

Years Ended
June 30,
2022 and 2021

Financial Statements

Rehmann

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INDEPENDENT AUDITORS' REPORT

November 4, 2022

Board of Trustees City of Grand Rapids General Retirement System Grand Rapids, Michigan

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of the *City of Grand Rapids General Retirement System* (the "System"), a fiduciary component unit of the City of Grand Rapids, Michigan, as of and for the years ended June 30, 2022 and 2021, and the related notes to the financial statements, which collectively comprise the System's basic financial statements as listed in the table of contents.

In our opinion, the accompanying financial statements referred to above present fairly, in all material respects, the fiduciary net position of the City of Grand Rapids General Retirement System as of June 30, 2022 and 2021, and the changes in financial position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audits in accordance with auditing standards generally accepted in the United States of America (GAAS) and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Independent Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the System and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Independent Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS and Government Auditing Standards, we:

- exercise professional judgment and maintain professional skepticism throughout the audit.
- identify and assess the risks of material misstatement of the financial statements, whether due
 to fraud or error, and design and perform audit procedures responsive to those risks. Such
 procedures include examining, on a test basis, evidence regarding the amounts and disclosures
 in the financial statements.
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, no such opinion is expressed.
- evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- · conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the System's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control—related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis and the schedules for the pension plan, as listed in the table of contents, be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated November 4, 2022, on our consideration of the System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the System's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the System's internal control over financial reporting and compliance.

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City of Grand Rapids General Retirement System Management's Discussion and Analysis For the Year Ended June 30, 2022

This section of the City of Grand Rapids General Retirement System's (the System) annual financial statements presents a discussion and analysis of the financial performance of the System for the fiscal year ended June 30, 2022. This discussion has been prepared by management and should be read in conjunction with the financial statements. This discussion and analysis is designed to focus on current activities, resulting changes and current known facts. The financial statements and this discussion are the responsibility of management.

Overall Fund Structure and Objectives

The System exists to pay benefits to its retirees and beneficiaries. Active members earn service credit that entitles them to receive benefits in the future. Generally speaking, benefits paid out in any given year are significantly greater than the contributions received. The excess of benefits over contributions must be funded through investment income. The employer contribution rate was 39.31% from July 1, 2020 through June 30, 2021 and 47.17% from July 1, 2021 through June 30, 2022, and will be 46.19% from July 1, 2022 through June 30, 2023.

Asset Allocation

The System has established asset allocation policies, which are expected to deliver sufficient investment income over a very long period of time to satisfy the obligations to pay the benefits promised to its members. The following is a summary of the System's asset allocation policy as of June 30, 2022 and 2021:

	2022	2021
U.S. equity	17.75%	17.75%
Fixed income	24.50	24.50
Non-U.S. equity & American Depository Receipts	17.75	17.75
Real estate securities	5.00	5.00
Midstream Energy Infrastructure	5.00	5.00
Treasury Inflation Protected Securities	5.00	5.00
Private equity	5.00	5.00
Commodities	5.00	5.00
Private Credit	5.00	5.00
Global Low Volatility	10.00	10.00

Investment Results

The System's performance consultant, Wilshire Associates, reported a market rate of return of -5.79% and 27.54% on retirement system assets for the years ended June 30, 2022 and 2021, respectively. Had the assets all been invested passively, the return would have been -6.43% and 25.73%, which means that the System's assets outperformed their benchmark by 0.64% for the year ended June 30, 2022 and by 1.81% for the year ended June 30, 2021.

Management believes the financial position of the System remains stable and should improve over a period of time due to a prudent investment program, cost controls and strategic planning.

Using the Financial Statements

The System's financial report includes two financial statements: the Statements of Fiduciary Net Position and the Statements of Changes in Fiduciary Net Position. These statements include all assets and liabilities using the economic resources measurement focus and the accrual basis of accounting. Under the accrual basis of accounting, all revenues and expenses are taken into account regardless of when cash is received or paid.

The Statements of Fiduciary Net Position present all of the System's assets and liabilities, with the difference between the two reported as net position. Over time, increases and decreases in net position measure whether the System's financial position is improving or deteriorating. The Statements of Changes in Fiduciary Net Position present how the System's net position changed during the most recent fiscal year. These two financial statements should be reviewed along with the Required Supplementary Information to determine whether the System is becoming financially stronger or weaker, and to understand changes over time in the funded status of the System.

Statements of Fiduciary Net Position

The following table shows, in a condensed format, the current year's fiduciary net position compared to the prior two years:

				Change From Pr	ior Year
	2020	2021	2022	In Dollars	As %
Assets					
Cash and money market funds	\$ 5,321,810	\$ 6,214,203	\$ 7,567,235	\$ 1,353,032	21.8%
Stocks, equity mutual funds and partnerships	195,681,564	254,257,243	196,483,130	(57,774,113)	-22.7%
Fixed Income	124,263,778	124,248,758	125,929,823	1,681,065	1.4%
Real estate	18,575,394	25,745,529	20,757,526	(4,988,003)	-19.4%
Private equity partnerships	23,092,944	33,940,404	40,324,284	6,383,880	18.8%
Private credit partnerships	18,019,106	21,090,846	21,921,132	830,286	3.9%
Commodities	16,385,738	23,266,203	24,077,085	810,882	3.5%
Securities lending collateral	29,595,696	35,256,291	35,085,747	(170,544)	-0.5%
Total cash and investments	430,936,030	524,019,477	472,145,962	(51,873,515)	-9.9%
Receivables	3,647,897	2,200,627	1,953,074	(247,553)	-11.2%
Total Assets	434,583,927	526,220,104	474,099,036	(52,121,068)	-9.9%
Liabilities					
Administrative expenses and					
investment management fees payable	376,905	437,531	356,188	(81,343)	-18.6%
Pending trades - purchases	1,202,735	821,980	1,775,488	953,508	116.0%
Amounts due broker under	, ,	,	, ,	•	
securities lending agreement	29,595,696	35,256,291	35,085,747	(170,544)	-0.5%
Total Liabilities	31,175,336	36,515,802	37,217,423	701,621	1.9%
Net Position Restricted for Pension Benefits	\$ 403,408,591	\$ 489,704,302	\$ 436,881,613	\$ (52,822,689)	-10.8%

Cash and money market funds increased in both 2021 and 2022. The changes are, for the most part, attributable to timing of cash flows. Stocks, equity mutual funds and partnerships increased in 2021 due to strong market performance and decreased in 2022 due to poor market performance. Real estate increased in 2021 due to a strong market environment, with the opposite for 2022. The large increases in private equity for both years were due to a combination of increased capital calls of previously committed funds, and market appreciation. Commodities experienced strong market returns in both 2021 and 2022. The difference from one year to the next in receivables is simply a timing issue related to when funds are received, as well as pending securities sales.

The System participates in a securities lending program. The Northern Trust Company is the exclusive agent of the System. The agent fully indemnifies the System against borrower default in compliance with state statutes. At year-end, the market value of securities on loan was approximately \$34.1 million.

When a security is placed on loan, the System receives cash collateral in an amount not less than 102% of the market value of the security loaned. Loans are marked-to-market daily. Cash collateral is invested by the agent in a separately managed account. Borrowers receive a daily interest rebate on the cash collateral provided to the agent. Earnings from securities lending represent the difference, or spread, between the earnings on the cash collateral and the interest rebate paid to the borrower. Securities lending income is used to offset the System's custody and benefit payment expenses.

The market value of the collateral invested is carried as an asset, and the amount of collateral repayable to the borrower upon return of the securities from loan is carried as a liability in the financial statements. The increase in assets caused by securities lending always will be offset by a corresponding liability of the same amount, so that the two amounts cancel each other out.

Because the number of securities out on loan under the System's lending program can fluctuate greatly depending on demand and available securities, the assets and liabilities can be expected to vary widely from one year to the next, or not much at all, depending on how many securities are out on loan on June 30 of each year.

Statements of Changes in Fiduciary Net Position

The following table shows, in a condensed format, the changes in fiduciary net position compared to the prior two years:

				Change From Pr	ior Year
	2020	2021	2022	In Dollars	As %
Additions					
Contributions	\$ 13,920,831	\$ 13,807,691	\$ 14,942,556	\$ 1,134,865	8.2%
Net investment income (loss)	5,339,161	107,791,299	(27,612,757)	(135,404,056)	-125.6%
Securities lending	101,235	85,224	88,808	3,584	4.2%
Total Additions (net of investment loss)	19,361,227	121,684,214	(12,581,393)	(134,265,607)	-110.3%
Deductions					
Benefits	34,562,300	34,830,364	39,648,835	4,818,471	13.8%
Administrative expense	605,388	558,139	592,461	34,322	6.1%
Total Deductions	35,167,688	35,388,503	40,241,296	4,852,793	13.7%
Net Increase (Decrease)	(15,806,461)	86,295,711	(52,822,689)	(139,118,400)	-161.2%
Net Position Restricted for Pension Benefits,					
beginning of year	419,215,052	403,408,591	489,704,302	86,295,711	21.4%
Net Position Restricted for Pension Benefits,					
end of year	\$ 403,408,591	\$ 489,704,302	\$ 436,881,613	\$ (52,822,689)	-10.8%

Contributions decreased in 2021 due to a reduction in the number of active plan members and increased in 2022 due to an increase in the employer contribution rate. The changes in net investment income were primarily due to very strong market returns in 2021 and very weak returns in 2022. Benefit payments increased in 2022, mostly due to an increase in the number of retirements during the year.

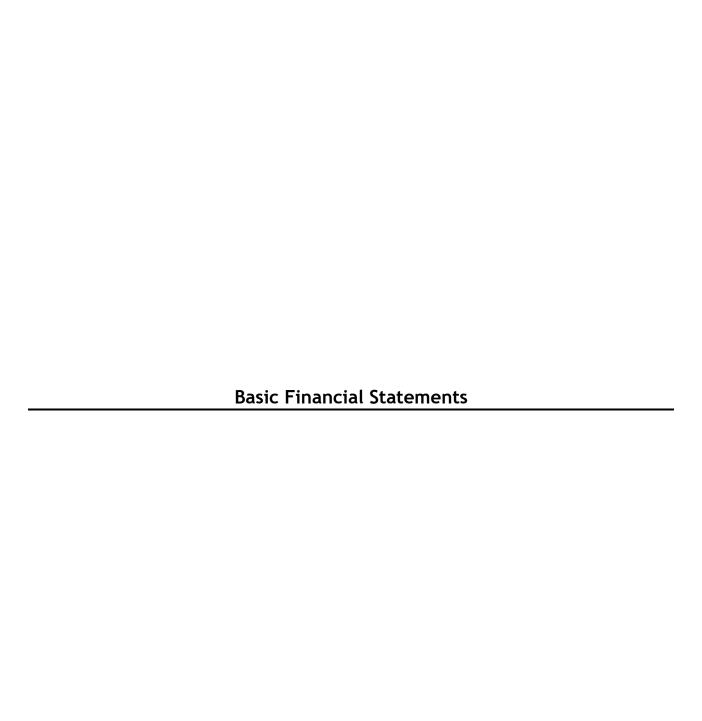
Other Important Matters

In March 2020, the World Health Organization declared the novel coronavirus outbreak (COVID-19) to be a global pandemic. The extent of the ultimate impact of the pandemic on the System's operational and financial performance will depend on various developments, including the duration and spread of the outbreak and its impact on employees, and vendors, all of which cannot be reasonably predicted. At this time, management does not believe that the negative financial impact of the pandemic, if any, would be material to the System.

Contacting System Financial Management

This financial report is designed to provide the Board of Trustees, our membership, taxpayers and creditors with a general overview of the System's finances and to demonstrate the System's accountability for the money it receives. If you have any questions about this report or need additional financial information, contact the Retirement Systems office, 233 E. Fulton, Suite 216, Grand Rapids, Michigan, 49503.

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Statements of Fiduciary Net Position

June 30,	2022	2021
Assets		
Receivables		
Plan member contributions	\$ 176,692	\$ 198,599
Employer contributions	628,356	954,850
Interest and dividends	482,590	400,633
Pending trades - sales	665,436	646,545
Total Receivables	1,953,074	2,200,627
Investments		
Cash and money market funds	7,567,235	6,214,203
Government obligations	52,009,424	50,155,758
State and municipal bonds	259,850	306,551
Corporate bonds and fixed income commingled funds	68,478,066	69,212,335
Common and preferred stocks and equity mutual funds	196,483,130	254,257,243
Real estate securities	20,757,526	25,745,529
Asset-backed securities	5,182,483	4,574,114
Commodities	24,077,085	23,266,203
Private equity partnerships	40,324,284	33,940,404
Private credit partnerships	21,921,132	21,090,846
Total Investments	437,060,215	488,763,186
Investments held as collateral for securities lending	35,085,747	35,256,291
Total Investments Including Securities Lending	472,145,962	524,019,477
Total Assets	474,099,036	526,220,104
Liabilities		
Administrative expenses payable	105,673	164,889
Investment management fees payable	250,515	272,642
Pending trades - purchases	1,775,488	821,980
Amounts due broker under securities lending agreement	35,085,747	35,256,291
Amounts due broker under securities tending agreement	33,003,747	33,230,231
Total Liabilities	37,217,423	36,515,802
Net Position Restricted for Pension Benefits	\$ 436,881,613	\$ 489,704,302

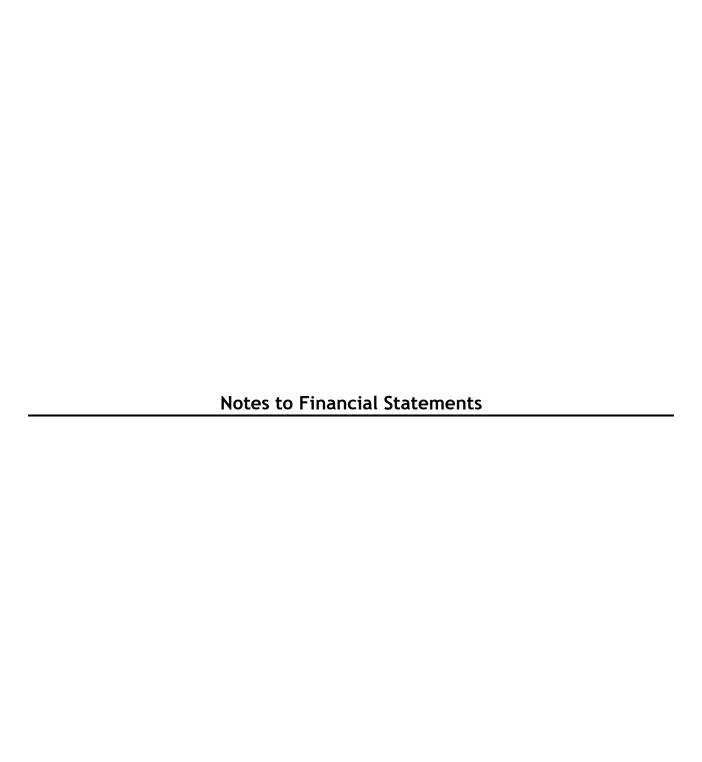
The accompanying notes are an integral part of these financial statements.

Statements of Changes in Fiduciary Net Position

Year Ended June 30,	2022	2021
Additions		
Contributions:		
Plan members	\$ 2,373,612	\$ 2,523,078
Employer	12,568,944	11,284,613
Total Contributions	14,942,556	13,807,691
Investment Income (Loss):		
Interest and dividends	5,078,304	4,372,702
Net appreciation (depreciation) in fair value of investments	(31,620,270)	104,428,729
Securities lending income	88,808	85,224
Net investment income (loss)	(26,453,158)	108,886,655
Less investment expense	(1,070,791)	(1,010,132)
Net investment income (loss), less investment expense	(27,523,949)	107,876,523
Total Additions (Net of Investment Loss)	(12,581,393)	121,684,214
Deductions		
Benefits	39,648,835	34,830,364
Administrative expenses	592,461	558,139
Total Deductions	40,241,296	35,388,503
Net Change in Net Position	(52,822,689)	86,295,711
Net Position Restricted for Pension Benefits,		
Beginning of year	489,704,302	403,408,591
Net Position Restricted for Pension Benefits,		
End of year	\$ 436,881,613	\$ 489,704,302

The accompanying notes are an integral part of these financial statements.

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Notes to Financial Statements

1. Summary of Significant Accounting Policies

Reporting Entity

The City of Grand Rapids, Michigan (the City) sponsors the City of Grand Rapids General Retirement System (the System), which is a contributory single-employer retirement plan. The System, which is administered by the System's Board of Trustees, is a defined benefit plan. The System provides retirement, disability and survivor benefits to plan members and beneficiaries.

The System is an independent trust qualified under applicable provisions of the Internal Revenue Code (IRC) and is an independent entity (separate and distinct from the employer/plan sponsor) as required by: (1) state law and (2) IRC provisions setting forth qualified plan status. The Trustees of the plan have fiduciary obligations and legal liability for any violations of fiduciary duties as independent Trustees. There are seven Trustees: three elected by plan members, one member of the City Commission to be appointed by the City Commission, and three persons appointed by the mayor, subject to the approval of the City Commission.

The financial statements of the System are included in the basic financial statements of the City of Grand Rapids as a Pension Trust Fund. The assets of the Pension Trust Fund include no securities or loans to the City or any other related party.

The System is included as a fiduciary component unit of the City because (1) the Plan is a legally separate entity; (2) the City Board of Commissioners appoints a voting majority of the Pension Board; and (3) the City makes contributions to the Plan on behalf of its participants.

Basis of Accounting

The System's financial statements are prepared using the accrual basis of accounting. Employer contributions are recognized when due according to the formal commitment made by the City to provide the contributions. Plan member contributions are recognized when due. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

Methods Used to Value Investments

Investments are reported at estimated fair value. Short-term investments are reported at cost, which approximates fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. For private equity partnerships, private credit partnerships, commodities funds, real estate funds, and fixed income commingled funds, values are based on net asset values provided by underlying investment managers and/or their administrators.

Use of Estimates

The preparation of the System's financial statements in conformity with generally accepted accounting principles requires management to make significant estimates and assumptions that affect the reported amounts of net position available for benefits at the date of the financial statements. Significant estimates are made for investments, the actuarial present value of accumulated plan benefits as of the benefit information date, the changes in net position available for benefits during the reporting period and, when applicable, the disclosures of contingent assets and liabilities at the date of the financial statements. Actual results could differ from those estimates.

Notes to Financial Statements

Risks and Uncertainties

System contributions and the actuarial present value of accumulated plan benefits are calculated based on certain assumptions pertaining to interest rates, inflation rates and employee demographics, all of which are subject to change. Investments are exposed to various risks, such as interest rate, market and credit risks. Due to uncertainties inherent in the estimations and assumptions process and the level of uncertainty related to changes in the value of investments, it is possible that changes in these estimates, assumptions and risks in the near term would be material to the financial statements.

Investment Income (loss)

Investment income is comprised of interest and dividends, net appreciation or depreciation in fair value of investments, securities lending income, and is net of investment expenses paid. Certain investment fees are deducted directly from the investment portfolios and net with preceding income items. The investment fees deducted directly from the investment portfolios amounted to \$1,027,991 and \$859,079 for the fiscal years ending June 30, 2022 and June 30, 2021 respectively.

COVID-19

In March 2020, the World Health Organization declared the novel coronavirus outbreak (COVID-19) to be a global pandemic. The extent of the ultimate impact of the pandemic on the System's operational and financial performance will depend on various developments, including the duration and spread of the outbreak and its impact on employees, and vendors, all of which cannot be reasonably predicted. At this time, management does not believe that the negative financial impact of the pandemic, if any, would be material to the System.

2. Plan Description and Contribution Information

Plan Description

The System is a single employer, defined benefit pension plan, which provides retirement and disability benefits to plan members and beneficiaries. Benefits are established or amended via collective bargaining between the City and System members. Benefit provisions are outlined in the City's ordinance and administered by Trustees. Eligible members consist of persons regularly employed by the City, including the 61st District Court and Grand Rapids Public Library, but excluding uniformed police and fire employees. New hires are not eligible for the plan. The actual closing date differs by bargaining unit. Benefit provisions are established and amended by City ordinance and provide for either a 13th check or an annual escalator increase to each member's retirement allowance subsequent to his/her retirement date. The adjustment is a 1% noncompounding escalator. The specified waiting period is four years for members of the APAGR (Association of Public Administrators of Grand Rapids), APAGR 61st District Court, GREIU (Grand Rapids Employees Independent Union), GREIU 61st District Court, GREIU Public Library Rank & File and Supervisory Units. The specified waiting period is six years for members of the Crime Scene Technicians/Latent Print Examiners and Emergency Communication Supervisors units. The specified waiting period for members in the Non-Represented group is seven years. Members of the Emergency Communication Operators (ECO) I, II, and III groups are not eligible for the escalator program; they are eligible for the plan's 13th check program. Eligibility for the escalator depends upon the member's bargaining unit and termination date. Annual post-retirement benefit increases are paid to eligible groups as described below:

Notes to Financial Statements

Covered Group	Termination Date
APAGR and APAGR 61st District Court	On or after October 21, 2008
GREIU, GREIU 61st District Court	On or after March 24, 2009
Crime Scene Technicians/Latent Print Examiners	On or after May 12, 2009
GREIU Public Library Rank & File and Supervisory Units	On or after July 9, 2009
Emergency Communication Supervisors	On or after September 13, 2011
Non-Represented Members	On or after July 1, 2014

For members not eligible for automatic post-retirement increases, one-half of net investment income over 8% which is attributable to retired life assets is distributed annually (in January) to retired members and beneficiaries who have been on the retirement rolls for 5 years in the form of a 13th check. Net investment income is based on a market value rate of return averaged over the preceding 5 plan years. The distribution is in proportion to points. An individual's points are determined by multiplying (i) the number of full years of retirement, to a maximum of 15, by (ii) the number of years, and fractions thereof, of service at retirement.

Eligibility

An eligible employee becomes a participant in the System as of his or her date of permanent employment. The System provides for 100% vesting in System benefits with eight years of credited service. Employees may elect to retire after attaining age 62 and completing eight years of credited service, or after completing 30 years of service regardless of age. The yearly allowance, payable monthly for life to the retired member, equals the applicable benefit multiplier selected by the member multiplied by the member's final average compensation, multiplied by the years and months of credited service. For members of the Crime Scene Technicians/Latent Print Examiners group, final average compensation shall be increased by 6.5% for the period July 1, 2021 to June 30, 2022 and 7.1% for the period July 1, 2020 to June 30, 2021. For members of the ECO I, II, and III group, final average compensation shall be increased by 40.4% for the period July 1, 2021 to June 30, 2022 and 46.0% for the period July 1, 2020 to June 30, 2021. For purposes of benefit calculations, the final average compensation is based on the member's three highest compensated calendar years of credited service, before the year-end of the calendar year in which the employee attains 40 years of credited service or reaches his or her credited service cap. All plan members are eligible to apply for non-duty disability benefits after completing ten or more years of credited service and before attaining minimum service retirement age. All plan members are eligible to apply for duty disability retirement benefits prior to attaining minimum service retirement age. Disability retirement benefits are determined in the same manner as retirement benefits and are not subject to an actuarial reduction. Duty disability allowances shall not be less than 50% of the member's final average salary; if the member is a part of the Crime Scene Technicians/Latent Print Examiners or ECO I, II, and III group, the allowance shall not be less than 62% of the member's final average salary. Death benefits are available if a member dies while in employer service, before retiring, but after becoming eligible to retire with an immediate allowance.

At June 30, 2022 and 2021, the System's membership consisted of the following:

June 30,	2022	2021
Retirees and beneficiaries receiving pension benefits	1,202	1,180
Terminated plan members entitled to but not receiving benefits	103	105
Active plan members	345	387
<u>Total</u>	1,650	1,672

Notes to Financial Statements

Contributions

The City is required by City ordinance to contribute at an actuarially determined rate, calculated to be 47.17% and 39.31% of covered payroll for the years ended June 30, 2022 and June 30, 2021 respectively.

Plan member contributions, which are required by ordinance, are based on compensation. Contributions currently range from 3.00% to 11.54% of regular compensation paid by the City, depending on the bargaining unit and individual benefit multiplier selection. These contributions are 100% vested. Plan members retain the right upon termination to withdraw their contributions plus regular interest, as defined by City Code, in lieu of any pension rights they may have.

Legally Required Reserves

The System maintains a member deposit fund, which is used to accumulate contributions made by plan members and related accrued interest. As detailed in City ordinance, the fund is legally required to distribute individual employee contributions and related interest upon request by a terminated plan member. The balance in the member deposit fund on June 30, 2022 and 2021 was \$35,982,130 and \$37,419,682, respectively.

3. Deposits and Investments

The investments of the System are designed to comply with requirements of the State of Michigan, which has numerous investment limitations depending on the type of investment. The investment policy adopted by the Board is in accordance with state law and has authorized investments according to Michigan Public Act 314 of 1965, as amended. The most significant requirements as they impact the System are as follows:

- 1. Investments in stock and global securities (securities traded outside of the United States) are limited to 70.0% of the System's assets; investments in the stock of any one corporation are limited to 5.0% of the System's assets. Per the investment policy, the total plan target weight for domestic equity is 17.75% and the total plan target weight for the non-U.S. equity is 17.75%. The style factor breakdown is as follows: Active Core 2.66%; Passive/Index 11.54%; and Enhanced Indexing 3.55%. The size factor breakdown is as follows: large stocks 15.09% and small stocks 2.66%.
- 2. Investments in real estate are limited to 10.0% of the System's assets. Per the investment policy, the total plan target weight for global real estate investments is 5.0%.
- 3. Investments in state and local government obligations are limited to 5.0% of the System's assets.

Notes to Financial Statements

The following was the Board's adopted asset allocation policy as of June 30, 2022 and 2021:

	Target Allo	ocation	
Asset Class	2022	2021	
U.S. equity	17.75%	17.75%	
Fixed income	24.50	24.50	
Non-U.S. equity and American Depository Receipts	17.75	17.75	
Real estate securities	5.00	5.00	
Midstream Energy Infrastructure	5.00	5.00	
Treasury inflation protected securities	5.00	5.00	
Private equity	5.00	5.00	
Commodities	5.00	5.00	
Private Credit	5.00	5.00	
Global Low Volatility	10.00	10.00	

For years ended June 30, 2022 and 2021, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was -5.90% and 27.58% respectively. The money-weighted rate of return expresses investment performance net of investment expense, adjusted for the changing amounts actually invested.

The System's cash and investments are subject to several types of risk, which are examined in more detail below.

Custodial Credit Risk

Custodial credit risk for investments is the risk that in the event of the failure of the counterparty to a transaction, the System will not be able to recover the value of investment or collateral securities that are in the possession of an outside party. This portfolio will minimize custodial credit risk by limiting investments to those permitted by Michigan Public Act 314 of 1965, as amended, which include: (a) United States Treasury and Agency; (b) Mortgages (Collateral and CMOs); (c) Corporate Bonds (industrial, finance, asset-backed, utilities, telephone and Yankee); (d) Derivatives (futures, swaps, option contracts on the S&P 500 Index and U.S. Interest Rates, and futures and option contracts on U.S. Treasury and Agency securities); (e) American Depository Receipts; (f) Non-Dollar Bonds; (g) Emerging Market Debt; (h) Cash equivalent investments (including repurchase agreements); (i) Short-term investment funds; (j) International Depository Receipts; (k) Global Depository Receipts; (l) Convertible Bonds; (m) Open and Closed-End country funds; and (n) Warrants.

In addition, the System will conduct business only with investment management firms that will: comply with all relevant provisions contained in Michigan Public Act 314 of 1965, as amended; support the overall investment policies of the System; understand and accept their designated "role" within the System's investment structure; construct a portfolio of securities that reflect the execution of their assigned investment strategy; and adhere to the guidelines of this document and/or any additional written instructions that amend the Investment Policy Statement. As of June 30, 2022 and 2021, no deposits or investments were exposed to custodial credit risk.

Notes to Financial Statements

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. This portfolio structures its fixed income allocation to be approximately neutral in duration and interest rate risk to that of the benchmark (Bloomberg Barclays U.S. Aggregate Index). This should mitigate the relative over- or under-performance of the fixed income composite as a result of changing interest rates.

As of June 30, 2022, the System had the following investments and maturities.

		Less Than			More Than	
	Fair Value	1 Year	1-6 Years	6-10 Years	10 Years	No Maturity
<u>Equities</u>						
Common and preferred stocks and						
equity mutual funds	\$ 196,483,130	\$ -	\$ - 9	- \$	- \$	196,483,130
Private equity partnerships	40,324,284	-	-	-	-	40,324,284
Private credit partnerships	21,921,132	-	-	-	-	21,921,132
Total	258,728,546	-	-	-	-	258,728,546
Fixed Income						
Government obligations	52,009,424	201,338	9,139,039	4,447,840	15,453,916	22,767,291
State and municipal bonds	259,850	-	249,822	-	10,028	-
Corporate bonds and fixed income						
commingled funds	68,478,066	999,009	7,550,585	54,141,905	5,786,567	-
Asset-backed securities	5,182,483	-	524,825	147,550	4,503,293	6,815
Total	125,929,823	1,200,347	17,464,271	58,737,295	25,753,804	22,774,106
<u>Other</u>						
Cash and money market funds	7,567,235	7,567,235	-	-	-	-
Real estate securities	20,757,526	-	-	-	-	20,757,526
Commodities	24,077,085	-	-	-	-	24,077,085
Investments held as collateral for						
securities lending	35,085,747	35,085,747	-	-	-	<u>-</u>
Total	87,487,593	42,652,982	-	-	-	44,834,611
Grand Total	\$ 472,145,962	\$ 43,853,329	\$ 17,464,271	\$ 58,737,295 \$	25,753,804 \$	326,337,263

Notes to Financial Statements

As of June 30, 2021, the System had the following investments and maturities.

	Fair Value	Less Than 1 Year	1-6 Years	6-10 Years	More Than 10 Years	No Maturity
Equities	i ali value	i icai	1-0 16413	0-10 Tears	10 Tears	NO Maturity
Equities						
Common and preferred stocks and		^	<u></u>			25 4 257 242
equity mutual funds	\$ 254,257,243	\$ -	\$ -	\$ - \$	- \$	254,257,243
Private equity partnerships	33,940,404	-	-	-	-	33,940,404
Private credit partnerships	21,090,846		-	-	•	21,090,846
Total	309,288,493	-	-	-	-	309,288,493
Fixed Income						
Government obligations	50,155,758	-	7,618,729	5,281,226	13,095,918	24,159,885
State and municipal bonds	306,551	-	-	280,839	25,712	-
Corporate bonds and fixed income	,			,	,	
commingled funds	69,212,335	254,758	8,378,819	54,852,398	5,726,360	-
Asset-backed securities	4,574,114	587	578,587	-	3,986,887	8,053
Total	124,248,758	255,345	16,576,135	60,414,463	22,834,877	24,167,938
rotat	124,240,730	233,343	10,570,155	00,414,403	22,054,077	24,107,730
<u>Other</u>						
Cash and money market funds	6,214,203	6,214,203	-	-	-	-
Real estate securities	25,745,529	-	-	-	-	25,745,529
Commodities	23,266,203	-	-	-	-	23,266,203
Investments held as collateral for	, ,					, ,
securities lending	35,256,291	35,256,291	-	-	-	-
Total	90,482,226	41,470,494				49,011,732
. Otal	70,402,220	11, 170, 171				17,011,732
Grand Total	\$ 524,019,477	\$ 41,725,839	\$ 16,576,135	\$ 60,414,463 \$	22,834,877 \$	382,468,163

Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The fixed income portfolio invests in both investment grade bonds and high yield bonds. However, the overall credit rating for the composite is not to be below an "A" rating. At June 30, 2022 and 2021, the System held debt investments with the following credit ratings.

	June 30,			0,
		2022		2021
S&P AAA	\$	1,678,373	\$	1,670,007
S&P AA		1,488,311		2,079,497
S&P A		55,327,035		4,692,482
S&P A-		-		51,797,659
S&P BBB		12,105,289		11,068,602
S&P BB		76,928		132,015
S&P CC		232,534		296,797
Not subject to credit risk		51,726,474		49,678,328
Unrated		3,294,879		2,833,371
Total	\$	125,929,823	\$	124,248,758

Notes to Financial Statements

Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of the System's investment in a single issuer. It is the System's policy that no single holding will represent more than 5% of the total fund. As of June 30, 2022 and 2021, no single holding within this portfolio represented more than 5% of the total fund.

Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. In general, the foreign currency exposure resulting from international investments is not hedged. This exposes the portfolio to foreign currency risk, which is not expected to harm or help the performance of the fund in a significant way over the long-term.

As of June 30, 2022, and 2021, the System had the following foreign investments:

June 30, 2022	Amount (currency in U.S. dollar)
Common and preferred stocks and equity mutual funds	\$ 107,062,037
Private equity partnerships	17,070,197
Private credit partnerships	16,146,813
Government obligations	282,950
Corporate bonds and fixed income commingled funds	5,191,212
Total	\$ 145,753,209
June 30, 2021	Amount (currency in U.S. dollar)
Common and preferred stocks and equity mutual funds	\$ 139,404,101
Private equity partnerships	15,727,625
Private credit partnerships	15,699,605
Government obligations	312,183
Corporate bonds and fixed income commingled funds	6,127,274
Total	\$ 177,270,788

Securities Lending Risk

As of June 30, 2022, the System had the following investment types on loan for securities lending purposes, and received the following cash collateral for those loans:

	Loane	Fair Value of ed Securities ollateralized	
	C		Cash
		by Cash	Cash
Investment Type		Collateral	Collateral
U.S. corporate fixed	\$	2,447,465	\$ 2,494,693
U.S. equities		17,186,136	17,909,835
U.S. government fixed		14,488,520	14,681,219
Total	\$	34,122,121	\$ 35,085,747

Notes to Financial Statements

As of June 30, 2021, the System had the following investment types on loan for securities lending purposes, and received the following cash collateral for those loans:

	Loane	Tair Value of ed Securities ollateralized	
		by Cash	Cash
Investment Type		Collateral	Collateral
U.S. corporate fixed U.S. equities U.S. government fixed	\$	1,345,778 18,429,532 14,676,636	\$ 1,379,494 18,921,971 14,954,826
Total	\$	34,451,946	\$ 35,256,291

Michigan Public Act 314 of 1965, as amended, permits, and Trustees have implemented, a securities lending program whereby the System, through The Northern Trust Company, lends its securities to broker-dealers and other entities with a simultaneous agreement to return the collateral for the same securities in the future. The System has authorized The Northern Trust Company to utilize the Core U.S.A. Collateral Section in which all collateral is in U.S. dollars only and available to participating lenders who are domiciled or reside in the U.S.A. The System only receives cash collateral. Initial collateral levels will not be less than 102% of the market value of the borrowed securities, or not less than 105% if the borrowed securities and the collateral are denominated in different currencies.

The Northern Trust Company will indemnify the System against borrower default in compliance with state statutes if it is unable to recover borrowed securities and distributions made during the term of the loan or loans with respect to those securities as a result of The Northern Trust Company's failure to: (1) make a reasonable determination of the creditworthiness of a borrower, (2) demand adequate and appropriate collateral on a prompt and timely basis, perfect a security interest, obtain equivalent rights in the collateral or maintain control of the collateral, or (3) otherwise perform its duties and responsibilities under its agreement with the System or applicable law.

All securities loans can be terminated on demand by either the System or The Northern Trust Company and are subject to the performance by both parties of any of their respective obligations that remain outstanding at the time of termination. Upon termination of this program by either party, The Northern Trust Company shall terminate all outstanding loans of the System's securities and shall make no further loans. There are no restrictions on the amount of the loans that can be made. Cash collateral may also be invested separately in "term loans," in which case the investments match the loan term. These loans can be terminated on demand either by lender or borrower.

Fair Value Measurements

The System categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities. Level 2 inputs are inputs - other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. Finally, Level 3 inputs are unobservable and are based on estimates and assumptions. These levels are determined by the System's investment consultant. These are determined at the fund level based on a review of the investment's class, structure, and what kind of securities are held in the funds. The investment consultant will request the information from the fund manager if necessary.

Notes to Financial Statements

The System had the following fair value measurements as of June 30, 2022 and 2021:

Investments Measured at Fair Value

June 30, 2022	Level 1	Level 2	Level 3	Total
Government obligations	\$ 29,242,133	\$ 22,767,291	\$ -	\$ 52,009,424
State and municipal bonds	259,850	\$ 22,707,291	· ·	259,850
Corporate bonds and fixed income commingled funds	17,670,892	50,807,174	-	68,478,066
Common and preferred stocks and equity mutual funds	51,993,813	144,659,842	_	196,653,655
Real estate	20,587,001	-	-	20,587,001
Asset-backed securities	5,182,483	-	-	5,182,483
Commodities	-	24,077,085	-	24,077,085
Private equity partnerships	-	-	40,324,284	40,324,284
Private credit partnerships Investments held as collateral for securities	-	-	21,921,132	21,921,132
lending	35,085,747	-	-	35,085,747
	\$160,021,919	\$242,311,392	\$ 62,245,416	464,578,727
Investments measured at amortized cost -				=
Cash and money market funds				7,567,235
Total Investments				\$ 472,145,962
				+ 11 = 11 = 11 = 1
Investments Measured at Fair Value				
June 30, 2021	Level 1	Level 2	Level 3	Total
•				
Government obligations	\$ 25,995,873	Level 2 \$ 24,159,885		\$ 50,155,758
Government obligations State and municipal bonds Corporate bonds and fixed income	\$ 25,995,873 306,551	\$ 24,159,885 -		\$ 50,155,758 306,551
Government obligations State and municipal bonds Corporate bonds and fixed income commingled funds	\$ 25,995,873			\$ 50,155,758
Government obligations State and municipal bonds Corporate bonds and fixed income commingled funds Common and preferred stocks and equity	\$ 25,995,873 306,551 17,414,675	\$ 24,159,885 - 51,797,660		\$ 50,155,758 306,551 69,212,335
Government obligations State and municipal bonds Corporate bonds and fixed income commingled funds Common and preferred stocks and equity mutual funds	\$ 25,995,873 306,551 17,414,675 70,308,375	\$ 24,159,885 -		\$ 50,155,758 306,551 69,212,335 254,257,243
Government obligations State and municipal bonds Corporate bonds and fixed income commingled funds Common and preferred stocks and equity	\$ 25,995,873 306,551 17,414,675 70,308,375 25,745,529	\$ 24,159,885 - 51,797,660		\$ 50,155,758 306,551 69,212,335 254,257,243 25,745,529
Government obligations State and municipal bonds Corporate bonds and fixed income commingled funds Common and preferred stocks and equity mutual funds Real estate	\$ 25,995,873 306,551 17,414,675 70,308,375	\$ 24,159,885 - 51,797,660		\$ 50,155,758 306,551 69,212,335 254,257,243
Government obligations State and municipal bonds Corporate bonds and fixed income commingled funds Common and preferred stocks and equity mutual funds Real estate Asset-backed securities	\$ 25,995,873 306,551 17,414,675 70,308,375 25,745,529	\$ 24,159,885 - 51,797,660 183,948,868 -		\$ 50,155,758 306,551 69,212,335 254,257,243 25,745,529 4,574,114
Government obligations State and municipal bonds Corporate bonds and fixed income commingled funds Common and preferred stocks and equity mutual funds Real estate Asset-backed securities Commodities Private equity partnerships Private credit partnerships	\$ 25,995,873 306,551 17,414,675 70,308,375 25,745,529	\$ 24,159,885 - 51,797,660 183,948,868 -	\$ - - - - -	\$ 50,155,758 306,551 69,212,335 254,257,243 25,745,529 4,574,114 23,266,203
Government obligations State and municipal bonds Corporate bonds and fixed income commingled funds Common and preferred stocks and equity mutual funds Real estate Asset-backed securities Commodities Private equity partnerships Private credit partnerships Investments held as collateral for securities	\$ 25,995,873 306,551 17,414,675 70,308,375 25,745,529 4,574,114	\$ 24,159,885 - 51,797,660 183,948,868 -	\$ - - - - 33,940,404	\$ 50,155,758 306,551 69,212,335 254,257,243 25,745,529 4,574,114 23,266,203 33,940,404 21,090,846
Government obligations State and municipal bonds Corporate bonds and fixed income commingled funds Common and preferred stocks and equity mutual funds Real estate Asset-backed securities Commodities Private equity partnerships Private credit partnerships	\$ 25,995,873	\$ 24,159,885 - 51,797,660 183,948,868 - - 23,266,203 - -	\$ - - - - 33,940,404 21,090,846	\$ 50,155,758 306,551 69,212,335 254,257,243 25,745,529 4,574,114 23,266,203 33,940,404 21,090,846 35,256,291
Government obligations State and municipal bonds Corporate bonds and fixed income commingled funds Common and preferred stocks and equity mutual funds Real estate Asset-backed securities Commodities Private equity partnerships Private credit partnerships Investments held as collateral for securities lending	\$ 25,995,873 306,551 17,414,675 70,308,375 25,745,529 4,574,114	\$ 24,159,885 - 51,797,660 183,948,868 -	\$ - - - - 33,940,404	\$ 50,155,758 306,551 69,212,335 254,257,243 25,745,529 4,574,114 23,266,203 33,940,404 21,090,846
Government obligations State and municipal bonds Corporate bonds and fixed income commingled funds Common and preferred stocks and equity mutual funds Real estate Asset-backed securities Commodities Private equity partnerships Private credit partnerships Investments held as collateral for securities lending Investments measured at amortized cost -	\$ 25,995,873	\$ 24,159,885 - 51,797,660 183,948,868 - - 23,266,203 - -	\$ - - - - 33,940,404 21,090,846	\$ 50,155,758
Government obligations State and municipal bonds Corporate bonds and fixed income commingled funds Common and preferred stocks and equity mutual funds Real estate Asset-backed securities Commodities Private equity partnerships Private credit partnerships Investments held as collateral for securities lending	\$ 25,995,873	\$ 24,159,885 - 51,797,660 183,948,868 - - 23,266,203 - -	\$ - - - - 33,940,404 21,090,846	\$ 50,155,758 306,551 69,212,335 254,257,243 25,745,529 4,574,114 23,266,203 33,940,404 21,090,846 35,256,291

Notes to Financial Statements

Fund Investments - Mutual Funds & Separately Managed Accounts (SMAs)

An open-ended mutual fund, a registered investment company, produces a daily net asset value (NAV) that is validated with a sufficient level of observable activity (i.e., purchases and sales at NAV) to support classification of the fair value measurement as Level 1 in the fair value hierarchy. In this case, the NAV represents the exit value of the security at the measurement date. The primary rationale to support the classification of Mutual Funds as Level 1 in the fair value hierarchy are: (1) the investments in the funds are required to be measured at fair value (SEC regulated), (2) the NAV is unadjusted and is in all cases the transaction price for purchases and sales (the NAV represents the exit value of the security at the measurement date), (3) there are no restrictions on redemptions and (4) the NAV is made publicly available daily. The System's investment consultant also typically views SMAs as being reasonably considered Level 1 in the fair value hierarchy. The Fund Investment provides look-through capability to the underlying holdings, which can then be valued at fair market prices with strong liquidity.

Fund Investments - Commingled Funds & Trusts

Commingled Funds and Common Trust Funds do not all meet these criteria listed above for mutual funds. A fund administrator typically does not have the transparency into valuation methodology and valuation frequency of each of these pooled investment vehicles to make an accurate appraisal of whether the NAV does represent the exit value of the fund at each measurement date. For this reason, the System's investment consultant takes a conservative approach with the default position being to consider these investments as Level 2 in the fair value hierarchy.

The NAV of an open-ended fund, whether a registered investment company fund, such as a mutual fund, or certain alternative investment funds, such as a hedge fund, serves as the basis for subscription and redemption transactions for investors in such funds. For investments in funds for which the underlying assets and liabilities are required to be measured at fair value, and where NAV is available, the NAV is generally the most appropriate starting point when determining the fair value measurement for an interest in such fund. However, when valuing such an investment, the holder must estimate the fair value of the interest held, which at times may be different from a value based solely on the NAV of the fund. The holder should also consider various factors including, but not limited to, the attributes of the interest held, including any restrictions or illiquidity on the disposition of the interest, and the holders' requirements to understand and accept the valuations provided by the fund (or modify them if appropriate), to determine the fair value of the interest itself. Depending on the facts and circumstances, the NAV may need to be adjusted depending upon the rights and obligations of the ownership interest and/or other factors. Furthermore, any adjustments to NAV based on unobservable inputs may result in the fair value measurement being categorized as a Level 3 measurement, if those inputs are significant to the overall fair value measurement.

Private Equity

The valuation of nonpublic private equity investments requires significant management judgment due to the absence of quoted market prices, inherent lack of liquidity and the long-term nature of such assets. As such, private equity investments are often valued initially based upon cost. Each quarter, valuations are reviewed utilizing available market data to determine if the carrying value of these investments should be adjusted. Such market data primarily includes observations of the trading multiples of public companies considered comparable to the private companies being valued. Valuations are adjusted to account for company-specific issues, the lack of liquidity inherent in a nonpublic investment and the fact that comparable public companies are not identical to the

Notes to Financial Statements

companies being valued. Such valuation adjustments are necessary because in the absence of a committed buyer and completion of due diligence similar to that performed in an actual negotiated sale process, there may be company-specific issues that are not fully known that may affect value. In addition, a variety of additional factors are reviewed by management, including, but not limited to, financing and sales transactions with third parties, current operating performance and future expectations of the particular investment, changes in market outlook and the third-party financing environment. As a result of these characteristics, the System's investment consultant believes private equity investments should be included in Level 3 of the fair value hierarchy.

The Adams Street Partners agreement provides that the term of each partnership fund will begin on the initial closing date of the applicable partnership fund for a 12 - 15-year commitment. Generally, investors may not withdraw from the Global Fund, the feeder vehicles or a fund, except under very limited circumstances.

The Aberdeen Asset Management agreement provides for a 12 - 15-year commitment from the initial capital call. Limited partners may not withdraw from the fund, nor may they sell, transfer or assign their interests except with the consent of the General Partner.

Private Credit

Much like for private equity, the valuation of private credit investments requires significant judgement due to the absence of quoted market prices, inherent lack of liquidity, and the long-term nature of the assets. Factors that influence valuation include duration, credit score, time until maturity, whether the bond is callable, covenants, among others. Each quarter, valuations are reviewed utilizing available public and private market data to determine if the carrying value of these investments should be adjusted. Valuations are adjusted to account for company-specific issues, the lack of liquidity inherent in a nonpublic investment and the fact that comparable public companies are not identical to the companies being valued. Such valuation adjustments are necessary because in the absence of a committed buyer and completion of due diligence similar to that performed in an actual negotiated sale process, there may be company-specific issues that are not fully known that may affect value. As a result of these characteristics, the System's investment consultant believes private credit investments should be included in Level 3 of the fair value hierarchy.

4. Capital Funding Commitment

At June 30, 2022 and 2021, the System had the following approximate amounts (in millions) outstanding on initial private equity commitments of \$28.0 million with Adams Street Partners.

		2022		2021
Adam Street Partners (2010)	\$	0.5	Ś	0.5
Adams Street Partners (2013)	7	0.5	•	0.5
Adams Street Partners (2015)		1.0		1.3
Adams Street Partners (2017)		1.6		2.1
Adams Street Partners (2019)		2.9		4.3

Notes to Financial Statements

At June 30, 2022 and 2021, the System had the following approximate amounts (in millions) outstanding on initial private credit commitments of \$7.0 million with 50 South Capital Advisors.

	2022	2021
50 South Capital Advisors	\$ 0.8	\$ 1.1

5. Net Pension Liability

Net Pension Liability

The components of the net pension liability at June 30, 2022 and 2021, were as follows:

June 30	2022	2021
Total popular liability	\$584,677,526	\$563,551,840
Total pension liability Plan fiduciary net position	436,881,613	489,704,302
rtair riductary fiee posicion	130,001,013	107,701,302
Net Pension Liability	\$147,795,913	\$73,847,538
Plan Fiduciary Net Position as a Percentage of the		
Total Pension Liability	74.72%	86.90%

Actuarial Assumptions

The total pension liability was determined by an actuarial valuation as of June 30, 2022 and 2021, using the following actuarial assumptions, applied to all periods included in the measurement:

	2022	2021
Inflation	2.25% - approximate	2.50% - approximate
	no explicit price inflation	no explicit price inflation
Salary increases	3.00% - 7.16% including inflation	3.00% - 8.00% including inflation
Investment rate of return	6.75%	7.00%

Mortality tables:

Healthy Pre-Retirement: The Pub-2010 Amount-Weighted, General, Employee, Male and Female tables, with a base year of 2010 and future mortality improvements projected using scale MP-2019 on a fully generational basis.

Healthy Post-Retirement: The Pub-2010 Amount-Weighted, General, Healthy Retiree, Male and Female tables, with a base year of 2010 and future mortality improvements projected using scale MP-2019 on a fully generational basis.

Disability Retirement: The Pub-2010 Amount-Weighted, General, Disabled Retiree, Male and Female, with a base year of 2010 and future mortality improvements projected using scale MP-2019 on a fully generational basis.

Notes to Financial Statements

The actuarial assumptions used in the June 30, 2022 and 2021 valuations were based on the results of a 5-year actuarial experience study ending June 30, 2019, approved by the Board in June 2020. All assumptions are expectations of future experience, not market measures.

Long-Term Expected Rate of Return

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and be adding expected inflation. Based on information provided by the System's investment advisor, capital market expectations for each major asset class that was included in the plan's current asset allocation as of January 2022 were used; the best estimates for the long-term expected return are summarized in the following table:

Asset Class	Target Allocation	Long- Term Expected Return 10-Year	Long- Term Expected Return 20-Year	Long- Term Expected Return 30-Year
U.S. equity	17.75%	4.50%	5.39%	6.28%
Non-U.S. equity and American depository receipts	17.75%	5.75%	6.39%	7.03%
Core Fixed Income	24.50%	2.00%	2.83%	3.65%
Treasury Inflation Protected Securities Real estate	5.00% 5.00%	1.45% 4.55%	2.41% 5.23%	3.38% 5.90%
Private equity	5.00%	8.10%	8.79%	9.48%
Commodities	5.00%	4.30%	4.66%	5.03%
Midstream Energy Infrastructure Private credit	5.00% 5.00%	6.60% 6.92%	7.15% 7.06%	7.70% 7.19%
Global low volatility	10.00%	5.18%	5.95%	6.72%
Total	100.00%	4.97%	5.68%	6.40%
Inflation		2.60%	2.58%	2.55%

Discount Rate

A single discount rate of 6.75% (previously 7.00%) was used to measure the total pension liability. This single discount rate was based on the expected rate of return on System investments of 6.75%. The projection of cash flows used to determine this single discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on these assumptions, the System'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.

Notes to Financial Statements

Regarding the sensitivity of the net pension liability to changes in the single discount rate, the following presents the net pension liability, calculated using a single discount rate of 6.75% (7.00% as of June 30, 2021) as well as what the plan's net pension liability would be if it were calculated using a single discount rate that is 100 basis points lower or 100 basis points higher:

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption - June 30, 2022

Current	Singla	Discount

	Cui	Terre biligie biscourie		
1	100 Basis Point	-	100 Basis Point	
	Decrease	Rate Assumption	Increase	
	5.75%	6.75%	7.75%	
Total Pension Liability	\$649,004,257	\$584,677,526	\$530,417,570	
Plan Net Position	436,881,613	436,881,613	436,881,613	
Net Pension Liability	\$212,122,644	\$147,795,913	\$93,535,957	

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption - June 30, 2021

Current Single Discount

			• •	
1	100 Basis Point		100 Basis Point	
	Decrease	Rate Assumption	Increase	
	6.00%	7.00%	8.00%	
Total Pension Liability	\$625,052,259	\$563,551,840	\$511,606,327	
Plan Net Position	489,704,302	489,704,302	489,704,302	
Net Pension Liability	\$135,347,957	\$73,847,538	\$21,902,025	



Required Supplementary Information Schedule of Changes in the Employer's Net Pension Liability and Related Ratios

Year ended June 30,	2022^	2021	2020*
Total Pension Liability Service cost Interest on the total pension liability Changes in benefit terms	\$ 4,001,976 38,200,989	\$ 4,206,804 37,960,117	
Difference between expected and actual experience Assumption changes Benefit payments Refunds	4,141,442 14,430,114 (39,600,442) (48,393)	, , ,	(945,207) 12,565,643 (34,422,912) (139,388)
Net Change in Total Pension Liability	21,125,686	5,952,675	18,333,379
Total Pension Liability, beginning	563,551,840	557,599,165	539,265,786
Total Pension Liability, ending (a)	\$584,677,526	\$563,551,840	\$557,599,165
Plan Fiduciary Net Position Contributions - employer Contributions - member Pension plan net investment income (loss) Benefit payments Refunds Pension plan administrative expense	\$ 12,568,944 2,373,612 (27,523,949) (39,600,442) (48,393) (592,461)	\$ 11,284,613 2,523,078 107,876,523 (34,810,191) (20,173) (558,139)	\$ 11,325,243 2,595,588 5,440,396 (34,422,912) (139,388) (605,388)
Net Change in Plan Fiduciary Net Position	(52,822,689)	86,295,711	(15,806,461)
Plan Fiduciary Net Position, beginning	489,704,302	403,408,591	419,215,052
Plan Fiduciary Net Position, ending (b)	\$ 436,881,613	\$ 489,704,302	\$ 403,408,591
Net Pension Liability - Ending (a) - (b)	\$ 147,795,913	\$ 73,847,538	\$ 154,190,574
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	74.72%	86.90%	72.35%
Covered Payroll	\$ 26,760,793	\$ 27,657,053	\$ 28,873,053
Net Pension Liability as a Percentage of Covered Payroll	552.29%	267.01%	534.03%

[^]The Board reduced the System's investment return assumption from 7.00% to 6.75% based on the annual review of economic assumptions performed in early 2022. The change to the investment return assumption increased the System's total accrued liability by \$14.4 million and the employer contribution rate by 4.4% of payroll.

Required Supplementary Information Schedule of Changes in the Employer's Net Pension Liability and Related Ratios

*The June 30, 2020 valuation incorporates assumption changes related to the wage inflation assumption which was decreased to 3.00%, the assumed mortality rates for all members were updated to the Pub-2010 Mortality Tables using the MP-2019 mortality improvement, disability rates and withdrawal patterns of the active population were updated based on experience of the plan, and liability loads for the 13th Check and service purchases were updated. These changes increased the actuarial accrued liability by \$12.6 million and increased the City's contribution rate by 3.05% of payroll.

Year ended June 30,		2019**	2018**	* 2017****
Total Pension Liability Service cost Interest on the total pension liability Changes in benefit terms	\$ 4,657 36,626	7,970 \$ 5,148	5 5,016,826 36,420,065	\$ 5,161,510 36,025,286
Difference between expected and actual experience Assumption changes Benefit payments Refunds	(2,877 7,963 (34,016 (41)	,218	(2,335,969) 5,213,623 (34,286,124) (109,451)	(1,495,183)
Net Change in Total Pension Liability	12,311	,713	9,918,970	6,710,837
Total Pension Liability, beginning	526,954	,073	517,035,103	510,324,266
Total Pension Liability, ending (a)	\$ 539,26	5,786 \$	5 526,954,073	\$ 517,035,103
Plan Fiduciary Net Position Contributions - employer Contributions - member Pension plan net investment income (loss) Benefit payments Refunds Pension plan administrative expense	\$ 12,920 2,677 21,371 (34,016, (41, (596,0	,960 ,497 875) 616)	5 10,673,034 2,832,479 29,177,311 (34,286,124) (109,451) (556,142)	3,012,472 38,296,115 (31,894,361) (114,697)
Net Change in Plan Fiduciary Net Position	2,315,	141	7,731,107	18,979,043
Plan Fiduciary Net Position, beginning	416,899	911	409,168,804	390,189,761
Plan Fiduciary Net Position, ending (b)	\$ 419,21!	5,052 \$	416,899,911	\$ 409,168,804
Net Pension Liability - Ending (a) - (b)	\$ 120,050),734 \$	5 110,054,162	\$ 107,866,299
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	77.74	1 %	79.12%	79.14%
Covered Payroll	\$ 29,69	5,997 \$	30,949,968	\$ 33,647,390
Net Pension Liability as a Percentage of Covered Payroll	404.2	7%	355.59%	320.58%

Required Supplementary Information Schedule of Changes in the Employer's Net Pension Liability and Related Ratios

**The June 30, 2019 valuation incorporates assumption changes related to the assumed rate of investment return which was decreased from 7.15% to 7.00%. This change increased the actuarial accrued liability by \$7.9 million and increased the City's contribution rate by 2.34%.

***The June 30, 2018 valuation incorporates assumption changes related to the assumed rate of investment return which was decreased from 7.25% to 7.15%. This change increased the actuarial accrued liability by \$5.2 million and increased the City's contribution rate by 1.48%.

****The June 30, 2017 valuation incorporates assumption changes related to the inflation assumption from 3.50% to 3.25%. This change decreased the actuarial accrued liability by \$1.5 million and decreased the City's contribution rate by 0.68%.

Totals may not add up due to rounding.

Required Supplementary Information Schedule of Changes in the Employer's Net Pension Liability and Related Ratios

Year ended June 30,	2016	2015&	2014
Total Pension Liability Service cost Interest on the total pension liability Changes in benefit terms	35,127,721 -	\$ 6,348,067 33,287,484 20,882	33,394,709
Difference between expected and actual experience Assumption changes Benefit payments Refunds	6,361,928 - (36,708,882) (208,843)	10,083,648 29,733,503 (39,570,343) (283,087)	(7,420,169) - (28,055,439) (152,273)
Net Change in Total Pension Liability	10,118,312	39,620,153	4,671,478
Total Pension Liability, beginning	500,205,954	460,585,801	455,914,323
Total Pension Liability, ending (a)	\$510,324,266	\$ 500,205,954	\$ 460,585,801
Plan Fiduciary Net Position Contributions - employer Contributions - member Pension plan net investment income (loss) Benefit payments Refunds Pension plan administrative expense	\$ 9,295,104 3,428,169 289,104 (36,708,882) (208,843) (568,895)	3,473,382	\$ 8,771,032 3,737,014 65,316,255 (28,055,439) (152,273) (523,086)
Net Change in Plan Fiduciary Net Position	(24,474,244)	(14,141,533)	49,093,503
Plan Fiduciary Net Position, beginning	414,664,005	428,805,538	379,712,035
Plan Fiduciary Net Position, ending (b)	\$390,189,761\$	414,664,005	\$ 428,805,538
Net Pension Liability - Ending (a) - (b)	\$120,134,505\$	85,541,949	\$ 31,780,263
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	76.46%	82.90%	93.10%
Covered Payroll	\$ 35,760,078 \$	38,492,586	\$ 40,510,955
Net Pension Liability as a Percentage of Covered Payroll	335.95%	222.23%	78.45%

Required Supplementary Information Schedule of Changes in the Employer's Net Pension Liability and Related Ratios

&The June 30, 2015 valuation incorporates assumption changes related to the assumed rate of investment return which was decreased from 7.50% to 7.25%. Demographic assumptions for retirement and withdrawal patterns of the active population were updated as well to better model recent experience of the plan. The assumed mortality rates for all members were updated to the RP-2014 Mortality Tables projected to 2019 using the MP-2014 mortality improvement scale to reflect past and expected future mortality improvements. This change increased the actuarial accrued liability by \$29.7 million.

Year ended June 30,	2013
Total Pension Liability Service cost Interest on the total pension liability	\$ 7,294,537 32,920,147
Changes in benefit terms Difference between expected and actual experience Assumption changes	(6,012,166)
Benefit payments Refunds	(27,037,516) (114,916)
Net Change in Total Pension Liability	\$ 7,050,086
Total Pension Liability, beginning	\$ 448,864,237
Total Pension Liability, ending (a)	\$ 455,914,323
Plan Fiduciary Net Position Contributions - employer Contributions - member Pension plan net investment income (loss) Benefit payments Refunds Pension plan administrative expense	\$ 8,135,843 3,933,341 44,042,945 (27,037,516) (114,916) (476,059)
Net Change in Plan Fiduciary Net Position	28,483,638
Plan Fiduciary Net Position, beginning	351,228,397
Plan Fiduciary Net Position, ending (b)	\$ 379,712,035
Net Pension Liability - Ending (a) - (b)	\$ 76,202,288
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	83.29%
Covered Payroll	\$ 43,783,450
Net Pension Liability as a Percentage of Covered Payroll	174.04%

Required Supplementary Information **Schedule of Employer Contributions**

FY Ending June 30,	Actuarially Determined Contribution	Actual Contribution	Contribution (Deficiency) <u>Excess</u>	Covered <u>Payroll</u>	Actual Contribution as a % of Covered Payroll
2013	\$8,135,843	\$8,135,843	\$0	\$43,783,450	18.58%
2014	\$8,771,032	\$8,771,032	\$0	\$40,510,955	21.65%
2015	\$11,327,704	\$11,327,704	\$0	\$38,492,586	29.43%
2016	\$9,295,104	\$9,295,104	\$0	\$35,760,078	25.99%
2017	\$10,237,538	\$10,237,538	\$0	\$33,647,390	30.43%
2018	\$10,673,034	\$10,673,034	\$0	\$30,949,968	34.48%
2019	\$9,920,265	\$12,920,265	\$3,000,000	\$29,695,997	43.51%
2020	\$10,325,243	\$11,325,243	\$1,000,000	\$28,873,053	39.22%
2021	\$11,284,613	\$11,284,613	\$0	\$27,657,053	40.80%
2022	\$12,568,944	\$12,568,944	\$0	\$26,760,793	46.97%

Methods and Assumptions Used to Determine Contribution Rates

Valuation Date	Actuarially determined contribution rates are calculated as of
	June 30, which is 1 year prior to the beginning of the fiscal year
	in which contributions are reported.

Actuarial Cost Method	Individual Entry Age.
ACTUATIAL COST MELLIOO	individual Entry Age.

Level dollar, closed for plan years ending 06/30/13 through Amortization Method present.

Remaining Amortization Period 25.15 years per City Commission (was 25 years for the plan year

ending 06/30/13; 24 years for the plan year ending 06/30/14; 30 years for the plan year ending 06/30/15; 29 years for the plan year ending 06/30/16; 28.2 years for the plan year ending 06/30/17; 27.19 years for the plan year ending 06/30/18; 26.54 years for the plan year ending 06/30/19; 26.2 years for the plan year ending 06/30/20; 25.5 years for the plan year ending

06/30/21).

Asset Valuation Method 5-Year Smoothed Market for plan years ending 06/30/13 to

present.

2.25% for plan year ending 06/30/22 (wage inflation was at 0.00% Inflation

> for the plan year ending 06/30/13; 3.50% for the plan years ending 06/30/14 - 06/30/16; 3.25% for the plan years ending 06/30/17 - 06/30/19; 2.50% for plan years ending 06/30/20 -

06/30/21.

Salary Increases 3.00% - 7.16%, plus up to 4.00% depending on service for plan

year ending 06/30/22 (was 4.00% - 8.00% for plan year ending 06/30/13; 3.50% - 7.70% for plan years ending 06/30/14 -06/30/16; 3.25% to 7.45% for plan years 06/30/17 - 06/30/19; 3.00% - 8.00%, plus up to 4.00% depending on service for plan

years ending 06/30/20 - 06/30/21.

Required Supplementary Information Schedule of Employer Contributions

Investment Rate of Return

6.75% (was a blended rate of 7.38% for the plan year ending 06/30/13; a blended rate of 7.39% for the plan year ending 06/30/14; 7.25% for the plan years ending 06/30/15 - 06/30/17; was 7.15% for plan year 06/30/18; was 7.00% for the plan year ending 06/30/19; 7.00% for the plan years ending 06/30/20 and 06/30/21).

Cost-of-Living Adjustments

Ad hoc "13th check" tied to plan investments for benefit recipients who do not have an automatic benefit increase.

- 1.0% simple escalator for GREIU and GREIU 61st District Court members retired on or after March 24, 2009 with commencement delayed 4 years after retirement.
- 1.0% simple escalator for GREIU Public Library Rank and File and Supervisory Unit members retired on or after July 9, 2009 with commencement delayed 4 years after retirement.
- 1.0% simple escalator for Crime Scene Technicians/Latent Print Examiners retired on or after May 12, 2009 with commencement delayed 6 years after retirement.
- 1.0% simple escalator for APAGR and APAGR 61st District Court members retired on or after October 21, 2008 with commencement delayed 4 years after retirement.
- 1.0% simple escalator for Emergency Communication Supervisors retired on or after September 13, 2011 with commencement delayed 6 years after retirement.
- 1.0% simple escalator for Non-Represented members retired on or after July 1, 2014 with commencement delayed 7 years after retirement.

Retirement Age

Experience-based table of rates that are specific to the type of eligibility condition.

Mortality

The Pub-2010 Amount-Weighted, General, Employee, Male and Female tables, a base year of 2010 and future mortality improvements projected using scale MP-2019 for healthy preretirement; the Pub-2010 Amount-Weighted, General, Healthy Retiree, Male and Female tables, a base year of 2010 and future mortality improvements projected using scale MP-2019 for healthy post-retirement; the Pub-2010 Amount-Weighted, General, Disabled Retiree, Male and Female tables, a base year of 2010 and future mortality improvements projected using scale MP-2019 for disability retirement for plan years ending 06/30/20 - 06/30/22; (was the 1983 Group Annuity Male and Female Mortality Tables set back 3 years for males and 2 years for females was used for the plan years ending 06/30/13 -06/30/14; was RP-2014 Healthy Annuitant Mortality Table projected to 2019 using the MP-2014 Mortality Improvement Scale for plan years ending 06/30/15 - 06/30/19.

Required Supplementary Information Schedule of Investment Returns Annual Money-Weighted Rate of Return, Net of Investment Expense Last Ten Years

,	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
	-5.90%	27.58%	1.47%	5.41%	7.51%	10.23%	0.22%	2.80%	17.75%	12.99%

Annual money-weighted rate of return, net of investment expenses.

Required Supplementary Information Schedule of the Employer's Net Pension Liability

FY Ending June 30,	Total Pension <u>Liability</u>	Plan Fiduciary Net Position	Net Pension <u>Liability</u>	Plan Fiduciary Net Position as a % of Total <u>Pension Liability</u>	Covered <u>Payroll</u>	Net Pension Liability as a % of <u>Covered Payroll</u>
2013	\$455,914,323	\$379,712,035	\$76,202,288	83.29%	\$43,783,450	174.04%
2014	\$460,585,801	\$428,805,538	\$31,780,263	93.10%	\$40,510,955	78.45%
2015	\$500,205,954	\$414,664,005	\$85,541,949	82.90%	\$38,492,586	222.23%
2016	\$510,324,266	\$390,189,761	\$120,134,505	76.46%	\$35,760,078	335.95%
2017	\$517,035,103	\$409,168,804	\$107,866,299	79.14%	\$33,647,390	320.58%
2018	\$526,954,073	\$416,899,911	\$110,054,162	79.12%	\$30,949,968	355.59%
2019	\$539,265,786	\$419,215,052	\$120,050,734	77.74%	\$29,695,997	404.27%
2020	\$557,599,165	\$403,408,591	\$154,190,574	72.35%	\$28,873,053	534.03%
2021	\$563,551,840	\$489,704,302	\$73,847,538	86.90%	\$27,657,053	267.01%
2022	\$584,677,526	\$436,881,613	\$147,795,913	74.72%	\$26,760,793	552.29%



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INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS

November 4, 2022

Board of Trustees City of Grand Rapids General Retirement System Grand Rapids, Michigan

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the *City of Grand Rapids General Retirement System* (the "System"), a fiduciary component unit of the City of Grand Rapids, Michigan, as of and for the year ended June 30, 2022, and the related notes to the financial statements, which collectively comprise the System's basic financial statements, and have issued our report thereon dated November 4, 2022.

Report on Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the System's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the System's internal control. Accordingly, we do not express an opinion on the effectiveness of the System's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A significant deficiency is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses or significant deficiencies may exist that have not been identified.

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether the System's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the System's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Rehmann Loham LLC