
2017	(5,802,247)	1.0000	-	-	0.0000
2018	32,573,900	1.0000	-	-	0.0000
2019	(1,582,543)	1.0000	-	-	0.0000
2020	(7,081,563)	1.0000	(7,081,563)	-	0.0000
<b>Total</b>			<b>\$ (7,081,563)</b>	<b>\$ -</b>	
<b>Deferred Outflow (Inflow) due to Assumption Changes</b>					
2016	\$ 12,849,218	1.0000	\$ -	\$ -	0.0000
2017	11,022,689	1.0000	-	-	0.0000
2018	(17,236,637)	1.0000	-	-	0.0000
2019	-	1.0000	-	-	0.0000
2020	10,660,029	1.0000	10,660,029	-	0.0000
<b>Total</b>			<b>\$ 10,660,029</b>	<b>\$ -</b>	
<b>Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments</b>					
2016	\$ 19,165,833	5.0000	\$ 3,833,165	\$ -	0.0000
2017	(7,871,494)	5.0000	(1,574,299)	(1,574,298)	1.0000
2018	(2,082,160)	5.0000	(416,432)	(832,864)	2.0000
2019	8,381,262	5.0000	1,676,252	5,028,758	3.0000
2020	11,940,910	5.0000	2,388,182	9,552,728	4.0000
<b>Total</b>			<b>\$ 5,906,868</b>	<b>\$ 12,174,324</b>	

# Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30 DWSD

## A. Outflows and Inflows of Resources due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ 18,638,831	\$ 14,601,904	\$ 4,036,927
2. Due to Assets	\$ 22,764,263	5,381,803	17,382,460
<b>3. Total</b>	<b>\$ 41,403,094</b>	<b>\$ 19,983,707</b>	<b>\$ 21,419,387</b>

## B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ 14,601,904	\$ (14,601,904)
2. Assumption Changes	\$ 18,638,831	-	18,638,831
3. Net Difference between projected and actual earnings on pension plan investments	\$ 22,764,263	5,381,803	17,382,460
<b>4. Total</b>	<b>\$ 41,403,094</b>	<b>\$ 19,983,707</b>	<b>\$ 21,419,387</b>

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

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ -	\$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	\$ 51,666,074	6,817,489	44,848,585
<b>4. Total</b>	<b>\$ 51,666,074</b>	<b>\$ 6,817,489</b>	<b>\$ 44,848,585</b>

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

Year Ending June 30	Net Deferred Outflows of Resources
2021	\$ 8,877,119
2022	12,823,234
2023	14,258,923
2024	8,889,309
2025	-
Thereafter	-
<b>Total</b>	<b>\$ 44,848,585</b>



# Recognition of Deferred Outflows and Inflows of Resources

## Fiscal Year Ended June 30, 2020

### DWSD

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>					
2016	\$ (7,203,304)	1.0000	\$ -	\$ -	0.0000
2017	3,370,105	1.0000	-	-	0.0000
2018	(456,059)	1.0000	-	-	0.0000
2019	4,924,609	1.0000	-	-	0.0000
2020	(14,601,904)	1.0000	(14,601,904)	-	0.0000
<b>Total</b>			<b>\$ (14,601,904)</b>	<b>\$ -</b>	
<b>Deferred Outflow (Inflow) due to Assumption Changes</b>					
2016	\$ 25,074,531	1.0000	\$ -	\$ -	0.0000
2017	21,554,914	1.0000	-	-	0.0000
2018	(30,363,241)	1.0000	-	-	0.0000
2019	-	1.0000	-	-	0.0000
2020	18,638,831	1.0000	18,638,831	-	0.0000
<b>Total</b>			<b>\$ 18,638,831</b>	<b>\$ -</b>	
<b>Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments</b>					
2016	\$ 42,526,710	5.0000	\$ 8,505,342	\$ -	0.0000
2017	(19,730,574)	5.0000	(3,946,115)	(3,946,114)	1.0000
2018	(7,178,439)	5.0000	(1,435,688)	(2,871,375)	2.0000
2019	26,848,067	5.0000	5,369,613	16,108,841	3.0000
2020	44,446,541	5.0000	8,889,308	35,557,233	4.0000
<b>Total</b>			<b>\$ 17,382,460</b>	<b>\$ 44,848,585</b>	

# Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30 Library

## A. Outflows and Inflows of Resources Due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ 2,130,947	\$ 3,827,052	\$ (1,696,105)
2. Due to Assets	\$ 3,338,389	698,667	2,639,722
<b>3. Total</b>	<b>\$ 5,469,336</b>	<b>\$ 4,525,719</b>	<b>\$ 943,617</b>

## B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ 3,827,052	\$ (3,827,052)
2. Assumption Changes	\$ 2,130,947	-	2,130,947
3. Net Difference between projected and actual earnings on pension plan investments	\$ 3,338,389	698,667	2,639,722
<b>4. Total</b>	<b>\$ 5,469,336</b>	<b>\$ 4,525,719</b>	<b>\$ 943,617</b>

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

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ -	\$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	\$ 7,318,348	853,441	6,464,907
<b>4. Total</b>	<b>\$ 7,318,348</b>	<b>\$ 853,441</b>	<b>\$ 6,464,907</b>

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

Year Ending June 30	Net Deferred Outflows of Resources
2021	\$ 1,325,068
2022	1,868,959
2023	2,023,736
2024	1,247,144
2025	-
Thereafter	-
<b>Total</b>	<b>\$ 6,464,907</b>



# Recognition of Deferred Outflows and Inflows of Resources

## Fiscal Year Ended June 30, 2020

### Library

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>					
2016	\$ (3,650,647)	1.0000	\$ -	\$ -	0.0000
2017	(2,069,263)	1.0000	-	-	0.0000
2018	(1,005,018)	1.0000	-	-	0.0000
2019	(350,671)	1.0000	-	-	0.0000
2020	(3,827,052)	1.0000	(3,827,052)	-	0.0000
<b>Total</b>			<b>\$ (3,827,052)</b>	<b>\$ -</b>	
<b>Deferred Outflow (Inflow) due to Assumption Changes</b>					
2016	\$ 2,941,459	1.0000	\$ -	\$ -	0.0000
2017	2,504,293	1.0000	-	-	0.0000
2018	(3,511,050)	1.0000	-	-	0.0000
2019	-	1.0000	-	-	0.0000
2020	2,130,947	1.0000	2,130,947	-	0.0000
<b>Total</b>			<b>\$ 2,130,947</b>	<b>\$ -</b>	
<b>Deferred Outflow (Inflow) due to Differences Between Projected and Actual Earnings on Plan Investments</b>					
2016	\$ 6,573,279	5.0000	\$ 1,314,655	\$ -	0.0000
2017	(2,719,454)	5.0000	(543,891)	(543,890)	1.0000
2018	(773,879)	5.0000	(154,776)	(309,551)	2.0000
2019	3,882,957	5.0000	776,591	2,329,775	3.0000
2020	6,235,716	5.0000	1,247,143	4,988,573	4.0000
<b>Total</b>			<b>\$ 2,639,722</b>	<b>\$ 6,464,907</b>	



# Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30 Total

## A. Outflows and Inflows of Resources Due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ 67,677,535	\$ 55,836,749	\$ 11,840,786
2. Due to Assets	\$ 78,340,687	19,835,029	58,505,658
<b>3. Total</b>	<b>\$ 146,018,222</b>	<b>\$ 75,671,778</b>	<b>\$ 70,346,444</b>

## B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ 55,836,749	\$ (55,836,749)
2. Assumption Changes	\$ 67,677,535	-	67,677,535
3. Net Difference between projected and actual earnings on pension plan investments	\$ 78,340,687	19,835,029	58,505,658
<b>4. Total</b>	<b>\$ 146,018,222</b>	<b>\$ 75,671,778</b>	<b>\$ 70,346,444</b>

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

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ -	\$ -	\$ -
2. Assumption Changes	-	-	-
3. Net Difference between projected and actual earnings on pension plan investments	\$ 165,282,550	24,993,829	140,288,721
<b>4. Total</b>	<b>\$ 165,282,550</b>	<b>\$ 24,993,829</b>	<b>\$ 140,288,721</b>

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

Year Ending June 30	Net Deferred Outflows of Resources
2021	\$ 25,939,514
2022	40,615,737
2023	45,774,544
2024	27,958,926
2025	-
Thereafter	-
<b>Total</b>	<b>\$ 140,288,721</b>



## Schedule of Proportionate Employer Share for Year Ended June 30, 2020 General Subgroup\*

Deferred Outflows of Resources								
TPL	Employer	Prop. Share	Net Pension Liability	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assum.	Changes in Proportion and Differences Between Employer Cont. and Share of Cont.	Total Deferred Outflows of Resources
\$ 1,439,789,489	General City	98.30%	\$ 592,283,848	\$ -	\$ 90,157,459	\$ -	\$ -	\$ 90,157,459
21,677,400	Parking	1.48%	8,917,397	-	1,357,406	-	-	1,357,406
3,222,316	Airport	0.22%	1,325,559	-	201,777	-	-	201,777
<b>\$ 1,464,689,205</b>	<b>Total for All Employers</b>	<b>100.00%</b>	<b>\$ 602,526,804</b>	<b>\$ -</b>	<b>\$ 91,716,642</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 91,716,642</b>

Deferred Inflows of Resources						Pension Expense		
Employer	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments	Changes of Assum.	Changes in Proportion and Differences Between Employer Cont. and Share of Cont.	Total Deferred Inflows of Resources	Prop. Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributins and Proportionate	Total Employer Pension Expense
General City	\$ -	\$ 14,662,169	\$ -	\$ -	\$ 14,662,169	\$ 72,555,503	\$ (1,146,785)	\$ 71,408,718
Parking	-	220,753	-	-	220,753	1,092,392	1,003,624	2,096,016
Airport	-	32,815	-	-	32,815	162,383	143,161	305,544
<b>Total for All Employers</b>	<b>\$ -</b>	<b>\$ 14,915,737</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 14,915,737</b>	<b>\$ 73,810,278</b>	<b>\$ -</b>	<b>\$ 73,810,278</b>

\* Totals may not add due to rounding.



## Schedule of Proportionate Employer Share for Year Ended June 30, 2020 General Subgroup\*

Schedule of Deferred Inflows and Outflows								
Employer	Employer Allocation Percentage	2021	2022	2023	2024	2025	Thereafter	Total
General City	98.30%	\$ 13,431,341	\$ 21,896,858	\$ 24,995,183	\$ 15,171,908	\$ -	\$ -	\$ 75,495,290
Parking	1.48%	202,222	329,678	376,326	228,428	-	-	1,136,654
Airport	0.22%	30,060	49,006	55,940	33,955	-	-	168,961
<b>TOTAL</b>	<b>100.00%</b>	<b>\$ 13,663,623</b>	<b>\$ 22,275,542</b>	<b>\$ 25,427,449</b>	<b>\$ 15,434,291</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 76,800,905</b>

\* Totals may not add due to rounding.

## Determination of Employer Contribution Allocation for Year Ended June 30, 2020

Employer	General City	Parking	Airport	General Total	DOT	DWSD	Library	Total
Contributions Before General Breakdown				\$ 2,765,012	\$ 109,988	\$ 42,900,000	\$ 2,500,000	\$ 48,275,000
General Employer Allocation Percent	100.00%	0.00%	0.00%	100.00%	N/A	N/A	N/A	N/A
Times General Total	2,765,012	2,765,012	2,765,012	2,765,012	N/A	N/A	N/A	N/A
Contribution Allocation Dollar	\$ 2,765,012	\$ -	\$ -	\$ 2,765,012	\$ 109,988	\$ 42,900,000	\$ 2,500,000	\$ 48,275,000

We understand that the General contributions should be split between the General component units (General City, Parking, and Airport) according to the above schedule. Please let us know if a different allocation should be used.



## SECTION C

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### REQUIRED SUPPLEMENTARY INFORMATION

# Schedule of Changes in Net Pension Liability and Related Ratios Current Period

## Fiscal Year Ended June 30, 2020\*

A. Total Pension Liability	General	DOT	DWSB	Library	Total
1. Service Cost	\$ -	\$ -	\$ -	\$ -	-
2. Interest on the Total Pension Liability	104,816,536	29,873,108	51,613,228	6,585,373	192,888,245
3. Changes of benefit terms	-	-	-	-	-
4. Difference between expected and actual experience of the Total Pension Liability	(30,326,230)	(7,081,563)	(14,601,904)	(3,827,052)	(55,836,749)
5. Changes of assumptions	36,247,728	10,660,029	18,638,831	2,130,947	67,677,535
6. Benefit payments, including refunds of employee contributions	(132,654,182)	(36,085,474)	(64,151,306)	(6,990,690)	(239,881,652)
7. Net change in Total Pension Liability	\$ (21,916,148)	\$ (2,633,900)	\$ (8,501,151)	\$ (2,101,422)	\$ (35,152,621)
8. Total Pension Liability – Beginning	1,486,605,353	422,827,398	731,441,884	92,728,046	2,733,602,681
9. Total Pension Liability – Ending	<b>\$ 1,464,689,205</b>	<b>\$ 420,193,498</b>	<b>\$ 722,940,733</b>	<b>\$ 90,626,624</b>	<b>\$ 2,698,450,060</b>
<b>B. Plan Fiduciary Net Position</b>					
1. Contributions – employer	\$ 2,765,012	\$ 109,988	\$ 42,900,000	\$ 2,500,000	\$ 48,275,000
2. Contributions – employee	-	-	-	-	-
3. Net investment income	(8,166,686)	(263,790)	(5,140,956)	(430,679)	(14,002,111)
4. Benefit payments, including refunds of employee contributions	(132,654,182)	(36,085,474)	(64,151,306)	(6,990,690)	(239,881,652)
5. Pension Plan Administrative Expense	(2,015,612)	(229,941)	-	(105,720)	(2,351,273)
6. Other	2,515,215	812,432	1,681,568	145,983	5,155,198
7. Net change in Plan Fiduciary Net Position	\$ (137,556,253)	\$ (35,656,785)	\$ (24,710,694)	\$ (4,881,106)	\$ (202,804,838)
8. Plan Fiduciary Net Position – Beginning	999,718,654	175,923,049	542,380,874	80,884,250	1,798,906,827
9. Plan Fiduciary Net Position – Ending	<b>\$ 862,162,401</b>	<b>\$ 140,266,264</b>	<b>\$ 517,670,180</b>	<b>\$ 76,003,144</b>	<b>\$ 1,596,101,989</b>
<b>C. Net Pension Liability</b>	<b>\$ 602,526,804</b>	<b>\$ 279,927,234</b>	<b>\$ 205,270,553</b>	<b>\$ 14,623,480</b>	<b>\$ 1,102,348,071</b>
<b>D. Plan Fiduciary Net Position as a percentage of the Total Pension Liability</b>	<b>58.86%</b>	<b>33.38%</b>	<b>71.61%</b>	<b>83.86%</b>	<b>59.15%</b>
<b>E. Covered-employee payroll</b>	<b>\$ 91,411,851</b>	<b>\$ 21,445,920</b>	<b>\$ 18,517,661</b>	<b>\$ 10,839,628</b>	<b>\$ 142,215,060</b>
<b>F. Net Pension Liability as a percentage of covered-employee payroll</b>	<b>659.13%</b>	<b>1305.27%</b>	<b>1108.51%</b>	<b>134.91%</b>	<b>775.13%</b>

\*Totals may not add due to rounding.

A Special Funding Situation may occur if a non-city entity has a legal obligation to contribute directly to the Retirement System. The Net Pension Liability shown here has not been adjusted for any potential special funding situation.



# Schedules of Required Supplementary Information

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

Ultimately 10 Fiscal Years will be Displayed

Fiscal year ending June 30,	2020	2019	2018	2017	2016	2015	2014
<b>Total Pension Liability</b>							
Service Cost	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 32,736,019
Interest on the Total Pension Liability	192,888,245	195,489,643	192,359,745	201,919,236	214,011,164	263,007,329	242,611,073
Benefit Changes	-	-	-	-	-	(731,824,895)	(113,311,571)
Difference between Expected and Actual Experience	(55,836,749)	13,596,900	34,154,327	(27,508,380)	(43,719,112)	24,644,530	-
Assumption Changes	67,677,535	-	(110,274,515)	76,925,957	90,034,927	(101,559,893)	(271,190,194)
Benefit Payments	(230,537,598)	(235,153,732)	(239,301,938)	(242,938,006)	(242,470,451)	(253,217,949)	(253,683,194)
Refunds*	(9,344,054)	(13,636,283)	(14,140,692)	(24,311,533)	(49,811,728)	(44,321,041)	(144,050,613)
<b>Net Change in Total Pension Liability</b>	<b>(35,152,621)</b>	<b>(39,703,472)</b>	<b>(137,203,073)</b>	<b>(15,912,726)</b>	<b>(31,955,200)</b>	<b>(843,271,919)</b>	<b>(506,888,480)</b>
<b>Total Pension Liability - Beginning</b>	<b>2,733,602,681</b>	<b>2,773,306,153</b>	<b>2,910,509,226</b>	<b>2,926,421,952</b>	<b>2,958,377,152</b>	<b>3,801,649,071</b>	<b>4,308,537,551</b>
<b>Total Pension Liability - Ending (a)</b>	<b>\$ 2,698,450,060</b>	<b>\$ 2,733,602,681</b>	<b>\$ 2,773,306,153</b>	<b>\$ 2,910,509,226</b>	<b>\$ 2,926,421,952</b>	<b>\$ 2,958,377,152</b>	<b>\$ 3,801,649,071</b>
<b>Plan Fiduciary Net Position</b>							
Employer Contributions	\$ 47,900,000	\$ 67,900,000	\$ 68,275,000	\$ 91,238,402	\$ 104,792,657	\$ 189,282,095	\$ 25,126,131
Employee Contributions	-	-	-	-	-	609,073	10,241,761
Pension Plan Net Investment Income	(14,002,111)	47,170,007	155,423,193	206,896,567	(7,865,094)	93,054,978	289,789,607
Benefit Payments	(230,537,598)	(235,153,732)	(239,301,938)	(242,938,006)	(242,470,451)	(253,217,949)	(253,683,194)
Refunds*	(9,344,054)	(13,636,283)	(14,140,692)	(24,311,533)	(49,811,728)	(44,321,041)	(144,050,613)
Pension Plan Administrative Expense	(2,351,273)	(3,023,943)	(3,313,418)	(6,021,837)	(3,742,618)	(7,556,822)	(11,237,767)
Other	5,530,198	(4,972,864)	6,952,522	8,324,075	1,360,330	138,219,998	-
<b>Net Change in Plan Fiduciary Net Position</b>	<b>(202,804,838)</b>	<b>(141,716,815)</b>	<b>(26,105,333)</b>	<b>33,187,668</b>	<b>(197,736,904)</b>	<b>116,070,332</b>	<b>(83,814,075)</b>
<b>Plan Fiduciary Net Position - Beginning</b>	<b>1,798,906,827</b>	<b>1,940,623,642</b>	<b>1,966,728,975</b>	<b>1,933,541,307</b>	<b>2,131,278,211</b>	<b>2,015,207,879</b>	<b>2,099,021,954</b>
<b>Plan Fiduciary Net Position - Ending (b)</b>	<b>\$ 1,596,101,989</b>	<b>\$ 1,798,906,827</b>	<b>\$ 1,940,623,642</b>	<b>\$ 1,966,728,975</b>	<b>\$ 1,933,541,307</b>	<b>\$ 2,131,278,211</b>	<b>\$ 2,015,207,879</b>
<b>Net Pension Liability - Ending (a) - (b)</b>	<b>\$ 1,102,348,071</b>	<b>\$ 934,695,854</b>	<b>\$ 832,682,511</b>	<b>\$ 943,780,251</b>	<b>\$ 992,880,645</b>	<b>\$ 827,098,941</b>	<b>\$ 1,786,441,192</b>
<b>Plan Fiduciary Net Position as a Percentage</b>							
<b>of Total Pension Liability</b>	59.15 %	65.81 %	69.98 %	67.57 %	66.07 %	72.04 %	53.01 %
<b>Covered-Employee Payroll</b>	\$ 142,215,060	\$ 149,373,313	\$ 141,454,717	\$ 143,882,722	\$ 200,722,197	\$ 203,507,079	\$ 213,291,083
<b>Net Pension Liability as a Percentage</b>							
<b>of Covered-Employee Payroll</b>	775.13 %	625.74 %	588.66 %	655.94 %	494.65 %	406.42 %	837.56 %
Notes to Schedule:	N/A	N/A	N/A	N/A	N/A	N/A	N/A

\* For FY 2017, includes approximately \$2.9 million of adjusted loan balances that were treated as refunds of ASF contributions.

A Special Funding Situation may occur if a non-city entity has a legal obligation to contribute directly to the Retirement System. The Net Pension Liability shown here has not been adjusted for any potential funding situation. Our understanding is that the City makes all the employer contributions into the fund, even though the City may receive monies from other entities as a result of the POA.



# Schedules of Required Supplementary Information

## Schedule of the Net Pension Liability Multiyear

**Ultimately 10 Fiscal Years will be Displayed**

FY Ending June 30,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll*	Net Pension Liability as a % of Covered Payroll
2014	\$ 3,801,649,071	\$ 2,015,207,879	\$ 1,786,441,192	53.01%	\$ 213,291,083	837.56%
2015	2,958,377,152	2,131,278,211	827,098,941	72.04%	203,507,079	406.42%
2016	2,926,421,952	1,933,541,307	992,880,645	66.07%	200,722,197	494.65%
2017	2,910,509,226	1,966,728,975	943,780,251	67.57%	143,882,722	655.94%
2018	2,773,306,153	1,940,623,642	832,682,511	69.98%	141,454,717	588.66%
2019	2,733,602,681	1,798,906,827	934,695,854	65.81%	149,373,313	625.74%
2020	2,698,450,060	1,596,101,989	1,102,348,071	59.15%	142,215,060	775.13%

\* Covered payroll shown is the reported payroll on the actuarial valuation date (census date). Actual covered payroll paid during the year was unavailable.



# Schedule of Contributions Multiyear

## Ultimately 10 Fiscal Years will be Displayed

<b>FY Ending June 30,</b>	<b>Actuarially Determined Contribution</b>	<b>Actual Contribution</b>	<b>Contribution Deficiency (Excess)</b>	<b>Covered Payroll*</b>	<b>Actual Contribution as a % of Covered Payroll</b>
2014	\$80,627,791	\$ 25,126,131	\$55,501,660	\$213,291,083	11.78%
2015	N/A	189,282,095	N/A	203,507,079	93.01%
2016	N/A	104,792,657	N/A	200,722,197	52.21%
2017	N/A	91,238,402	N/A	143,882,722	63.41%
2018	N/A	68,275,000	N/A	141,454,717	48.27%
2019	N/A	68,275,000	N/A	149,373,313	45.71%
2020	N/A	48,275,000	N/A	142,215,060	33.95%

*\* Covered payroll shown is the reported payroll from the actuarial valuation date (census date). Actual covered payroll paid during the year was unavailable.*



## Notes to Schedule of Contributions

**Contribution Requirement:** Required contributions to the Plan through FY 2023 are provided in the POA. Certain agreements (as allowed for in the POA) have resulted in some of the contributions being accelerated. The schedule below details our understanding of the remaining contributions required by the POA.

Fiscal Year	Contribution Source							Total
	For DWSD		For Other Liabilities				Transfers from DWSD	
	DWSD	Transfers	UTGO	State	DIA	Other		
<b>2021</b>	45.4	(2.5)	-	-	0.4	2.5	2.5	48.3
<b>2022</b>	45.4	(2.5)	-	-	0.4	2.5	2.5	48.3
<b>2023</b>	45.4	(2.5)	-	-	0.4	2.5	2.5	48.3

We have assumed the contributions outlined above as called for in the POA (with adjustments) will not change. An estimate of the probability of those payments being made was outside the scope of this project, not required by Actuarial Standards, and was not made.

Beginning with Fiscal Year 2024, employer contributions will be actuarially determined.

## Schedule of Investment Returns

This information should be provided by the plan’s investment consultant.

## **SECTION D**

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### **NOTES TO FINANCIAL STATEMENTS**

## Single Discount Rate

A Single Discount Rate of 7.06%, net of investment expenses, was used to measure the total pension liability as of June 30, 2020. This Single Discount Rate was based on the expected rate of return on pension plan investments of 7.06% as directed by the System and approved by the System’s Auditor. The projection of cash flows used to determine this Single Discount Rate assumed that plan member contributions ceased as of June 30, 2014, and that employer contributions will be made at rates equal to those set by the final Plan of Adjustment through June 30, 2023 and contributions consistent with PERSIA and the intention to fully fund the System by 2053 as determined in the bankruptcy (POA). Based on these assumptions, the pension 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 pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability to changes in the Single Discount Rate, the following presents the plan’s net pension liability, calculated using a Single Discount Rate of 7.06%, as well as what the plan’s net pension liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher.

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

	1% Decrease	Current Single Discount	1% Increase
	6.06%	Rate Assumption 7.06%	8.06%
Total Pension Liability (TPL)	\$2,933,272,329	\$2,698,450,060	\$2,497,394,499
Net Position Restricted for Pensions	1,596,101,989	1,596,101,989	1,596,101,989
Net Pension Liability (NPL)	\$1,337,170,340	\$1,102,348,071	\$ 901,292,510

Users of this report should be aware that, in the actuary’s judgement, a discount rate of 8.06% would not be a reasonable assumption for funding purposes.

## Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	11,557
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	2,779
Active Plan Members	<u>2,793</u>
Total Plan Members	17,129

Additional information regarding the plan population may be found in the June 30, 2019 actuarial valuation of the System.

### Additional Note

Potential future asset transfers from this Plan to Component I for payment of Transition Costs were not included in this calculation.

**SECTION E**

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**SUMMARY OF BENEFITS**

# Summary of Benefit Provisions Evaluated

## Component II Frozen Benefits

All Component II benefits are frozen as of June 30, 2014 based on service and average final compensation accrued as of that date and the provisions of the Detroit General Retirement System as it existed on June 30, 2014. Frozen benefits are further reduced by 4.5% and all future Cost-of-Living Adjustments (“COLAs”) were eliminated. Benefits resulting from the Annuity Savings Fund and benefits paid from the Annuity Reserve Fund were subject to a separate reduction described as a “Claw-back.” Details of the claw-back provision are complicated and can be found in the Eighth Amended Plan of Adjustment. The benefits evaluated in this report are the frozen reduced benefits after the claw-back. Component II benefits are payable after separation from service, upon meeting the eligibility conditions of the plan as it existed on June 30, 2014, regardless of whether the individual is eligible to receive a Component I benefit at that time.

Our understanding of the June 30, 2014 plan provisions is provided below for completeness. The material below does not have legal standing and is not intended to cover all potential situations that could occur. If there are discrepancies between the description below, and appropriate legal documents, the latter necessarily govern.

### Age and Service Pension

**Eligibility** - Any age (minimum age 55 for non-EMS members hired after 1995) with 30 years of service (25 for EMS members), or age 60 with 10 years of service, or age 65 with 8 years of service.

**Annual Amount - EMS Members:** Sum of a) a basic pension of \$12 for each of the first 10 years of service, plus b) a pension equal to 2.0% of AFC multiplied by years of service. Maximum benefit is 90% of AFC.

**Other Members:** Sum of a) a basic pension of \$12 for each of the first 10 years of service, plus b) a pension equal to the first 10 years of service multiplied by 1.6% of AFC, plus 1.8% of AFC for each year of service greater than 10 years up to 20 years, plus 2.0% of AFC for each year of service greater than 20 years up to 25 years, plus 2.2% of AFC for each year of service greater than 25 years. Future benefit accruals for certain active members (depending on bargaining unit) were reduced to 1.5% of final average compensation per year of service.

**Type of Average Final Compensation (AFC)** - Highest 3 consecutive years out of the last 10. Pension benefits will not be diminished if compensation is reduced because of a fiscal emergency. Effective July 1, 1999, in computing the AFC, a member shall have the option of adding the value of 25% of unused accrued sick leave to the earnings used in computing the AFC. Longevity is added to AFC in accordance with the following schedule: \$150 after 5 years, \$300 after 10 years, \$450 after 15 years, \$600 after 20 years, and \$750 after 25 years.

### Early Retirement

**Eligibility** - Any age with 25 or more years of service (min. age 55 for members hired after 1995).

**Annual Amount** - Same as regular retirement but actuarially reduced.



# Summary of Benefit Provisions Evaluated (Continued)

## ***Deferred Retirement (Vested Benefit)***

**Eligibility** - Hired prior to 7-1-80: Age 40 with 8 years of service. Hired on or after 7-1-80: Any age with 10 years of service.

**Benefit Commencement - APTE hired prior to July 1, 1988:** Benefit begins at the age the member would have become eligible for regular retirement if service had continued. **SAAA, Non-Union and lawyers hired prior to June 30, 1986:** Benefit begins at the age the member would have become eligible for regular retirement. **Others:** Benefits based on service rendered by June 30, 1986 begin at the age the member would have become eligible for regular retirement. Benefits based on service rendered after July 1, 1986 begin at age 62.

**Annual Amount** - Same as regular retirement but based on average final compensation and service at the time of termination.

## ***Duty Disability Retirement***

**Eligibility** - Service related disability before eligibility for service retirement prior to July 1, 2014. No service requirement.

**Annual Amount** - An annuity which is the actuarial equivalent of the accumulated contributions at date of disability plus a pension of two-thirds of average final compensation at time of disability. The maximum annual pension is \$5,700 (\$9,000 for EMS). At the earliest of when the member would have accrued 30 years of service credit (25 for EMS) or age 60, the annuity is recomputed assuming contributions would have continued at a salary level equal to final compensation. The pension is recomputed with additional service credit granted from the date of disability to age 60 (or 30 years of service credit) or June 30, 2014, whichever is earlier. Benefits payable prior to conversion/re-computation, if any, were assumed to be paid outside the trust.

## ***Non-Duty Disability Retirement***

**Eligibility** - Disability from any cause before age 60 with 10 or more years of service prior to July 1, 2014.

**Annual Amount** - Computed in the same manner as a regular retirement benefit. Maximum annual pension to age 60 is \$6,000. Benefit is recomputed at age 60 with no maximum. Benefits payable prior to age 60, if any, were assumed to be paid from outside the trust.

## ***Duty Death Before Retirement***

**Eligibility** - Death from service related causes. No age or service requirements.

**Annual Amount** - One-third of final compensation as of June 30, 2014 to the surviving spouse for life or until remarriage, plus an equal share of 1/4 of final compensation to each unmarried child under age 18. If there is no eligible spouse, eligible children each receive 1/4 of final compensation; if there are more than 2 such children, each child shares an equal part of 1/2 of final compensation. Maximum total amount for spouse and children is \$9,000 annually. If there is no eligible spouse or children, dependent parents each receive 1/6 of deceased's final compensation, to a total maximum of \$600 annually.



# Summary of Benefit Provisions Evaluated (Concluded)

## ***Non-Duty Death Before Retirement***

**Eligibility** - Death-in-service at any age with 15 years of service; or after age 60 with 10 years of service; or after age 65 with 8 years of service.

**Annual Amount** - To Surviving Spouse: Computed as a regular retirement benefit but reduced in accordance with a 100% joint and survivor election for members with 20 or more years of service. For members with 15 years of service but less than 20, benefit is reduced in accordance with a 50% joint and survivor election. To Dependent Children if no Surviving Spouse: \$9,000 payable to age 19 of the youngest child or for life if child is physically or mentally impaired for members with 20 or more years of service (\$6,000 if less than 20 years of service).

## ***Post-Retirement Cost-of-Living Adjustments***

Benefit is increased annually by 2.25% of the **original** pension amount at retirement. Post-retirement cost-of-living increases were eliminated on future accruals for certain active members (depending on bargaining unit).

## ***Member Contributions***

Members had the option of choosing one of four contribution amounts: (1) 0%; (2) 3.0% of compensation up to the Social Security wage base, plus 5.0% of compensation in excess of the Social Security wage base; (3) 5.0% of total compensation; or (4) 7.0% of total compensation. Member contributions can be paid as a lump sum or annuitized at retirement to provide an annuity in addition to the pension (which is not affected by the level of member contributions).



## **SECTION F**

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### **ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS**

# Summary of Assumptions and Methods Used for GASB Actuarial Valuations Adopted by Board of Trustees

All assumptions are estimates of future experience except as noted. The rationale for the assumptions is based on experience studies where noted.

## Economic Assumptions

**The investment return rate** used in making the valuation was 7.06% per year, compounded annually (net after investment expenses) as of June 30, 2020. This assumption was provided by the Retirement System.

**Price inflation** is not directly used in the valuation. For purposes of assessing the reasonability of the investment return assumptions, we assumed price inflation of 2.25% per year.

## Non-Economic Assumptions

**The mortality table** used to measure retired life mortality 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. Tables were extended below age 50 with a cubic spline to the published Juvenile rates. Pre-retirement mortality is based on the corresponding Employee tables with corresponding set-forward. The tables are projected to be fully generational, based on the 2-dimensional, sex distinct mortality improvement scale MP-2014 (which was published and intended to be used with RP-2014). 75% of all deaths-in-service are assumed to be non-duty related. This table was first used as of June 30, 2014. For disabled members, the same tables are used. The rationale for the mortality assumption is based on the 2008-2013 Mortality Experience Study issued February 4, 2015.

**The probabilities of retirement** for members eligible to retire are shown on pages 34 and 35. These probabilities were revised for the June 30, 2008 valuation. The rationale is based on the 2002-2007 Experience Study.

**The probabilities of separation** from service (including *disability*) are shown for sample ages on page 36. These probabilities were revised for the June 30, 2008 valuation. The rationale is based on the 2002-2007 Experience Study.

**Single Life Retirement Values  
Based on RP-2014 Blue Collar  
100% of Male Rates Set-Forward 1 Year  
100% of Female Rates Set-Forward 1 Year**

Sample Attained Ages in 2019	Future Life Expectancy (years)	
	Men	Women
45	38.73	42.07
50	33.77	37.01
55	29.00	32.10
60	24.45	27.35
65	20.14	22.78
70	16.15	18.46
75	12.52	14.50
80	9.33	10.98

Rationale for assumption is based upon a 2008 to 2013 study of mortality experience dated February 4, 2015.

## Probabilities of Age/Service Retirement for Members Eligible to Retire

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year With Unreduced Benefits		
	EMS	D.O.T.	Others
45	25%		
46	25%		
47	25%		
48	22%		
49	20%		
50	18%	55%	50%
51	15%	50%	50%
52	15%	50%	45%
53	15%	50%	45%
54	15%	55%	40%
55	15%	50%	30%
56	15%	50%	30%
57	15%	50%	30%
58	15%	50%	30%
59	15%	55%	40%
60	40%	40%	25%
61	30%	30%	25%
62	30%	30%	25%
63	30%	30%	25%
64	30%	30%	25%
65	30%	30%	35%
66	30%	30%	30%
67	30%	30%	25%
68	30%	50%	25%
69	30%	50%	25%
70	100%	100%	20%
71			20%
72			20%
73			20%
74			20%
75			20%
76			20%
77			20%
78			20%
79			20%
80			100%
Ref	537	1648	1647

Rationale for assumption is 2002 to 2007 Experience Study. Additional retirement rates for Component I (Hybrid Plan) eligibility are not reflected in this valuation due to materiality.

# Probabilities of Early Retirement for Members Eligible for Early Retirement

Retirement Ages	Percent of Eligible Active Members Retiring Within Next Year With Reduced Benefits
55	7%
56	8%
57	9%
58	10%
59	12%
60	12%
61	12%
62	12%
63	12%
64	12%
Ref	1649

Rationale for assumption is based upon a 2002 to 2007 Experience Study.

## Sample Rates of Separation from Active Employment Before Retirement

Sample Ages	Years of Service	% of Active Members Separating Within Next Year			
		Withdrawal			
		EMS	D.O.T.	Others	
Men	Women				
ALL	0	11.00%	18.00%	18.00%	20.00%
	1	10.00%	16.00%	15.00%	16.00%
	2	8.00%	14.00%	13.00%	14.00%
	3	8.00%	11.00%	11.00%	12.00%
	4	7.00%	9.00%	10.00%	10.00%
25	5 & Over	6.70%	8.00%	7.60%	7.60%
30		5.90%	7.60%	7.22%	7.22%
35		5.20%	5.56%	5.28%	5.28%
40		4.40%	4.26%	4.05%	4.05%
45		3.40%	3.69%	3.51%	3.51%
50		2.40%	3.50%	3.33%	3.33%
55		2.00%	3.50%	3.33%	3.33%
60		0.00%	3.50%	3.33%	3.33%
Ref		338 1068	143 212	584 212 x 0.95	188 212 x 0.95

Sample Ages	% of Active Members Becoming Disabled Within Next Year			
	D.O.T.		Others	
	Ordinary	Duty	Ordinary	Duty
25	0.02%	0.03%	0.01%	0.25%
30	0.05%	0.08%	0.04%	0.29%
35	0.14%	0.21%	0.11%	0.34%
40	0.27%	0.42%	0.21%	0.39%
45	0.51%	0.79%	0.40%	0.45%
50	0.66%	1.03%	0.51%	0.52%
55	0.76%	1.18%	0.59%	0.60%
60	0.86%	1.34%	0.67%	0.70%
Ref	23 x 0.45	23 x 0.70	23 x 0.35	423 x 0.90

Rationale for assumption is based upon a 2002 to 2007 Experience Study.

## Miscellaneous and Technical Assumptions

<b>Benefit Service</b>	Exact Fractional service is used to determine the amount of benefit payable.
<b>Decrement Operation</b>	Disability and mortality decrements do not operate during the first 5 years of service. Disability and withdrawal also do not operate during retirement eligibility.
<b>Decrement Timing</b>	Decrements of all types are assumed to occur mid-year.
<b>Eligibility Testing</b>	Eligibility for benefits is determined based upon the age nearest birthday and rounded service on the date the decrement is assumed to occur.
<b>Forfeitures</b>	None.
<b>Marriage Assumption</b>	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses for active member valuation purposes.
<b>Normal Form of Benefit</b>	Straight life is the normal form of benefit. The Board adopted assumptions for Actuarial Equivalence to be an 80%/20% unisex blend of RP-2014 mortality (Male/Female) with Blue Collar Adjustment, set ahead 1 year for males and females, projected 11 years with MP-2014, an interest rate of 6.75, and no COLA for optional forms of payment and early retirement reduction. Assumptions for annuitizing member contributions are the same except for using a 60%/40% unisex blend and a 5.25% assumed rate of interest. Prior to that, actuarial equivalent factors were based on 7.5% interest and 1984 Group Annuity Mortality table.
<b>Service Credit Accruals</b>	Service accruals stop as of June 30, 2014 for measurement of Component II liabilities. However, future service in Component I may be used to satisfy benefit eligibility requirement in Component II. Members who became duty disabled prior to June 30, 2014 are assumed to get projected service from date of disability to conversion date. Members who become disabled after June 30, 2014 are assumed to get their frozen accrued benefit as of June 30, 2014 at date of conversion.
<b>Administrative Expenses</b>	3.00% of Component I payroll. 60% was allocated to Component II and 40% to Component I.
<b>Sick Leave</b>	Sick leave banks as of June 30, 2014 were included in the 2014 data file provided by the System.
<b>Member Contributions</b>	Member contributions to this Component II plan are assumed to have ceased with the bankruptcy.
<b>Pop-Up Benefits</b>	For current retirees with a pop-up benefit, the value of the pop-up was estimated by valuing a non-pop-up option and increasing the associated liabilities by 2%.

Rationale for assumption is based upon a 2002 to 2007 Experience Study, modified as necessary for changes in data or administration.



## **SECTION G**

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



## Calculation of the Single Discount Rate at End of Year

GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension 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 pension 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 pension plan investments is 7.06%; the municipal bond rate is 2.45%; and the resulting Single Discount Rate is 7.06% as of June 30, 2020.

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). For purposes of determining the discount rate as of June 30, 2020, the employer contributions for the 10-year period ending June 30, 2023 were set by the 8<sup>th</sup> Amended Plan of Adjustment (POA), as adjusted by subsequent agreements. Subsequent employer contributions were determined by a closed 30-year level principle amortization of any unfunded actuarial accrued liability (as required by State law) using 7.06% interest, net of investment expenses, consistent with the 100% funded target by 2053 in the POA.

**Rates of Return:** Note that these projections are specifically used to determine the SDR and should not be interpreted as a funding recommendation. The 7.06% rate of return was before administrative expenses. Therefore, the projections assumed that any administrative expenses incurred by the plan will directly increase employer contributions beginning with FY 2024. The rate is net of investment expenses.

**Administrative Expenses:** For purposes of the projection using a 7.06% rate of return, administrative expenses were assumed to be related to payroll. Payroll was increased by an assumed wage inflation as of June 30, 2014 of 2.00% for 5 years, 2.50% for the next 5 years and 3.00% thereafter. Since benefits are frozen, the wage inflation assumption does not affect anything other than the administrative expenses.

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

**Unfunded Actuarial Accrued Liabilities.** Actual employer contributions through June 30, 2023 are set by the POA. The amortization period and method after 2023 has not yet been established by the Board.



## Calculation of the Single Discount Rate at End of Year

The **Present Values of Projected Benefit Payments** table shows the development of the SDR. It breaks down the benefit payments into present values for funded and unfunded portions (if any) and shows the equivalent total at the SDR. For purposes of determining the discount rate as of June 30, 2020, the benefit payments reflect the plan provisions in force as of June 30, 2020.

# Single Discount Rate Development Projection of Contributions End of Year

Fiscal Year Ending June 30,	Projected Contributions from Current Employees	Projected Service Cost	Administrative Expense Contributions	Projected UAL Contributions	Projected Total Contributions
2021	\$ -	\$ -	\$ 4,266,975	\$ 44,008,025	\$ 48,275,000
2022	-	-	3,941,038	44,333,962	48,275,000
2023	-	-	3,695,047	44,579,953	48,275,000
2024	-	-	3,504,583	121,066,708	124,571,291
2025	-	-	3,343,089	118,325,429	121,668,518
2026	-	-	3,202,716	115,584,149	118,786,865
2027	-	-	3,051,728	112,842,870	115,894,598
2028	-	-	2,891,867	110,101,590	112,993,457
2029	-	-	2,728,331	107,360,311	110,088,642
2030	-	-	2,567,873	104,619,031	107,186,904
2031	-	-	2,418,015	101,877,752	104,295,767
2032	-	-	2,276,358	99,136,472	101,412,830
2033	-	-	2,140,850	96,395,193	98,536,043
2034	-	-	2,013,244	93,653,913	95,667,157
2035	-	-	1,894,116	90,912,633	92,806,749
2036	-	-	1,781,338	88,171,354	89,952,692
2037	-	-	1,673,067	85,430,074	87,103,141
2038	-	-	1,571,160	82,688,795	84,259,955
2039	-	-	1,474,799	79,947,515	81,422,314
2040	-	-	1,382,668	77,206,236	78,588,904
2041	-	-	1,295,581	74,464,956	75,760,537
2042	-	-	1,211,938	71,723,677	72,935,615
2043	-	-	1,132,622	68,982,397	70,115,019
2044	-	-	1,055,772	66,241,118	67,296,890
2045	-	-	979,043	63,499,838	64,478,881
2046	-	-	903,670	60,758,558	61,662,228
2047	-	-	828,276	58,017,279	58,845,555
2048	-	-	750,310	55,275,999	56,026,309
2049	-	-	668,521	52,534,720	53,203,241
2050	-	-	585,050	49,793,440	50,378,490
2051	-	-	504,608	47,052,161	47,556,769
2052	-	-	429,182	44,310,881	44,740,063
2053	-	-	360,717	41,569,602	41,930,319
2054	-	-	300,680	-	300,680
2055	-	-	248,342	-	248,342
2056	-	-	202,868	-	202,868
2057	-	-	163,918	-	163,918
2058	-	-	130,496	-	130,496
2059	-	-	102,028	-	102,028
2060	-	-	78,191	-	78,191
2061	-	-	58,534	-	58,534
2062	-	-	42,768	-	42,768
2063	-	-	30,451	-	30,451
2064	-	-	21,422	-	21,422
2065	-	-	15,024	-	15,024
2066	-	-	10,514	-	10,514
2067	-	-	7,320	-	7,320
2068	-	-	5,076	-	5,076
2069	-	-	3,505	-	3,505
2070	-	-	2,417	-	2,417

Employer contributions as shown may differ substantially from those determined by a funding valuation.



# Single Discount Rate Development

## Projection of Plan Fiduciary Net Position

### End of Year

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected ASF Refund	Projected Administrative Expenses	Projected Investment Earnings at 7.06% (5.25% for ASF)	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)	(g)=(a)+(b)-(c)-(d)-(e)+(f)
2021	\$ 1,596,101,989	\$ 48,275,000	\$ 240,371,950	\$ 14,594,585	\$ 4,266,975	\$ 103,425,680	\$ 1,488,569,159
2022	1,488,569,159	48,275,000	238,718,710	14,594,585	3,941,038	96,065,001	1,375,654,826
2023	1,375,654,826	48,275,000	236,504,948	14,594,585	3,695,047	88,349,592	1,257,484,838
2024	1,257,484,838	124,571,291	234,049,617	14,594,585	3,504,583	82,925,897	1,212,833,242
2025	1,212,833,242	121,668,518	231,439,846	14,594,585	3,343,089	79,958,351	1,165,082,591
2026	1,165,082,591	118,786,865	228,536,133	14,594,585	3,202,716	76,792,157	1,114,328,180
2027	1,114,328,180	115,894,598	224,992,751	14,594,585	3,051,728	73,446,558	1,061,030,272
2028	1,061,030,272	112,993,457	220,902,336	14,594,585	2,891,867	69,951,386	1,005,586,327
2029	1,005,586,327	110,088,642	216,244,957	14,594,585	2,728,331	66,335,971	948,443,067
2030	948,443,067	107,186,904	211,376,196	14,594,585	2,567,873	62,620,121	889,711,439
2031	889,711,439	104,295,767	206,199,225	-	2,418,015	59,193,879	844,583,844
2032	844,583,844	101,412,830	200,825,972	-	2,276,358	56,099,195	798,993,539
2033	798,993,539	98,536,043	195,137,646	-	2,140,850	52,982,776	753,233,861
2034	753,233,861	95,667,157	189,012,000	-	2,013,244	49,869,573	707,745,347
2035	707,745,347	92,806,749	182,428,997	-	1,894,116	46,791,385	663,020,369
2036	663,020,369	89,952,692	175,614,203	-	1,781,338	43,775,144	619,352,664
2037	619,352,664	87,103,141	168,549,215	-	1,673,067	40,842,228	577,075,751
2038	577,075,751	84,259,955	161,368,979	-	1,571,160	38,011,501	536,407,068
2039	536,407,068	81,422,314	153,934,023	-	1,474,799	35,303,153	497,723,714
2040	497,723,714	78,588,904	146,330,716	-	1,382,668	32,740,811	461,340,044
2041	461,340,044	75,760,537	138,665,580	-	1,295,581	30,342,972	427,482,393
2042	427,482,393	72,935,615	130,930,021	-	1,211,938	28,125,914	396,401,962
2043	396,401,962	70,115,019	123,203,446	-	1,132,622	26,104,615	368,285,528
2044	368,285,528	67,296,890	115,527,275	-	1,055,772	24,290,826	343,290,197
2045	343,290,197	64,478,881	107,885,320	-	979,043	22,696,199	321,600,914
2046	321,600,914	61,662,228	100,347,736	-	903,670	21,331,358	303,343,095
2047	303,343,095	58,845,555	92,987,004	-	828,276	20,202,642	288,576,012
2048	288,576,012	56,026,309	85,836,805	-	750,310	19,313,067	277,328,274
2049	277,328,274	53,203,241	78,935,026	-	668,521	18,663,338	269,591,305
2050	269,591,305	50,378,490	72,313,416	-	585,050	18,251,747	265,323,077
2051	265,323,077	47,556,769	65,995,409	-	504,608	18,074,516	264,454,344
2052	264,454,344	44,740,063	59,998,070	-	429,182	18,126,162	266,893,317
2053	266,893,317	41,930,319	54,335,757	-	360,717	18,399,708	272,526,870
2054	272,526,870	300,680	49,019,940	-	300,680	17,539,502	241,046,432
2055	241,046,432	248,342	44,054,314	-	248,342	15,489,280	212,481,398
2056	212,481,398	202,868	39,442,073	-	202,868	13,632,625	186,671,950
2057	186,671,950	163,918	35,179,732	-	163,918	11,958,372	163,450,590
2058	163,450,590	130,496	31,260,508	-	130,496	10,454,934	142,645,016
2059	142,645,016	102,028	27,675,289	-	102,028	9,110,460	124,080,188
2060	124,080,188	78,191	24,411,934	-	78,191	7,913,015	107,581,269
2061	107,581,269	58,534	21,455,802	-	58,534	6,850,764	92,976,230
2062	92,976,230	42,768	18,790,655	-	42,768	5,912,123	80,097,699
2063	80,097,699	30,451	16,398,984	-	30,451	5,085,885	68,784,600
2064	68,784,600	21,422	14,262,466	-	21,422	4,361,313	58,883,448
2065	58,883,448	15,024	12,362,297	-	15,024	3,728,224	50,249,375
2066	50,249,375	10,514	10,679,427	-	10,514	3,177,051	42,746,999
2067	42,746,999	7,320	9,194,985	-	7,320	2,698,890	36,250,903
2068	36,250,903	5,076	7,890,676	-	5,076	2,285,523	30,645,751
2069	30,645,751	3,505	6,749,029	-	3,505	1,929,412	25,826,134
2070	25,826,134	2,417	5,753,588	-	2,417	1,623,687	21,696,233

Employer contributions as shown may differ substantially from those determined by a funding valuation.



# Single Discount Rate Development Projection of Plan Fiduciary Net Position End of Year (Concluded)

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected ASF Refund	Projected Administrative Expenses	Projected Investment Earnings at 7.06% (5.25% for ASF)	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)	(g)=(a)+(b)-(c)-(d)-(e)+(f)
2071	\$ 21,696,233	\$ 1,658	\$ 4,888,928	\$ -	\$ 1,658	\$ 1,362,118	\$ 18,169,422
2072	18,169,422	1,134	4,140,650	-	1,134	1,139,089	15,167,861
2073	15,167,861	770	3,495,461	-	770	949,565	12,621,966
2074	12,621,966	518	2,941,181	-	518	789,058	10,469,842
2075	10,469,842	344	2,466,696	-	344	653,581	8,656,728
2076	8,656,728	222	2,061,918	-	222	539,621	7,134,431
2077	7,134,431	141	1,717,778	-	141	444,087	5,860,740
2078	5,860,740	84	1,426,163	-	84	364,283	4,798,860
2079	4,798,860	45	1,179,893	-	45	297,860	3,916,826
2080	3,916,826	19	972,650	-	19	242,779	3,186,954
2081	3,186,954	4	798,904	-	4	197,279	2,585,329
2082	2,585,329	1	653,834	-	1	159,837	2,091,332
2083	2,091,332	-	533,254	-	-	129,145	1,687,224
2084	1,687,224	-	433,479	-	-	104,077	1,357,822
2085	1,357,822	-	351,272	-	-	83,674	1,090,224
2086	1,090,224	-	283,811	-	-	67,122	873,535
2087	873,535	-	228,656	-	-	53,738	698,616
2088	698,616	-	183,717	-	-	42,948	557,846
2089	557,846	-	147,222	-	-	34,276	444,900
2090	444,900	-	117,680	-	-	27,327	354,547
2091	354,547	-	93,842	-	-	21,775	282,479
2092	282,479	-	74,673	-	-	17,352	225,158
2093	225,158	-	59,315	-	-	13,838	179,681
2094	179,681	-	47,054	-	-	11,053	143,680
2095	143,680	-	37,308	-	-	8,849	115,221
2096	115,221	-	29,601	-	-	7,108	92,728
2097	92,728	-	23,536	-	-	5,730	74,922
2098	74,922	-	18,779	-	-	4,638	60,781
2099	60,781	-	15,061	-	-	3,769	49,489
2100	49,489	-	12,162	-	-	3,072	40,399
2101	40,399	-	9,897	-	-	2,509	33,011
2102	33,011	-	8,118	-	-	2,049	26,942
2103	26,942	-	6,706	-	-	1,669	21,905
2104	21,905	-	5,567	-	-	1,353	17,691
2105	17,691	-	4,627	-	-	1,088	14,153
2106	14,153	-	3,835	-	-	866	11,184
2107	11,184	-	3,157	-	-	680	8,706
2108	8,706	-	2,572	-	-	525	6,660
2109	6,660	-	2,066	-	-	398	4,992
2110	4,992	-	1,631	-	-	296	3,657
2111	3,657	-	1,260	-	-	214	2,612
2112	2,612	-	951	-	-	151	1,812
2113	1,812	-	700	-	-	104	1,215
2114	1,215	-	501	-	-	68	783
2115	783	-	346	-	-	43	480
2116	480	-	231	-	-	26	275
2117	275	-	149	-	-	14	140
2118	140	-	93	-	-	7	54
2119	54	-	56	-	-	2	-
2120	-	-	-	-	-	0	0

Employer contributions as shown may differ substantially from those determined by a funding valuation.



# Single Discount Rate Development

## Present Values of Projected Benefits

### End of Year (Excluding ASF)

Fiscal Year Ending June 30,	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of 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 Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v <sup>a</sup> /(a)-.5	(g)=(e)*vf <sup>a</sup> /(a)-.5	(h)=(c)/(1+sdr) <sup>a</sup> /(a)-.5
2021	\$ 1,481,876,946	\$ 240,371,950	\$ 240,371,950	\$ -	\$ 232,311,210	\$ -	\$ 232,311,210
2022	1,383,320,093	238,718,710	238,718,710	-	215,499,169	-	215,499,169
2023	1,279,852,977	236,504,948	236,504,948	-	199,421,571	-	199,421,571
2024	1,171,626,184	234,049,617	234,049,617	-	184,337,036	-	184,337,036
2025	1,137,439,800	231,439,846	231,439,846	-	170,261,147	-	170,261,147
2026	1,100,703,787	228,536,133	228,536,133	-	157,038,110	-	157,038,110
2027	1,061,542,280	224,992,751	224,992,751	-	144,408,073	-	144,408,073
2028	1,020,445,904	220,902,336	220,902,336	-	132,432,938	-	132,432,938
2029	977,844,073	216,244,957	216,244,957	-	121,091,722	-	121,091,722
2030	934,217,136	211,376,196	211,376,196	-	110,559,816	-	110,559,816
2031	889,711,439	206,199,225	206,199,225	-	100,739,785	-	100,739,785
2032	844,583,844	200,825,972	200,825,972	-	91,644,547	-	91,644,547
2033	798,993,539	195,137,646	195,137,646	-	83,176,487	-	83,176,487
2034	753,233,861	189,012,000	189,012,000	-	75,252,625	-	75,252,625
2035	707,745,347	182,428,997	182,428,997	-	67,842,041	-	67,842,041
2036	663,020,369	175,614,203	175,614,203	-	61,001,067	-	61,001,067
2037	619,352,664	168,549,215	168,549,215	-	54,686,143	-	54,686,143
2038	577,075,751	161,368,979	161,368,979	-	48,903,886	-	48,903,886
2039	536,407,068	153,934,023	153,934,023	-	43,574,328	-	43,574,328
2040	497,723,714	146,330,716	146,330,716	-	38,690,500	-	38,690,500
2041	461,340,044	138,665,580	138,665,580	-	34,246,033	-	34,246,033
2042	427,482,393	130,930,021	130,930,021	-	30,203,245	-	30,203,245
2043	396,401,962	123,203,446	123,203,446	-	26,546,666	-	26,546,666
2044	368,285,528	115,527,275	115,527,275	-	23,251,149	-	23,251,149
2045	343,290,197	107,885,320	107,885,320	-	20,281,263	-	20,281,263
2046	321,600,914	100,347,736	100,347,736	-	17,620,287	-	17,620,287
2047	303,343,095	92,987,004	92,987,004	-	15,251,074	-	15,251,074
2048	288,576,012	85,836,805	85,836,805	-	13,149,961	-	13,149,961
2049	277,328,274	78,935,026	78,935,026	-	11,295,188	-	11,295,188
2050	269,591,305	72,313,416	72,313,416	-	9,665,300	-	9,665,300
2051	265,323,077	65,995,409	65,995,409	-	8,239,160	-	8,239,160
2052	264,454,344	59,998,070	59,998,070	-	6,996,474	-	6,996,474
2053	266,893,317	54,335,757	54,335,757	-	5,918,347	-	5,918,347
2054	272,526,870	49,019,940	49,019,940	-	4,987,240	-	4,987,240
2055	241,046,432	44,054,314	44,054,314	-	4,186,477	-	4,186,477
2056	212,481,398	39,442,073	39,442,073	-	3,501,005	-	3,501,005
2057	186,671,950	35,179,732	35,179,732	-	2,916,744	-	2,916,744
2058	163,450,590	31,260,508	31,260,508	-	2,420,887	-	2,420,887
2059	142,645,016	27,675,289	27,675,289	-	2,001,905	-	2,001,905
2060	124,080,188	24,411,934	24,411,934	-	1,649,401	-	1,649,401
2061	107,581,269	21,455,802	21,455,802	-	1,354,071	-	1,354,071
2062	92,976,230	18,790,655	18,790,655	-	1,107,673	-	1,107,673
2063	80,097,699	16,398,984	16,398,984	-	902,941	-	902,941
2064	68,784,600	14,262,466	14,262,466	-	733,516	-	733,516
2065	58,883,448	12,362,297	12,362,297	-	593,864	-	593,864
2066	50,249,375	10,679,427	10,679,427	-	479,191	-	479,191
2067	42,746,999	9,194,985	9,194,985	-	385,376	-	385,376
2068	36,250,903	7,890,676	7,890,676	-	308,902	-	308,902
2069	30,645,751	6,749,029	6,749,029	-	246,786	-	246,786
2070	25,826,134	5,753,588	5,753,588	-	196,513	-	196,513



# Single Discount Rate Development

## Present Values of Projected Benefits

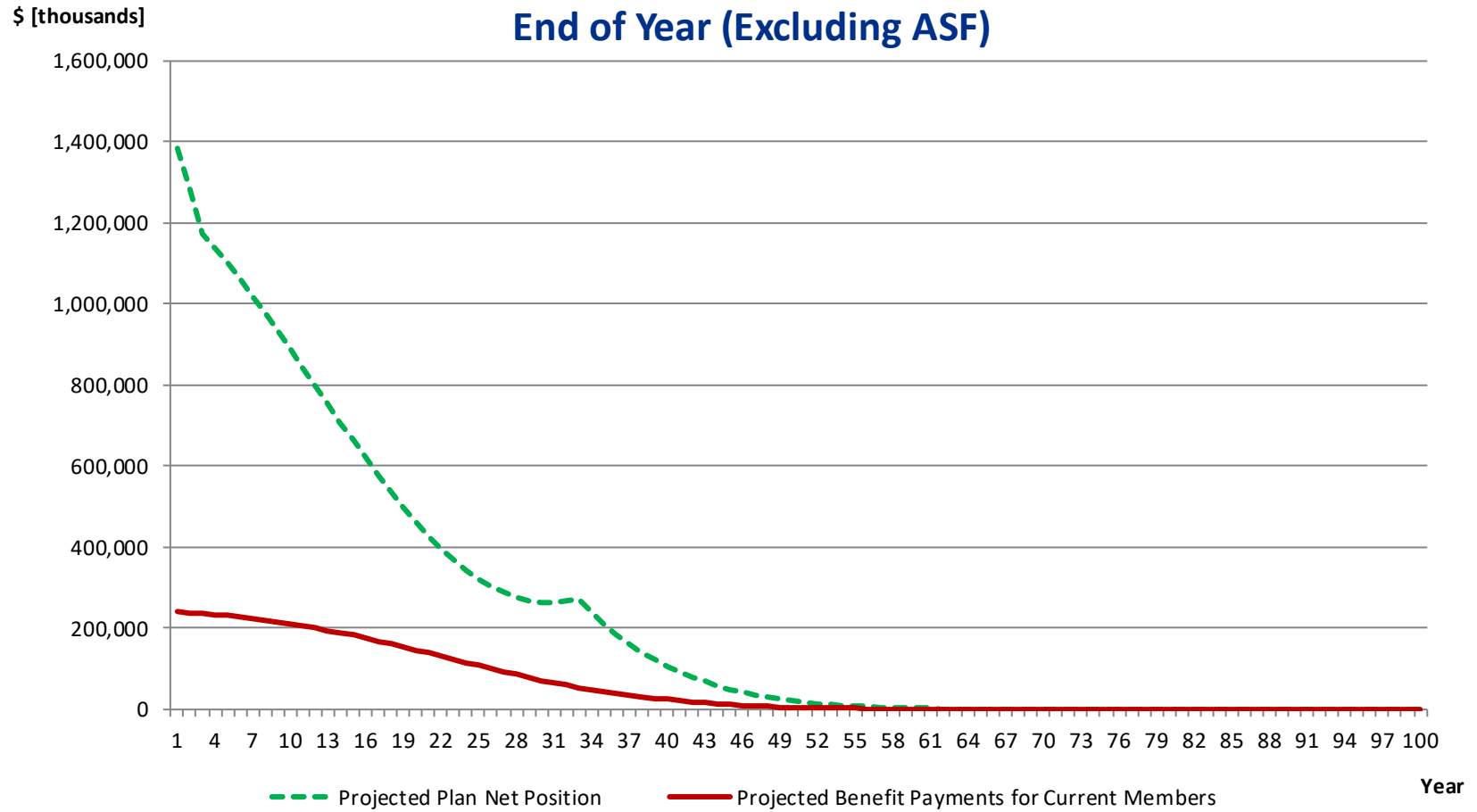
### End of Year

### (Excluding ASF) (Concluded)

Fiscal Year	Projected			Unfunded Portion	Present Value of	Present Value of	Present Value of
Ending June 30,	Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	of Benefit Payments	Funded Benefit Payments using Expected Return Rate (v)	Unfunded Benefit Payments using Municipal Bond Rate (vf)	Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v <sup>n</sup> ((a)-.5)	(g)=(e)*vf <sup>n</sup> ((a)-.5)	(h)=(c)/((1+sdr) <sup>n</sup> ((a)-.5)
2071	\$ 21,696,233	\$ 4,888,928	\$ 4,888,928	\$ -	\$ 155,969	\$ -	\$ 155,969
2072	18,169,422	4,140,650	4,140,650	-	123,386	-	123,386
2073	15,167,861	3,495,461	3,495,461	-	97,291	-	97,291
2074	12,621,966	2,941,181	2,941,181	-	76,465	-	76,465
2075	10,469,842	2,466,696	2,466,696	-	59,901	-	59,901
2076	8,656,728	2,061,918	2,061,918	-	46,769	-	46,769
2077	7,134,431	1,717,778	1,717,778	-	36,394	-	36,394
2078	5,860,740	1,426,163	1,426,163	-	28,223	-	28,223
2079	4,798,860	1,179,893	1,179,893	-	21,810	-	21,810
2080	3,916,826	972,650	972,650	-	16,793	-	16,793
2081	3,186,954	798,904	798,904	-	12,884	-	12,884
2082	2,585,329	653,834	653,834	-	9,849	-	9,849
2083	2,091,332	533,254	533,254	-	7,503	-	7,503
2084	1,687,224	433,479	433,479	-	5,697	-	5,697
2085	1,357,822	351,272	351,272	-	4,312	-	4,312
2086	1,090,224	283,811	283,811	-	3,254	-	3,254
2087	873,535	228,656	228,656	-	2,449	-	2,449
2088	698,616	183,717	183,717	-	1,838	-	1,838
2089	557,846	147,222	147,222	-	1,376	-	1,376
2090	444,900	117,680	117,680	-	1,027	-	1,027
2091	354,547	93,842	93,842	-	765	-	765
2092	282,479	74,673	74,673	-	569	-	569
2093	225,158	59,315	59,315	-	422	-	422
2094	179,681	47,054	47,054	-	313	-	313
2095	143,680	37,308	37,308	-	232	-	232
2096	115,221	29,601	29,601	-	172	-	172
2097	92,728	23,536	23,536	-	127	-	127
2098	74,922	18,779	18,779	-	95	-	95
2099	60,781	15,061	15,061	-	71	-	71
2100	49,489	12,162	12,162	-	54	-	54
2101	40,399	9,897	9,897	-	41	-	41
2102	33,011	8,118	8,118	-	31	-	31
2103	26,942	6,706	6,706	-	24	-	24
2104	21,905	5,567	5,567	-	19	-	19
2105	17,691	4,627	4,627	-	15	-	15
2106	14,153	3,835	3,835	-	11	-	11
2107	11,184	3,157	3,157	-	9	-	9
2108	8,706	2,572	2,572	-	7	-	7
2109	6,660	2,066	2,066	-	5	-	5
2110	4,992	1,631	1,631	-	4	-	4
2111	3,657	1,260	1,260	-	3	-	3
2112	2,612	951	951	-	2	-	2
2113	1,812	700	700	-	1	-	1
2114	1,215	501	501	-	1	-	1
2115	783	346	346	-	1	-	1
2116	480	231	231	-	0	-	0
2117	275	149	149	-	0	-	0
2118	140	93	93	-	0	-	0
2119	54	56	56	-	0	-	0
2120	0	-	-	-	-	-	-
<b>Totals</b>					<b>\$ 2,584,225,017</b>	<b>\$ -</b>	<b>\$ 2,584,225,017</b>



## Projection of Plan Net Position and Benefit Payments End of Year (Excluding ASF)





## **SECTION H**

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### **GLOSSARY OF TERMS**

## Glossary of Terms

<b><i>Actuarial Accrued Liability (AAL)</i></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><i>Actuarial Assumptions</i></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><i>Accrued Service</i></b>	Service credited under the system which was rendered before the date of the actuarial valuation.
<b><i>Actuarial Equivalent</i></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><i>Actuarial Cost Method</i></b>	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension 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><i>Actuarial Gain (Loss)</i></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><i>Actuarial Present Value (APV)</i></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><i>Actuarial Valuation</i></b>	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.
<b><i>Actuarial Valuation Date</i></b>	The date as of which an actuarial valuation is performed.
<b><i>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</i></b>	A calculated contribution into a defined benefit pension 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.

# Glossary of Terms

<b>AFC</b>	Average Final Compensation.
<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>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>APTE</b>	Association of Professional and Technical Employees.
<b>ASF</b>	Annuity Savings Fund.
<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 Pension Plan (cost-sharing pension plan)</b>	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
<b>Covered-Employee Payroll</b>	The payroll of covered employees, which is typically only the pensionable pay and does not include pay above any pay cap.
<b>Deferred Inflows and Outflows</b>	The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.
<b>DIA</b>	Detroit Institute of Art.
<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 pension 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><i>D.O.T.</i></b>	Department of Transportation.
<b><i>DWSD</i></b>	Detroit Water and Sewerage Department.
<b><i>EMS</i></b>	Emergency Medical Service.
<b><i>Entry Age Actuarial Cost Method (EAN)</i></b>	The EAN is a funding 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 age(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><i>GASB</i></b>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<b><i>GLWA</i></b>	Great Lakes Water Authority.
<b><i>Fiduciary Net Position</i></b>	The fiduciary net position is the value of the assets of the trust.
<b><i>Long-Term Expected Rate of Return</i></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><i>Money-Weighted Rate of Return</i></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. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
<b><i>Multiple-Employer Defined Benefit Pension Plan</i></b>	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
<b><i>Municipal Bond Rate</i></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><i>Net Pension Liability (NPL)</i></b>	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.

## Glossary of Terms

<b><i>Non-Employer Contribution Entities</i></b>	Non-employer contribution entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB Accounting statement plan members are not considered non-employer contribution entities.
<b><i>Normal Cost</i></b>	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method. Also known as service cost.
<b><i>POA</i></b>	The 8th Amended Plan for the Adjustment of the Debt of the City of Detroit.
<b><i>SAAA</i></b>	Senior Accountants, Analysts, and Appraisers Association.
<b><i>UTGO</i></b>	Unlimited Tax General Obligation.

## **APPENDIX**

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### **MICHIGAN PUBLIC ACT 202**

## State Reporting Assumptions for Fiscal Year 2020 Calculations as of June 30, 2019

The Protecting Local Government Retirement and Benefits Act, Public Act 202 of 2017, was put into law effective December 20, 2017. One outcome of the law is the requirement for the local unit of government to provide select reporting disclosures to the State. Sec. 5(1) of the Act provides the State treasurer with the authority to annually establish uniform actuarial assumptions for purposes of developing the requisite disclosures. Below you will find information which may be used to assist the local unit of government with required reporting.

Uniform Assumptions, as applicable to the measurement and the required disclosures under uniform assumptions, are denoted below. Additional discussion of PA 202 and uniform assumptions may be found on the State website in the *Public Act 202: Selection of the Uniform Assumptions for Fiscal Year 2020* memo dated October 21, 2019.

	Assumptions used for GASB	Uniform Assumptions used for Fiscal Year 2020
Investment Rate of Return Discount Rate	7.38%	7.00%^
Salary Increase	N/A	N/A
Mortality	A version of RP-2014. First used for the September 30, 2014 valuation.	<b>Pub-2010, Amount Weighted, General tables with fully generational projection using Scale MP-2018. The corresponding Disabled Retiree and Employee tables are used for disability and pre-retirement mortality, respectively.</b>
Amortization of the Unfunded Accrued Actuarial Liability: Period	N/A	19 years
Method	Other	Level Dollar

^ A blended rate calculated using GASB Statement No. 68 methodology. For periods in which projected plan assets are sufficient to make projected benefit payments – maximum of 7.00%; for periods in which projected plan assets are NOT sufficient to make projected benefit payments – 3.50%.

With the exception of the assumptions and methods listed above, all other assumptions and methods are the same as those listed in the June 30, 2020 GASB report.

## State Reporting for Fiscal Year 2020 Calculations as of June 30, 2019

The following information has been prepared to provide some of the information necessary to complete the pension reporting requirements for the State of Michigan's Local Government Retirement System Annual Report (Form 5572). The local unit of government is required to complete/develop all of the remaining reporting requirements necessary for Form 5572. Additional resources are available on the State website.

Line	Descriptive Information	
<b>18</b>	<b>Actuarial Assumptions</b>	
19	Actuarial assumed Rate of Investment Return	6.75%
20	Amortization method utilized for funding the system's unfunded actuarial accrued liability, if any	Other
21	Amortization period utilized for funding the system's unfunded actuarial accrued liability, if any	N/A
22	Is each division within the system closed to new employees? ~	yes
<b>23</b>	<b>Uniform Assumptions<sup>^</sup></b>	
24	Enter retirement pension system's actuarial value of assets using uniform assumptions <sup>+</sup>	\$ 1,798,906,827.00
25	Enter retirement pension system's actuarial accrued liabilities using uniform assumptions	\$ 2,847,387,349.00
26	Funded ratio using uniform assumptions	63.2%
27	Actuarially Determined Contribution (ADC) using uniform assumptions	\$ 101,443,652.00
28	All systems combined ADC/Governmental fund revenues	Auto*

<sup>^</sup> Information on lines 23-28 is based on the Uniform Assumptions used, listed on the prior page, as of the most recent valuation date, June 30, 2019.

<sup>+</sup> The actuarial value of assets is equal to the market value of assets as of the June 30, 2019.

<sup>\*</sup> Automatically calculated by State of Michigan Form 5572.

<sup>~</sup> This Component II plan is closed to new employees. The Component I plan is open to new employees and its PA 202 information is in the Component I GASB Statement No. 68 report





November 18, 2020

Mr. David Cetlinski, Executive Director  
The General Retirement System of the City of Detroit  
One Detroit Center  
500 Woodward Avenue, Suite 3000  
Detroit, Michigan 48226

Dear Mr. Cetlinski:

Please find enclosed 30 copies of the GASB Statement Nos. 67 and 68 report of the General Retirement System of the City of Detroit Component II.

Sincerely,

A handwritten signature in black ink that reads "Kenneth G. Alberts". The signature is written in a cursive style with a horizontal line extending to the right.

Kenneth G. Alberts

KGA:rmn  
Enclosures

cc: David T. Kausch, GRS  
Judith A. Kermans, GRS  
Gail Oxendine  
Kelly Tapper  
Ryan Bigalow