

**HOWARD COUNTY POLICE AND FIRE
EMPLOYEES' RETIREMENT PLAN**

**FINANCIAL STATEMENTS AND
REQUIRED SUPPLEMENTARY INFORMATION**

YEARS ENDED JUNE 30, 2022 AND 2021

**HOWARD COUNTY POLICE AND FIRE
EMPLOYEES' RETIREMENT PLAN
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INDEPENDENT AUDITORS' REPORT

Retirement Plan Committee
Howard County Police and Fire Employee's Retirement Plan
Howard County, Maryland

Report on the Audit of the Financial Statements

Opinions

We have audited the accompanying financial statements of Howard County Police and Fire Employee's Retirement Plan (the Plan), as of and for the years ended June 30, 2022 and 2021, and the related notes to the financial statements, which collectively comprise the Plan's basic financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the Plan, as of June 30, 2022 and 2021, and the respective changes in financial position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinions

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 Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Plan and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

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 Plan'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.

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 opinions. 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 Plan'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 Plan's ability to continue as a going concern for a reasonable period of time.

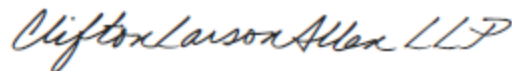
We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis and the Schedule of Changes in the County's Net Pension Liability and Related Ratios, the Schedule of County Contributions, and the Schedule of Investment Returns, 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 GAAS, 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 27, 2022, on our consideration of the Plan'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 Plan'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 Plan's internal control over financial reporting and compliance.



CliftonLarsonAllen LLP

Baltimore, Maryland
November 27, 2022

**HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
MANAGEMENT'S DISCUSSION AND ANALYSIS
JUNE 30, 2022 AND 2021**

Introduction

The Howard County Police and Fire Employees' Plan (the Plan) is a single-employer defined benefit public employee retirement plan administered by Howard County, Maryland, which provides retirement benefits as well as death and disability benefits and cost-of-living adjustments.

Responsibilities for administration and operation of the Police and Fire Plan are vested in a Retirement Committee with seven members (Committee). The Committee has authority to establish and amend the respective benefit and contribution provisions.

Membership Data

	<u>07/01/21</u>	<u>07/01/20</u>	<u>07/01/19</u>
Active	968	947	929
Retired and beneficiaries	451	430	389
Disabled	35	35	36
Terminated vested	<u>24</u>	<u>26</u>	<u>22</u>
Total	1478	1438	1376

Financial Highlights

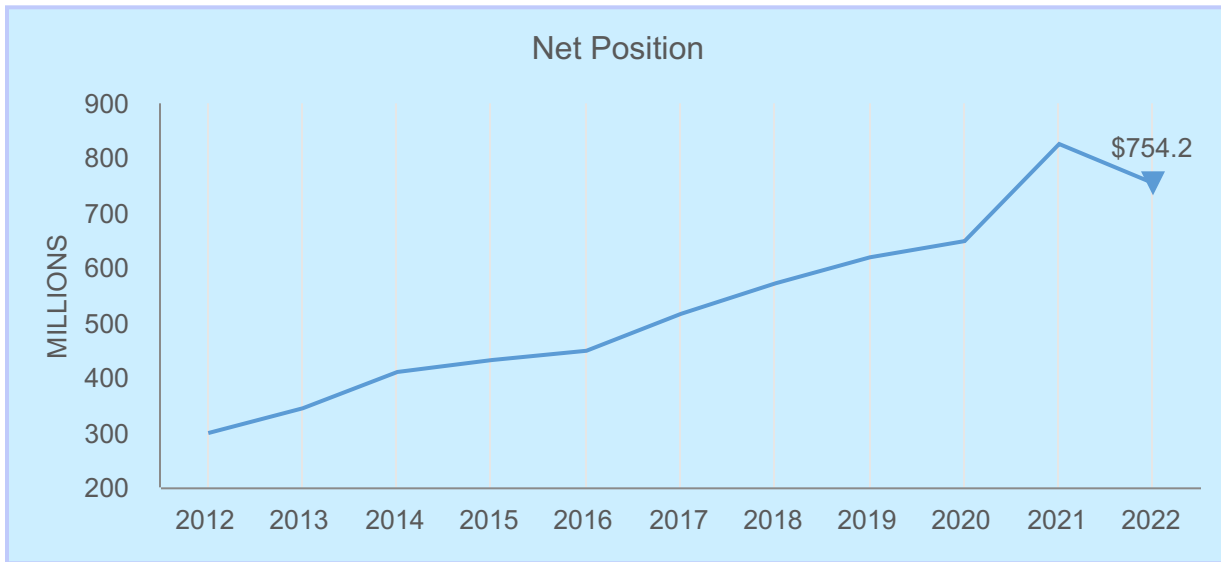
The financial statements of the Plan were prepared using the accrual basis of accounting. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan. Employee and employer contributions are recognized as revenues in the period in which employee services are performed and expenses are recorded when the corresponding liabilities are incurred, regardless of when payment is made. Investments are reported at fair value.

As of June 30, 2022, the net position was \$754.2 million, as compared to \$825.8 million at June 30, 2021. The decrease in net position of \$71.7 million can be attributable to a broad sell off in public equities and public credit across the portfolio. The market has had to digest higher real and nominal interest rates, accelerated expectations for rate hikes by the fed amid inflation pressures, and increasing recessionary concerns. While public equities and public credit have negative returns for the fiscal year, the alternatives portfolio, which consists of hedge funds, private equity and private debt, have remained positive for the fiscal year, providing nice diversification overall. The Trust has outperformed the medium public plans (All public plans greater than one billion dollars) for the fiscal year ending June 30, 2022.

	Fiscal Year*		
	<u>2022</u>	<u>2021</u>	<u>2020</u>
Contributions	\$ 41.98	\$ 40.30	\$ 39.29
Benefit payments	\$ 35.13	\$ 34.63	\$ 34.32
Contribution rates	35.80 %	35.40 %	35.40 %
# of benefit recipients	511	485	456

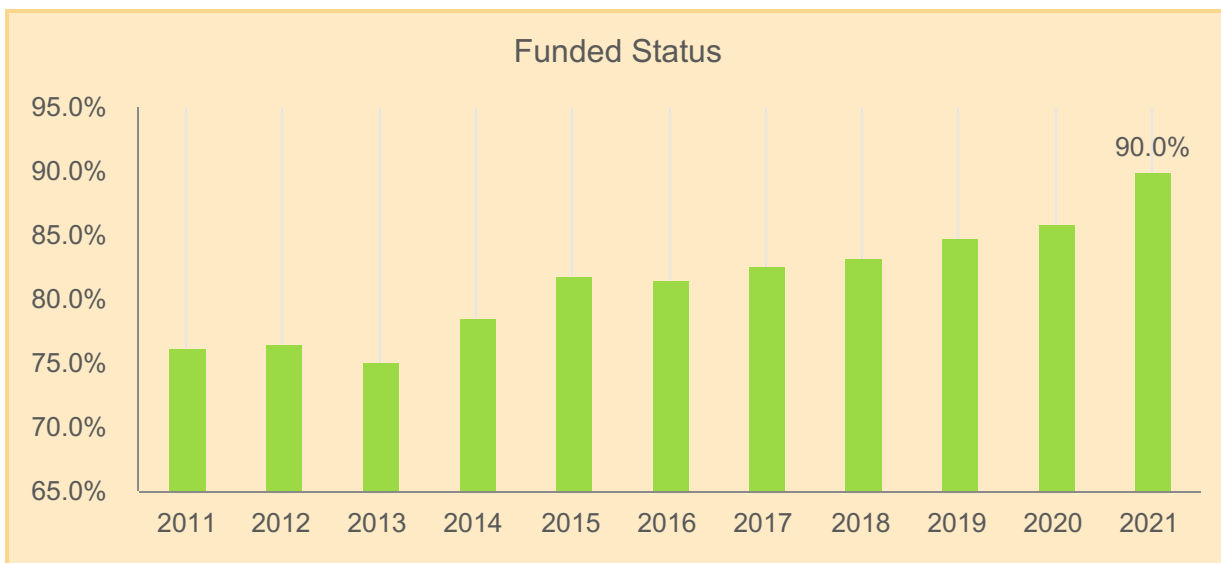
*amounts in millions

**HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
MANAGEMENT'S DISCUSSION AND ANALYSIS
JUNE 30, 2022 AND 2021**



Funded Status

The plan's funding objective is to meet long-term benefit obligations through contributions and investment income. The funding ratio, which is the actuarial value of assets divided by the actuarial accrued liability is an estimate of how well the Plan is meeting that objective. A higher ratio indicates the Plan is better funded. The funded ratio of the Plan was 90.0% and 86.0% as of July 1, 2021 and July 1, 2020, respectively.



**HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
MANAGEMENT'S DISCUSSION AND ANALYSIS
JUNE 30, 2022 AND 2021**

Overview of the Basic Financial Statements

In this financial report, the basic financial statements consist of the Statement of Fiduciary Net Position and the Statement of Changes in Fiduciary Net Position with accompanying notes as of and for the year ended June 30, 2022 with comparative information as of and for the year ended June 30, 2021 and June 30, 2020. The financial position is comprised of assets, which primarily consist of investments less liabilities, including accounts payable and investment commitments payable.

The Statement of Changes in Fiduciary Net Position presents the additions to and deductions from the Plan's net position during the year. The Plan receives contributions from participants and the County, as well as income or losses from investments and related activities. The primary deductions are the payment of benefits, which are the Plan's primary objectives. Deductions also include refunds to members who leave the Plan as well as administrative expenses.

Notes to the Basic Financial Statements

The Notes to Financial Statements contain disclosures and discussions which support the data presented in the financial statements. The notes present information about the administration of the Plan, significant accounting policies, and investments. The notes are an integral part of the financial statements and should be considered in conjunction with any review of the financial statements.

Required Supplementary Information (RSI)

The RSI section provides actuarially determined information about the Plan and displays changes for the Plan's Net Pension Liability (NPL) and related ratios, contributions related to payrolls by the Plan, and money-weighted investment returns.

**HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
MANAGEMENT'S DISCUSSION AND ANALYSIS
JUNE 30, 2022 AND 2021**

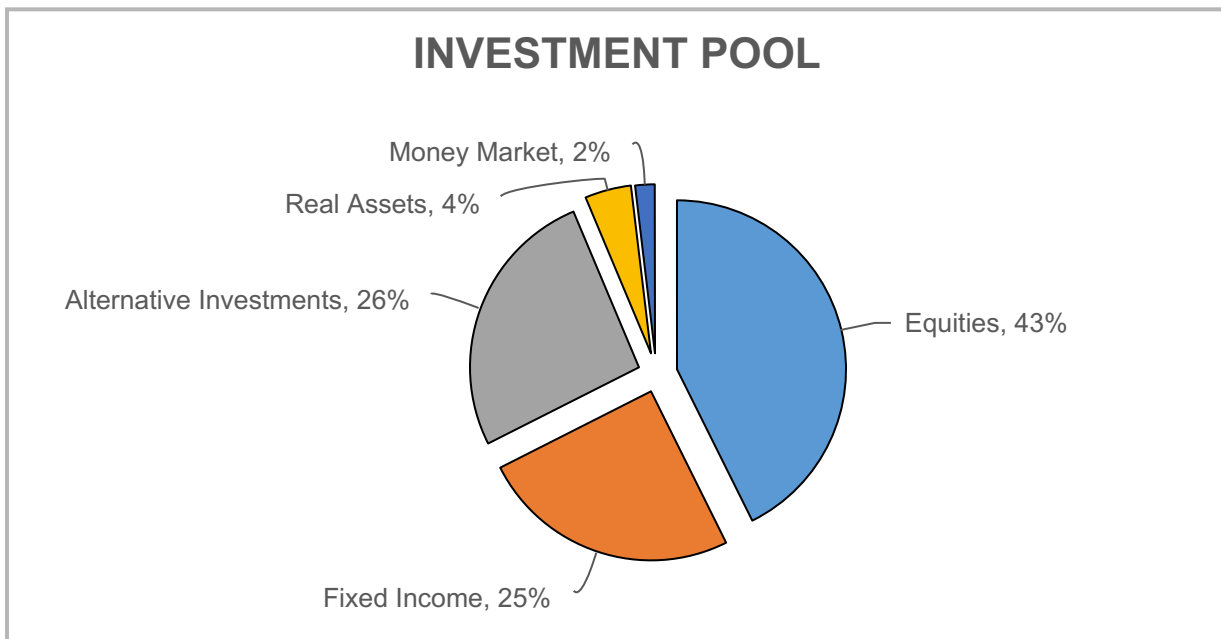
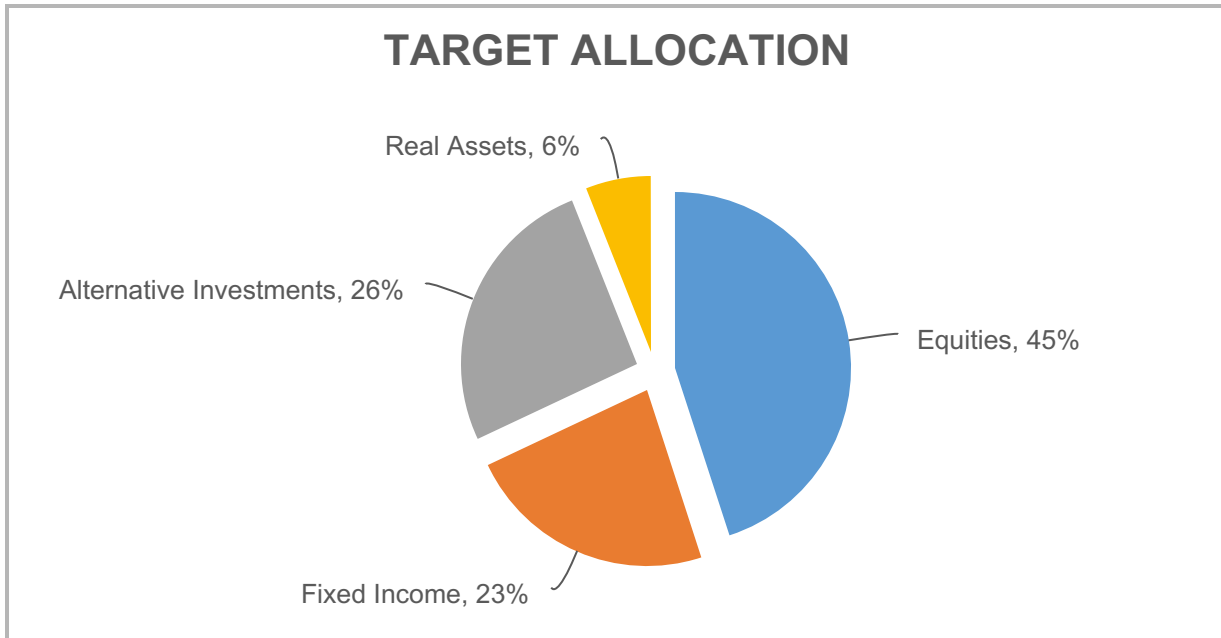
The following Condensed Statements of Fiduciary Net Position and Changes in Fiduciary Net Position present financial information for the Plan and compares fiscal years 2022, 2021, and 2020.

	2022	2021	2020	2022 Percentage Change	2021 Percentage Change
Assets					
Receivables	\$ 5,271,181	\$ 8,566,776	\$ 3,366,415	(38)%	- 154%
Investments	752,331,748	824,938,334	647,124,282	(9)%	27%
Prepaid Insurance	29,346	27,341	24,071	7%	14%
Total Assets	<u>757,632,275</u>	<u>833,532,451</u>	<u>650,514,768</u>	(9)%	28%
Liabilities					
Investment Purchased	3,173,383	7,360,135	1,184,365	(57)%	521%
Accounts Payable	301,473	338,603	453,370	(11)%	(25)%
Total Liabilities	<u>3,474,856</u>	<u>7,698,738</u>	<u>1,637,735</u>	(55)%	370%
Net Position Held in Trust for Pension Benefits	<u>\$ 754,157,419</u>	<u>\$ 825,833,713</u>	<u>\$ 648,877,033</u>	(9)%	27%
Additions					
Employer Contributions	\$ 33,225,833	\$ 31,923,458	\$ 31,105,248	4%	3%
Employee Contributions	8,749,312	8,373,851	8,183,867	4%	2%
Investment Income (Loss)	<u>(78,058,819)</u>	<u>171,694,798</u>	<u>24,964,140</u>	(145)%	588%
Total Additions	(36,083,674)	211,992,107	64,253,255	(117)%	230%
Deductions					
Benefit Payments and Refunds	35,133,855	34,634,301	34,321,194	1%	1%
Administrative Expense	458,765	401,126	413,461	14%	(3)%
Total Deductions	<u>35,592,620</u>	<u>35,035,427</u>	<u>34,734,655</u>	2%	1%
Net Change	(71,676,294)	176,956,680	29,518,600	(141)%	499%
Net Position Held in Trust for Pension Benefits:					
Beginning of Year	825,833,713	648,877,033	619,358,433	27%	5%
End of Year	<u>\$ 754,157,419</u>	<u>\$ 825,833,713</u>	<u>\$ 648,877,033</u>	(9)%	- 27%

**HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
MANAGEMENT'S DISCUSSION AND ANALYSIS
JUNE 30, 2022 AND 2021**

Investments

Investments consist of US equities (large cap and non-large cap), international equities (international developed markets and international emerging markets), fixed income, real assets, money market and alternatives (private equities and hedge funds). The Plan is a participant in a combined pension investment pool and it does not own an undivided interest in specific assets of the Pool. The investments presented by category are the Plan's proportionate share of the investments by category of the Pool that are reported at fair value.

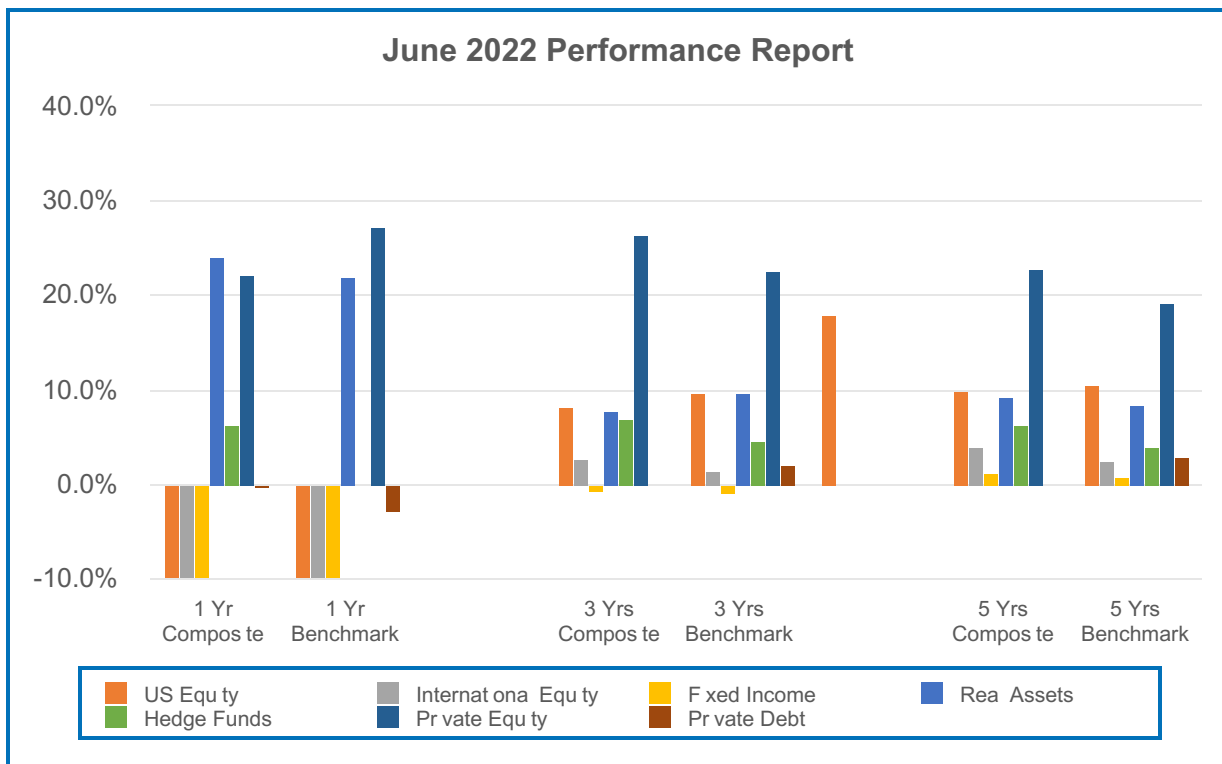


**HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
MANAGEMENT'S DISCUSSION AND ANALYSIS
JUNE 30, 2022 AND 2021**

LONG TERM EXPECTED RATE OF RETURN	
Equities	4.85 %
Fixed Income	2.46 %
Alternative Investments	6.21 %
Real Assets	4.33 %

Investment Performance Summary

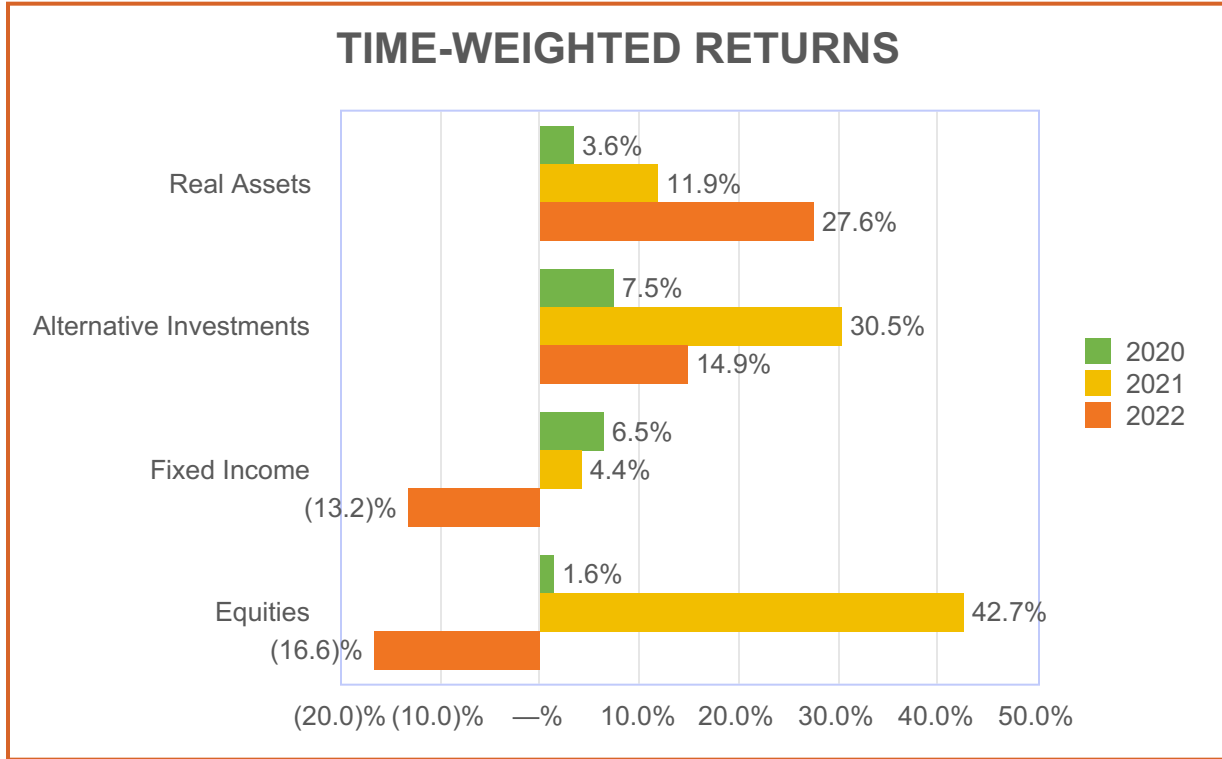
The retiree's benefit is paid from investment earnings and contributions. Displayed below is a comparison of the portfolio's returns (composite) to its policy benchmark in one year, three years and five years:



Note: The performance listed may not reflect final returns as of the date listed as private markets report investment returns on a quarter basis lag.

**HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
MANAGEMENT'S DISCUSSION AND ANALYSIS
JUNE 30, 2022 AND 2021**

The investment Pool's time-weighted returns (gross of fees) are displayed by investment type in the following table.



Additional Information

The Plan's financial statements are presented in accordance with accounting principles generally accepted in the United States of America and are available at Howard County's web page at www.howardcountymd.gov/Departments/Finance/Financial-Information/Audit-Information.

HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
STATEMENTS OF FIDUCIARY NET POSITION
JUNE 30, 2022 AND 2021

	2022	2021
ASSETS		
Receivables:		
Employer Contributions	\$ 2,230,522	\$ 2,133,167
Member Contributions	614,358	556,883
Interest and Dividends	758,225	513,893
Due from Sale of Investments	1,654,803	5,350,251
Other	13,273	12,582
Total Receivables	5,271,181	8,566,776
Investments:		
Money Market	14,165,428	13,627,183
Equities	320,942,808	366,041,127
Fixed Income	187,313,416	214,423,607
Alternative Investments	196,535,753	202,300,101
Real Assets	33,374,343	28,546,316
Total Investments	752,331,748	824,938,334
Prepaid Insurance	29,346	27,341
Total Assets	757,632,275	833,532,451
LIABILITIES		
Investment Purchases	3,173,383	7,360,135
Accounts Payable	299,118	338,603
Other	2,355	—
Total Liabilities	3,474,856	7,698,738
Fiduciary Net Position Held in Trust for Pension Benefits	\$ 754,157,419	\$ 825,833,713

See accompanying Notes to Financial Statements

**HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION
YEARS ENDED JUNE 30, 2022 AND 2021**

	<u>2022</u>	<u>2021</u>
ADDITIONS:		
CONTRIBUTIONS		
Employer	\$ 33,225,833	\$ 31,923,458
Member	<u>8,749,312</u>	<u>8,373,851</u>
Total Contributions	41,975,145	40,297,309
INVESTMENT INCOME		
Net Change in Fair Value of Investments	(101,103,296)	147,433,789
Interest	2,200,647	2,127,877
Dividends	22,476,063	23,842,241
Other, Net	<u>100,302</u>	<u>26,011</u>
Total Investment Income (Loss)	(76,326,284)	173,429,918
Less: Investment Expense	<u>1,732,535</u>	<u>1,735,120</u>
Net Investment Income (Loss)	<u>(78,058,819)</u>	<u>171,694,798</u>
Total Additions	<u>(36,083,674)</u>	<u>211,992,107</u>
DEDUCTIONS:		
BENEFITS		
Annuities	34,867,294	34,161,643
Refunds of Contributions	<u>266,561</u>	<u>472,658</u>
Total Benefits	35,133,855	34,634,301
ADMINISTRATIVE EXPENSES	<u>458,765</u>	<u>401,126</u>
Total Deductions	<u>35,592,620</u>	<u>35,035,427</u>
NET CHANGE	(71,676,294)	176,956,680
FIDUCIARY NET POSITION HELD IN TRUST FOR PENSION BENEFITS:		
Beginning of Year	<u>825,833,713</u>	<u>648,877,033</u>
End of Year	<u>\$ 754,157,419</u>	<u>\$ 825,833,713</u>

See accompanying Notes to Financial Statements.

**HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2022 AND 2021**

NOTE 1 PLAN DESCRIPTION

Plan Administration

The Howard County Police and Fire Employees' Retirement Plan (the Plan) is a single-employer defined benefit public employee retirement system established and administered by Howard County (the County), Maryland, to provide defined pension benefits for career firefighters and sworn police officers. The Plan is considered part of the County's financial reporting entity and is included in the County's financial statements as a pension trust fund. The accompanying financial statements present only the operations of the Plan and are not intended to present the financial position and results of operations of the County.

Plan Membership

At July 1, 2021 and 2020, the Plan's membership consisted of the following:

	2021	2020
Active	968	947
Retired and Beneficiaries	451	430
Disabled	35	35
Terminated Vested	24	26
Total	1,478	1,438

The Plan was established, is operated, and may be amended under the provisions of Sections 1.400 and 1.401A to 1.478A of the Howard County Code. All of the County's full-time career firefighters and sworn police officers are eligible to participate in the Plan. The Retirement Plan Committee established by Howard County Code Section 1.455A has full power and authority to administer and operate the Plan in accordance with its terms and in particular the authority contained in subsection 1.454A. The Pension Oversight Commission established by Howard County Code, Section 1.482 provides ongoing assessment and evaluation of the Plan's operations.

Benefits Provided

All of the County's full-time career police and fire officers hired on or after July 1, 1990 must enroll in the Police and Fire Plan. The Plan provides retirement benefits as well as death and disability benefits and cost-of-living adjustments.

Participants become vested after 5 years of eligibility service and are entitled to a benefit beginning at age 62. Terminated vested employees with less than 20 years of service will receive a benefit equal to 2.5% of average compensation times the number of years of creditable service, payable at age 62. If an employee leaves employment or dies before 5 years of eligibility service, accumulated employee contributions plus interest are refunded to the employee or the designated beneficiary. A participant who becomes totally and permanently disabled may retire prior to normal retirement and receive a benefit. Both disability and death benefits vary if incurred in the line of duty.

HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2022 AND 2021

NOTE 1 PLAN DESCRIPTION (CONTINUED)

Benefits Provided (Continued)

Employees who attain the age of 62 with at least 5 years of eligibility service and employees who have completed 20 years of eligibility service, if at least 10 years were served as a covered employee, are entitled to a normal retirement benefit. The amount will vary, based on the number of years of creditable service, from 50% (with 20 years of service) to 80% (with 30 years of service) of average compensation for police; and from 50% (with 20 years of service) to 70% (with 30 years of service) of average compensation for firefighters.

Benefits in pay status are adjusted annually for a post retirement cost of living adjustment (COLA). The Plan uses the Consumer Price Index (CPI-U) for the Baltimore-Columbia-Towson area as published by the Bureau of Labor Statistics to calculate the change in retiree allowances each July. The maximum annual COLA is 2%.

Contributions

The Plan is authorized to establish or amend the obligations to make contributions under the provisions of the Howard County Code, Sections 1.423A and 1.465A. The Plan's funding policy provides for periodic employer contributions at actuarially determined rates that, expressed as percentages of annual covered payroll, are sufficient to accumulate adequate assets to pay benefits when due. Participant contributions are 11.6% of base pay for participating Police Department Employees and 7.7% of base pay for participating Fire and Rescue Department Employees. The County funds the remainder of the cost of employees' participation in the Plan, which was 35.8% of covered payroll in fiscal year 2022 and 35.4% in 2021. The County contribution to the Plan is determined through an actuarial valuation performed by Bolton Partners, Inc. for each fiscal year. In fiscal year 2021, the County contribution to the Plan was in excess of the actuarially determined contribution. This increase in contribution was adopted in order to maintain stability from year to year. Expenses incurred in the administration and operation of the Plan are funded by the Plan.

NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND PLAN ASSET MATTERS

Method Used to Value Investments

The Plan's investments are maintained in a combined investment pool. The Plan does not own an undivided interest in specific assets of the Pool. The investments presented by category are the Plan's proportionate share of the investments by category of the Pool and are reported at fair value. Short-term investments such as money market investments are reported at amortized cost, which approximates fair value. Securities traded on a national or international exchanges are valued at the last reported sales price at current exchange rates. Securities that do not have an established market are reported at estimated fair value derived from third-party pricing services. Purchases and sales of investments are recorded on a trade date basis. The fair values of real estate investments are based on net asset values (NAV) provided by the investment managers. The fair value of non-pooled investments is determined annually and is based on current market prices. The fair value of investments in open-end mutual funds is determined based on the fund's current share price.

HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2022 AND 2021

**NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND PLAN ASSET MATTERS
(CONTINUED)**

Method Used to Value Investments (Continued)

The Plan invests in assets measured at NAV and include private equity, private credit, hedge funds, real assets and real estate funds funds, which are collectively considered alternative investments. Alternative investments include interests in limited partnerships and limited liability companies invested in venture capital, private equities, and other investments. These investments are recorded based on net asset value amounts established by the respective fund managers as a practical approximation of fair value. Because alternative investments are not readily marketable, the estimated value is subject to uncertainty and, therefore, may differ materially from the amount reported.

Basis of Accounting

The Plan's financial statements are prepared using the accrual basis of accounting. Employer and employee contributions are recognized as revenue in the period in which employee services are performed and expenses and refunds are recorded when the corresponding liabilities are incurred, regardless of when payment is made. Benefits are due and payable in accordance with the benefit terms.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates that affect the reported amounts in the financial statements and accompanying notes. Actual results could differ from those estimates.

Income Taxes

The Internal Revenue Service issued a determination letter on September 28, 2016, which stated that the Plan and its underlying trust qualify under the applicable provisions of the Internal Revenue Code and therefore are exempt from Federal income taxes.

NOTE 3 INVESTMENTS

Investment Policy

The Plan's policy in regard to the allocation of invested assets is established and administered by the Retirement Plan Committee. Specific investment goals stated in the policy are reviewed at least annually and, when appropriate, new goals and standards are adopted by the Retirement Plan Committee. The policy is expected to provide diversification of assets in an effort to maximize investment return to the Plan consistent with prudent market and economic risk. All of the Plan's assets are to remain invested at all times in the asset classes as designated by the policy.

**HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2022 AND 2021**

NOTE 3 INVESTMENTS (CONTINUED)

Investment Policy (Continued)

The following strategic asset allocation policy was adopted by the Plan on March 21, 2002, last amended on April 29, 2021 and remained in effect as of June 30, 2022:

<u>Asset Class</u>	<u>Target Allocation</u>
Equities	45.0 %
Fixed Income	23.0
Alternative Investments	26.0
Real Assets	6.0
Total	<u>100.0 %</u>

Concentrations - Fiscal Year 2022

The Plan held investments in the following organizations that represent 5% or more of the pension plan's fiduciary net position: Baillie Gifford (5%), BlackRock (8%), Blackstone (5%), Dodge and Cox (6%), LSV (7%), Magnitude (5%), Mondrian (5%), PIMCO (6%), and Westfield (7%).

Concentrations - Fiscal Year 2021

The Plan held investments in the following organizations that represent 5% or more of the pension plan's fiduciary net position: Baillie Gifford (5%), BlackRock (8%), Blackstone (5%), Dodge and Cox (9%), LSV (7%), Magnitude (5%), Mondrian (5%), PIMCO (9%), and Westfield (9%).

Risks and Uncertainties

The Plan invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market, foreign currency and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the amounts reported in the statements of fiduciary net position.

HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2022 AND 2021

NOTE 3 INVESTMENTS (CONTINUED)

Risks and Uncertainties (Continued)

Interest Rate Risk

The Plan's investment policy does not place any limits on the professional investment managers with respect to the duration of investments for the Plan. The Plan's fixed income investments by maturity and type at June 30, 2022 were as follows:

Investment Type	Fair Value/ NAV	Weighted Average Maturity (in Years)
Corporate Bonds	\$ 17,028,348	14.24
U.S. Government - Sponsored Enterprises	12,445,366	25.29
Government Issued/Treasuries	44,200,412	12.79
Other Asset-Backed Securities	2,433,549	20.23
Collateralized Mortgage Obligations	3,695,797	43.84
Municipal Securities	741,795	15.33
Interest Rate Swap	(210,139)	4.79
Commingled Funds and Preferred Stock Identified as Fixed Income for Reporting Purposes*	106,978,288	Not Applicable
Total	<u>\$ 187,313,416</u>	
Portfolio Weighted Average Maturity of Available		16.73

*Including invested cash collateral of \$266,432.

The Plan's fixed income investments by maturity and type at June 30, 2021 were as follows:

Investment Type	Fair Value/ NAV	Weighted Average Maturity (in Years)
Corporate Bonds	\$ 26,799,984	14.15
U.S. Government - Sponsored Enterprises	19,404,251	26.00
Government Issued/Treasuries	14,101,236	6.64
Other Asset-Backed Securities	3,082,150	21.12
Collateralized Mortgage Obligations	4,784,028	44.26
Municipal Securities	1,180,071	14.74
Commingled Funds and Preferred Stock Identified as Fixed Income for Reporting Purposes	145,071,887	Not Applicable
Total	<u>\$ 214,423,607</u>	
Portfolio Weighted Average Maturity of Available		25.61

**HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2022 AND 2021**

NOTE 3 INVESTMENTS (CONTINUED)

Risks and Uncertainties (Continued)

Credit Risk

The demand deposit accounts (DDA's) held by State Street Bank are unrated, as are the mutual funds used by the plan. At fiscal year-end, the Plan's fixed income investments had the following risk characteristics in Fiscal Years 2022 and 2021:

Standard & Poor's Rating or Comparable	Fiscal Year 2022 Fair Value
AA to A-	\$ 4,930,814
BBB to BB-	15,272,879
Not Rated	167,109,723
Total	\$ 187,313,416

Standard & Poor's Rating or Comparable	Fiscal Year 2021 Fair Value
AA to A-	\$ 6,737,962
BBB to BB-	24,168,497
Not Rated	183,517,148
Total	\$ 214,423,607

Concentration of Credit Risk

The Plan's investment policy does not establish any limitation on the percentage that the Plan may have with any one issuer, other than to state that the Plan's assets are to be diversified in accordance with Modern Portfolio Theory. At June 30, 2022 and June 30, 2021, the Plan's investments did not exceed 5% with any one issuer other than as identified on page 16.

Custodial Credit Risk

State Street Bank invests in interest bearing DDA's in the name of the Plan for all accounts and pays interest equal to the effective Federal Funds rate, which is included in money markets on the Statements of Fiduciary Net Position. At fiscal year-end, the amount in this fund at amortized cost which approximates fair value was \$14,165,428 which was partially used for settlement of open purchases of \$3,173,383. All other investments of the fund are held by State Street Bank as trustee in the Plan's name.

Credit Risk - Currency Forward Contract , Futures and Options

One of the Plan's investment objectives is to diversify assets in accordance with the Modern Portfolio Theory (MPT) in order to reduce overall risk. Consistent with this objective, the Plan invested in some funds that hold currency forward- contracts and invest in futures and options. The Plan's share of unrealized gain from currency forward contracts was \$61,343 and from futures and options was \$1,711 and \$433, respectively for the fiscal year.

HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2022 AND 2021

NOTE 3 INVESTMENTS (CONTINUED)

Risks and Uncertainties (Continued)

Derivatives - Interest Rate Swaps

In accordance with the investment policy, during FY22, the fixed income manager invested in interest rate swaps which are forward contracts between two parties to exchange or swap one stream of interest payments for another, over a set period of time. Interest rate swaps can exchange fixed or floating rates in order to reduce or increase exposure to fluctuations in interest rates. The following table represents the balances relating to interest rate swaps and the related cash collaterals at June 30, 2022:

<u>Type</u>	<u>Objective</u>	<u>Notional Amount</u>	<u>Maturity Date</u>	<u>Terms</u>	<u>Base Market Value</u>	<u>Counterparty Credit Rating</u>
Interest Rate Swap	Interest rate exposure and hedging	899,433	10/23/53	Receive 12M SOFR, Pay 1.75%	914,787	Not rated
Interest Rate Swap	Interest rate exposure and hedging	(914,787)	10/23/53	Receive 12M SOFR, Pay 1.75%	(769,083)	Not rated
Interest Rate Swap	Interest rate exposure and hedging	4,469,238	10/23/28	Receive 1.60%, Pay 12M SOFR	4,244,187	Not rated
Interest Rate Swap	Interest rate exposure and hedging	(4,459,589)	10/23/28	Receive 1.60%, Pay 12M SOFR	(4,459,589)	Not rated
Interest Rate Swap	Interest rate exposure and hedging	(800,439)	06/15/52	Receive 1.75%, Pay 12M SOFR	(800,439)	Not rated
Interest Rate Swap	Interest rate exposure and hedging	657,714	06/15/52	Receive 1.75%, Pay 12M SOFR	659,996	Not rated
Cash collateral *	Cash backing for derivative positions	266,432			266,432	

* Cash collateral for \$99,483 was invested in futures.

Foreign Currency Risk

The Plan's exposure to foreign currency risk derives from its investments in foreign currency or instruments denominated in foreign currency. Investments in such securities are limited to a maximum net currency exposure of 36.5% at any given time. These pool of assets may also include hedged assets, therefore, reducing the overall currency risk. The Plan was exposed to foreign currency risk through the Pools investment in Euro denominated alternative investments. The Pool total of these investments was \$15,970,464 and \$21,246,284 at June 30, 2022 and June 30, 2021, respectively. The Plan's proportionate share was \$9,130,987 and \$12,081,586 at June 30, 2022 and June 30, 2021, respectively.

HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2022 AND 2021

NOTE 3 INVESTMENTS (CONTINUED)

Rate of Return

For the fiscal years ended June 30, 2022 and June 30, 2021, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, were -8.5% and 25.9%, respectively. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amount actually invested.

Investments Purchased and Due from Sales of Investments

Investment transactions are recorded on a trade plus three days or less timetable resulting in an amount due to and due from State Street Bank (the "Plan's Trustee") at year-end.

NOTE 4 FAIR VALUE MEASUREMENT

The Plan investments are reported at fair value. The Plan categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles, as follows:

- *Level 1* – Inputs to the valuation methodology are unadjusted quoted prices for identical assets or liabilities in active markets that the Plan has the ability to access.
- *Level 2* – Inputs to the valuation methodology include: quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in inactive markets; inputs other than quoted prices that are observable for the asset or liability; inputs that are derived principally from or corroborated by observable market data by correlation of other means. If the asset or liability has a specified (contractual) term, the Level 2 input must be observable for substantially the full term of the asset or liability.
- *Level 3* – Inputs to the valuation methodology are unobservable and significant to the fair value measurement.

HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2022 AND 2021

NOTE 4 FAIR VALUE MEASUREMENT (CONTINUED)

The assets or liabilities fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques used need to maximize the use of observable inputs and minimize the use of unobservable inputs. The table below reflects the Plan's proportionate share of the Pool's investments by type and fair value hierarchy established by accounting principles generally accepted in the United States of America as of June 30:

	June 30, 2022	Markets for Identical Assets (Level 1)	Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments by Fair Value Level				
Debt Securities:				
Collateralized Mortgage Obligations				
(Fannie Mae and Freddie Mac and GNMA)	\$ 3,695,797	\$ —	\$ 3,695,797	\$ —
Corporate Bonds	17,028,348	—	17,028,348	—
Commingled Funds (Fixed Income)	57,780,523	29,610,312	28,170,211	—
FHLMC and FNMA Bonds	12,445,366	—	12,445,366	—
U.S. Treasury Securities	44,200,412	—	44,200,412	—
Short term fixed income securities	5,617,094	—	5,617,094	—
Municipal Bonds	741,795	—	741,795	—
Other Asset Backed Securities	2,433,549	—	2,433,549	—
Preferred Stock	642,021	642,021	—	—
Total Debt Securities	<u>144,584,905</u>	<u>30,252,333</u>	<u>114,332,572</u>	<u>—</u>
Equity Securities:				
Common Stocks	201,442,182	201,442,182	—	—
Emerging Market Equity Portfolio	57,362,444	57,362,444	—	—
Real Estate Investment Trusts (REITS)	1,201,410	1,201,410	—	—
Total Equity Securities	<u>260,006,036</u>	<u>260,006,036</u>	<u>—</u>	<u>—</u>
Total Investment by Fair Value Level	404,590,941	<u>\$ 290,258,369</u>	<u>\$ 114,332,572</u>	<u>\$ —</u>
Investments Measured at the Net Asset Value (NAV):				
Private Equity Funds	117,869,087			
Private Credit Funds	6,485,854			
Hedge Funds	72,180,811			
Real Assets Funds	33,374,343			
International Equity Funds	39,285,728			
Commingled Fund within International Equities	21,651,044			
Commingled Fund within International fixed Income	28,602,352			
Commingled Fund within domestic fixed Income	14,069,867			
Total Investments Measured at the NAV	<u>333,519,086</u>			
Total Investments Measured at Fair Value*	<u>\$ 738,110,027</u>			

*Net of money market funds totaling \$14,165,428 which includes securities that have maturities of less than one year and may be measured at amortized cost.

**HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2022 AND 2021**

Investments Measured at Fair Value

	<u>June 30, 2022</u>	<u>Fair Value Measurement Using</u>		
		<u>Quoted Prices in Active Markets for Identical Assets (Level 1)</u>	<u>Significant Other Observable Inputs (Level 2)</u>	<u>Significant Unobservable Inputs (Level 3)</u>
Investments Derivative Instruments				
Interest Rate Swap - Long	5,818,971		5,818,971	
Interest Rate Swap - Short	(6,029,110)		(6,029,110)	
Futures - Cash Collateral	266,432		266,432	
Total Investments Derivative Instruments	<u>\$ 56,293</u>		<u>\$ 56,293</u>	

**HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2022 AND 2021**

NOTE 4 FAIR VALUE MEASUREMENT (CONTINUED)

	June 30, 2021	Fair Value Measurement Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Other Observable Inputs (Level 2)	Significant Unobservabl Inputs (Level 3)
Investments by Fair Value Level				
Debt Securities:				
Collateralized Mortgage Obligations (Fannie Mae and Freddie Mac and GNMA)	\$ 4,784,028	\$ —	\$ 4,784,028	\$ —
Corporate Bonds	26,799,985	—	26,799,985	—
Commingled Funds (Fixed Income)	102,496,736	28,059,986	74,436,750	—
FHLMC and FNMA Bonds	19,404,251	—	19,404,251	—
U.S. Treasury Securities	14,101,236	—	14,101,236	—
Municipal Bonds	1,180,071	—	1,180,071	—
Other Asset Backed Securities	3,082,150	—	3,082,150	—
Preferred Stock	664,751	664,751	—	—
Total Debt Securities	172,513,208	28,724,737	143,788,471	—
Equity Securities:				
Common Stocks	215,286,871	215,286,871	—	—
Small Company Portfolio	11,260,112	11,260,112	—	—
Emerging Market Equity Portfolio	67,550,886	67,550,886	—	—
Real Estate Investment Trusts (REITS)	1,537,648	1,537,648	—	—
Total Equity Securities	295,635,517	295,635,517	—	—
Total Investment by Fair Value Level	468,148,725	324,360,254	143,788,471	—
Investments Measured at the Net Asset Value (NAV):				
Private Equity Funds	120,903,277			
Private Credit Funds	2,353,250			
Hedge Funds	79,043,574			
Real Assets Funds	28,546,316			
International Equity Funds	44,162,624			
Commingled Fund within International Equities	26,242,986			
Commingled Fund within International Fixed Income	27,150,015			
Commingled Fund within Domestic Fixed Income	14,760,384			
Total Investments Measured at the NAV	343,162,426			
Total investments Measured at Fair Value*	\$ 811,311,151			

* Net of money market funds totaling \$13,627,183, which includes securities that have remaining maturities of less than 1 year and may be measured at amortized cost.

HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2022 AND 2021

NOTE 4 FAIR VALUE MEASUREMENT (CONTINUED)

Debt and equity securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities. Debt securities classified in Level 2 of the fair value hierarchy refers to securities not traded on an active market but for which observable market inputs are readily available. Fixed income securities are priced on a daily basis, market to market, using a variety of third-party pricing sources, market data and methodologies.

The valuation method for investments measured at the net asset value (NAV) per share (or its equivalent) is presented on the following table:

	Fair Value	Unfunded Commitment	Redempt on Frequency (f Current y E g b e)	Redempt Not ce Per od
Private Equity Funds	\$117,869,087	\$27,641,594	I qu d	N/A
Private Credit Funds	6,485,854	7,861,454	I qu d	N/A
Hedge Fund 1	37,228,243	—	Quarter y	65 days
Hedge Fund 2	34,952,568	—	Sem	95 days
Real Assets Funds	33,374,343	12,038,138	I qu d	N/A
International Equity Funds	39,285,728	—	Month y	15 days
Commingled Fund within International Equities	21,651,044	—	Week y	3 days
Commingled Fund within International Fixed Income	28,602,352	—	B -month y	5 days
Commingled Fund within Domestic Fixed Income	14,069,867	—	Da y	1 day
Total	<u>\$333,519,086</u>			

1. Private Equity Funds: Private equity investment strategies include buyout, venture capital, growth capital, and special situations. Investments in the asset class are achieved primarily through commingled funds and may also include direct and co-investment opportunities. The objective of the asset class is to provide high long-term returns. Exposures are diversified by manager, region, strategy, and vintage year. Private equity investments are illiquid and distributions are received over the life of the investments, which can range between 10 and 15 years. These investments do not have set redemption schedules therefore options for exit are limited to sale on the secondary market. Capital commitments are made to these types of investments and funds are invested through a call down structure.
2. Commingled Fund within Private Credit: This strategy will focus on identifying market dislocations and credit-intensive assets, specifically in loan portfolios, corporate securities, structured credit, hard assets and special opportunities. The objective of the fund is to return a 1.5-1.7X multiple and a net IRR of 15% over the life of the fund, which can range between 6 and 8 years. The fund employs a flexible and opportunistic mandate allowing for investments in an assortment of securities which allows it to remain an active investor in a variety of transactions irrespective of market conditions and geographies. The fair value of the partnership interest is based on NAV provided by the General Partner. The partnership's financial statements are audited annually as of December 31 and the NAV is adjusted quarterly by additional contributions to and distributions from the partnership, the net earnings and losses, and unrealized gains and losses resulting from changes in fair value, as determined by the General Partner.

HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2022 AND 2021

NOTE 4. FAIR VALUE MEASUREMENT (CONTINUED)

3. Hedge Funds: This represents investments in two Hedge FOF managers. Each FOF manager invests in underlying hedge funds to provide a broadly diversified portfolio. One invests with 10-20 underlying managers/funds to execute its global market strategy. The other invests in 20-40 underlying managers/funds in a relative value mandate. The hedge fund strategy is designed to diversify by manager/fund to reduce single manager/fund risk while offering portfolio diversification and provide a return profile that is uncorrelated to the rest of the assets in the portfolio. The fair values of the investments are determined using the NAV per share (or its equivalent) of the investments. These funds have liquidity restrictions of 3 to 6 months.
4. Real Asset Funds: This represents funds that invest in institutional real estate (office, multi-family, industrial, and retail), natural resources and infrastructure strategies. The fair values of the investments in these strategies are determined using the NAV per share (or its equivalent) of the Plan's ownership interest in partnership's capital. The real estate strategies deployed include a U.S. focused property strategy (core to core plus) and a global FOF strategy. The global FOF manager invests across Directs, Primaries, and Secondaries. The natural resources investments are through FOF strategies and may invest in 10-25 underlying relationships as they build a diversified portfolio with exposure to oil, natural gas, agriculture, timber, and other natural resources. The infrastructure managers will invest in direct portfolio companies in communications, transportations, and energy transition sectors. Capital commitments are made to these types of investments and funds are invested through a call down structure. These funds have liquidity restrictions for the life of the investment, 7-10 years. Options for exit are limited to sale on the secondary market.
5. International Equity Funds: This represents investments primarily in value oriented equity securities of international developed markets (non-U.S. issuers; e.g., MSCI EAFE) with the objective of achieving a long-term return above a passive benchmark (EAFE). This manager focuses on a dividend discount model value based philosophy for publicly traded equity. All securities are recorded at fair value. Foreign securities are valued on the basis of quotations from the primary market in which they are traded and translated at each valuation date from the local currency into U.S. dollars using current exchange rates. The Fund may enter into forward foreign currency exchange contracts primarily to hedge against foreign currency exchange rate risks on its non-U.S. dollar-denominated investment securities.
6. Commingled Fund within International Equities: This represents investments made in predominantly listed large and mega capitalization securities in emerging markets. The objective of this fund is to achieve a long-term return above a passive benchmark (e.g. MSCI EM Index). The manager employs a flexible research intensive investment approach to own high quality businesses over the long term. NAVs are normally calculated as of 4:00pm Eastern Time for each business day the relevant exchange is open. Securities for which market quotations are readily available and reliable are to be valued using the applicable market quotations.

HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2022 AND 2021

NOTE 4 FAIR VALUE MEASUREMENT (CONTINUED)

7. Commingled Fund within International Fixed Income: This represents investments primarily in a globally diversified portfolio of high quality sovereign bonds and currencies in emerging markets (non-U.S. issuers; e.g. MSCI EM). The objective of this fund is to generate income, preserve capital, and enhance principal above a passive benchmark (JP Morgan GBI-EM Global Diversified Index). NAV for the Fund is only calculated twice a month on the last business day and the 15th (or next business day if the 15th is a non-business day). The ownership interest is only in the units of the Fund, not the underlying holding or securities of the Fund.
8. Commingled Fund within Domestic Fixed Income: The Strategy is managed using an "indexing" investment approach by which the manager attempts to approximate, before expenses, the performance of the Index (e.g. Bloomberg Barclays U.S. Treasury Inflation Protected Securities Index) over the long term. The manager expects that it will typically seek to replicate Index returns for the Portfolio through investments in the "cash" markets – actual holdings of debt securities and other instruments – rather than through "notional" or "synthetic" positions achieved through the use of derivatives, such as futures contracts or swap transactions (except in the unusual case where the manager believes that use of derivatives is necessary to achieve an exposure that is not readily available through the cash markets). NAVs are normally calculated as of 4:00pm Eastern Time for each business day the relevant exchange is open. Securities for which market quotations are readily available and reliable are to be valued using the applicable market quotations.

NOTE 5 DEFERRED RETIREMENT OPTION PROGRAM

The Plan offers a program called Deferred Retirement Option Plan (DROP). This is a voluntary benefit program which offers qualified active Participants, who would be entitled to retire and receive benefits, the option to continue working. An individual DROP record is created and is credited with the monthly retirement benefits that would have been paid during the DROP period had the participant actually retired. The record is also credited with the required employee contributions and interest. The DROP record is paid to the employee, in addition to the benefit payment entitled under the defined benefit plan based on the earlier years of service, when the employee eventually retires. Participating members may elect distribution as one lump sum payment, a rollover or in monthly payments. The balance held by the Plan as of June 30, 2022 and 2021 was \$18,069,639 and \$16,267,540, respectively.

**HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2022 AND 2021**

NOTE 6 NET PENSION LIABILITY OF THE COUNTY

The components of the net pension liability of the County at June 30 were as follows:

	2022	2021
Total Pension Liability	\$884,799,952	\$ 828,261,117
Plan Fiduciary Net Position	(754,157,419)	(825,833,713)
County's Net Pension Liability	\$130,642,533	\$ 2,427,404
 Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	85.23 %	99.71 %

Actuarial Assumptions

The total pension liability in the July 1, 2021 actuarial valuation rolled forward to June 30, 2022 was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.60%
Salary Increases	Varies by service, 4.25% to 7.75%, including inflation
Investment Rate of Return	7.25%, net of pension plan investment expense, including inflation
Mortality	RP-2014 Combined Healthy Tables with generational projection from 2006 base year using scale MP-2017

The actuarial assumptions used in this valuation, for GASB 67 purposes, were generally based on the 2018 Experience Study covering the period from July 1, 2013 through June 30, 2017. Economic assumptions and the demographic assumptions were updated to reflect the 2013-2017 experience study.

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 by adding expected inflation. The target allocation and estimate of arithmetic real rates of return for each major asset class are reviewed no less frequently than every four years.

HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2022 AND 2021

NOTE 6 NET PENSION LIABILITY OF THE COUNTY (CONTINUED)

Best estimates of geometric real rates of return for each major asset class, included in the Plan's target allocation as of June 30, 2022 (see Note 3), are summarized in the following table:

<u>Asset Class</u>	<u>Long-Term Expected Real Rate of Return</u>
Equities	4.85%
Fixed Income	2.46%
Alternative Investments	6.21%
Real Assets	4.33%

Discount Rate

The discount rate used to measure the total pension liability was 7.25%. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate and that the County contributions will be made at rates equal to the difference between total actuarially determined contribution rates and the employee rate. Based on those assumptions, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore, the 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.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

As of June 30, 2022

The following presents the net pension liability of the County, calculated using the discount rate of 7.25%, as well as what the County's net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.25%) or 1 percentage point higher (8.25%) than the current rate:

	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
County's Net Pension Liability	<u>\$ 257,066,143</u>	<u>\$ 130,642,533</u>	<u>\$ 27,342,556</u>

As of June 30, 2021

The following presents the net pension liability of the County, calculated using the discount rate of 7.35%, as well as what the County's net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.35%) or 1 percentage point higher (8.35%) than the current rate:

	1% Decrease (6.35%)	Current Discount Rate (7.35%)	1% Increase (8.35%)
County's Net Pension Liability	<u>\$ 120,397,232</u>	<u>\$ 2,427,404</u>	<u>\$ (94,030,316)</u>

**HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF CHANGES IN THE COUNTY'S NET PENSION LIABILITY AND RELATED RATIO
(DOLLAR AMOUNTS IN THOUSANDS)
LAST 10 FISCAL YEARS
(SEE INDEPENDENT AUDITORS' REPORT)**

	2022	2021	2020	2019	2018	2017	2016	2015	2014*
TOTAL PENSION LIABILITY									
Service Cost	\$ 25,875	24,446	23,123	22,278	21,109	19,163	18,974	17,708	17,535
Interest	58,775	56,037	53,578	50,713	46,900	43,426	39,998	36,208	33,630
Changes of Benefit Terms	—	—	—	—	—	—	(1,705)	—	—
Differences Between Expected and Actual Experience	(3,780)	(2,382)	(8,607)	(2,667)	13,530	6,319	7,599	(1,596)	—
Changes of Assumptions	10,802	5,066	4,770	3,936	—	—	—	16,621	14,989
Benefit Payments, Including Refunds of Member Contributions	(35,133)	(34,634)	(34,320)	(27,572)	(24,755)	(20,422)	(17,890)	(18,941)	(15,679)
Net Change in Total Pension Liability	56,539	48,533	38,544	46,688	56,784	48,486	46,976	50,000	50,475
Total Pension Liability - Beginning	828,261	779,728	741,184	694,496	637,712	589,226	542,250	492,250	441,775
Total Pension Liability - Ending (a)	884,800	828,261	779,728	741,184	694,496	637,712	589,226	542,250	492,250
PLAN FIDUCIARY NET POSITION									
Contributions - Employer	\$ 33,226	31,923	31,105	27,720	26,337	24,729	21,636	22,530	20,822
Contributions - Member	8,749	8,374	8,184	8,125	7,859	7,387	7,041	7,006	6,526
Net Investment Income	(78,059)	171,695	24,964	39,639	46,560	55,956	6,459	11,531	54,733
Benefit Payments, Including Refunds of Member Contributions	(35,134)	(34,634)	(34,321)	(27,571)	(24,755)	(20,421)	(17,889)	(18,941)	(15,679)
Administrative Expense	(459)	(401)	(413)	(457)	(355)	(344)	(327)	(368)	(271)
Net Change in Plan Fiduciary Net Position	(71,677)	176,957	29,519	47,456	55,646	67,307	16,920	21,758	66,131
Plan Fiduciary Net Position - Beginning	825,834	648,877	619,358	571,902	516,256	448,949	432,029	410,271	344,140
Plan Fiduciary Net Position - Ending (b)	\$ 754,157	825,834	648,877	619,358	571,902	516,256	448,949	432,029	410,271
County's Net Pension Liability - Ending (a)-(b)	\$ 130,643	2,427	130,851	121,826	122,594	121,456	140,277	110,221	81,979
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	85.23 %	99.71 %	83.22 %	83.56 %	82.35 %	80.95 %	76.19 %	79.67 %	83.35 %
Covered Payroll	\$ 92,810	90,179	87,868	83,746	81,037	80,814	72,121	70,406	67,169
County's Net Pension Liability as a Percentage of Covered Payroll	140.76 %	2.69 %	148.92 %	145.47 %	151.28 %	150.29 %	194.50 %	156.55 %	122.05 %
Expected Average Remaining Service Years of all Participants	9	9	9	9	9	9	10	10	9

* Information for FY2013 and Earlier is not Available.

Notes to Schedule:

Benefit changes. None.

Changes of Assumptions. The valuation interest rate assumption changed From 7.35% to 7.25%

**HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF COUNTY CONTRIBUTIONS
(DOLLAR AMOUNTS IN THOUSANDS)
LAST 10 FISCAL YEARS
(SEE INDEPENDENT AUDITORS' REPORT)**

	2022	2021	2020	2019	2018	2017	2016	2015	2014*
Actuarially Determined Contribution	\$ 33,226	30,841	31,105	27,720	26,337	24,729	21,636	22,530	20,822
Contributions in Relation to the Actuarially Determined Contribution	33,226	31,923	31,105	27,720	26,337	24,729	21,636	22,530	20,822
Contribution Deficiency (Excess)	\$ —	(1,082)	—	—	—	—	—	—	—
Covered Payroll	\$ 92,810	90,179	87,868	83,746	81,037	80,814	72,121	70,406	67,169
Contributions as a Percentage of Covered Payroll	35.80 %	35.40 %	35.40 %	33.10 %	32.50 %	30.60 %	30.00 %	32.00 %	31.00 %

ADC rate for FY 21 was 34.2% .

* Information for FY2013 and earlier is not available.

Notes to Schedule

Valuation Date and Actuarial Assumptions:

The actuarially determined contribution amounts are calculated as of the beginning of the fiscal year (July 1). The assumptions shown below are those used in the 7/1/2020 actuarial valuation to calculate the FY 2022 ADC and the assumptions used to determine all contributions in the past would not have been the same.

Actuarial Cost Method	Projected Unit Credit (Entry Age Used for GASB 67 purposes)
Amortization Method	Level percent of pay increasing 2.75% per year
Remaining Amortization Period	Remaining amortization periods range from 2 to 15 years.
Asset Valuation Method	5-year smoothed market
Inflation	2.60%
Salary Increases	Varies by service. 4.25% to 7.75%, including inflation
Investment Rate of Return	7.35%, before expenses, including inflation
Retirement Age	Rates vary by participant age and service and (for GASB purposes only) set at 100% at DROP entry (or expected entry). Normal Cost (for GASB purposes) ceases for Police and Fire members when they enter DROP since GASB 67 does not allow Normal Cost while in DROP.
Mortality	RP-2014 Combined Healthy tables with generational projection from 2006 base year using scale MP-2017
Cost of Living Increases	2.00%

**HOWARD COUNTY POLICE AND FIRE EMPLOYEES' RETIREMENT PLAN
REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF INVESTMENT RETURNS
LAST 10 FISCAL YEARS
(SEE INDEPENDENT AUDITORS' REPORT)**

<u>Fiscal Year Ending</u>	<u>Annual Money-Weighted Rate of Return, Net of Investment Expenses</u>
6/30/2022	(8.50)%
6/30/2021	25.92 %
6/30/2020	4.10 %
6/30/2019	7.50 %
6/30/2018	8.55 %
6/30/2017	12.18 %
6/30/2016	1.38 %
6/30/2015	2.95 %
6/30/2014	15.62 %
6/30/2013	11.33 %