HIGHWAY PATROL RETIREMENT SYSTEM

2023

Annual Comprehensive Financial Report

Year Ended December 31, 2023

A Component Unit of the State of Ohio

OHIO AUDITOR OF STATE
KEITH FABER

65 East State Street
Columbus, Ohio 43215
ContactUs@ohioauditor.gov
800-282-0370

Board of Trustees
Ohio Highway Patrol Retirement System
1900 Polaris Parkway, Suite 201
Columbus, Ohio 43240

We have reviewed the *Independent Auditor's Report* of the Ohio Highway Patrol Retirement System, Delaware County, prepared by Rea & Associates, Inc., for the audit period January 1, 2023 through December 31, 2023. Based upon this review, we have accepted these reports in lieu of the audit required by Section 117.11, Revised Code. The Auditor of State did not audit the accompanying financial statements and, accordingly, we are unable to express, and do not express an opinion on them.

Our review was made in reference to the applicable sections of legislative criteria, as reflected by the Ohio Constitution, and the Revised Code, policies, procedures and guidelines of the Auditor of State, regulations and grant requirements. The Ohio Highway Patrol Retirement System is responsible for compliance with these laws and regulations.

Keith Faber
Auditor of State
Columbus, Ohio

July 11, 2024

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2023

OHIO HIGHWAY PATROL RETIREMENT SYSTEM

ANNUAL COMPREHENSIVE FINANCIAL REPORT

For the year ended December 31, 2023

Prepared through the joint efforts of the HPRS staff
1900 Polaris Parkway, Suite 201, Columbus, OH 43240 · 614.431.0781 · www.ohprs.org

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Disclaimer

This audit report is subject to review and acceptance by the Auditor of State's office, and the requirements of Ohio Revised Code § 117.25 are not met until the Auditor of State certifies this report. This process takes approximately two weeks and reports are subject to change if the Auditor of State determines that modification of a report is necessary to comply with required accounting or auditing standards or the Uniform Guidance.

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Introductory Section

Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Ohio State Highway Patrol Retirement System

For its Annual Comprehensive
Financial Report
For the Fiscal Year Ended

December 31, 2022

Christopher P. Morrill

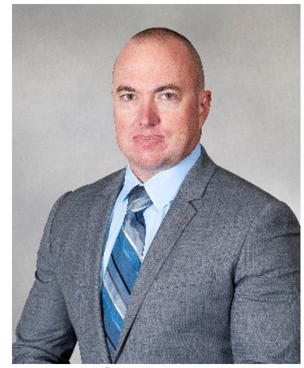
Executive Director/CEO

Board of Trustees and Senior Staff

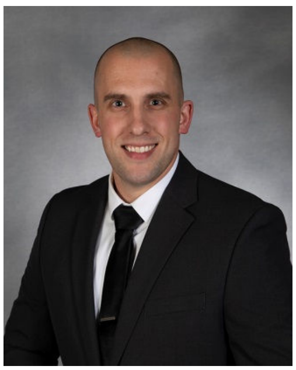
Major Matthew L. Them
Employee Trustee / Chair

Major (ret.) Darryl L. Anderson
Retiree Trustee / Vice-Chair

Sergeant Derek L. Malone
Employee Trustee



Lieutenant Christian J. Niemeyer
Employee Trustee



Sergeant Brice A. Nihiser
Employee Trustee

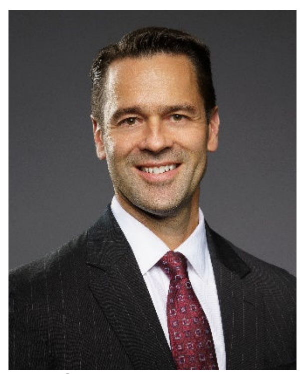
Trooper Cynthia D. Wilt
Employee Trustee

Colonel Charles A. Jones
Statutory Member

Sergeant (ret.) Michael P. Kasler
Retiree Trustee

Major (ret.) JP Allen
Governor's Investment Expert Appointee

Joseph H. Thomas
General Assembly's Investment Expert Appointee



Craig A. Warnimont
Treasurer of State's Investment Designee

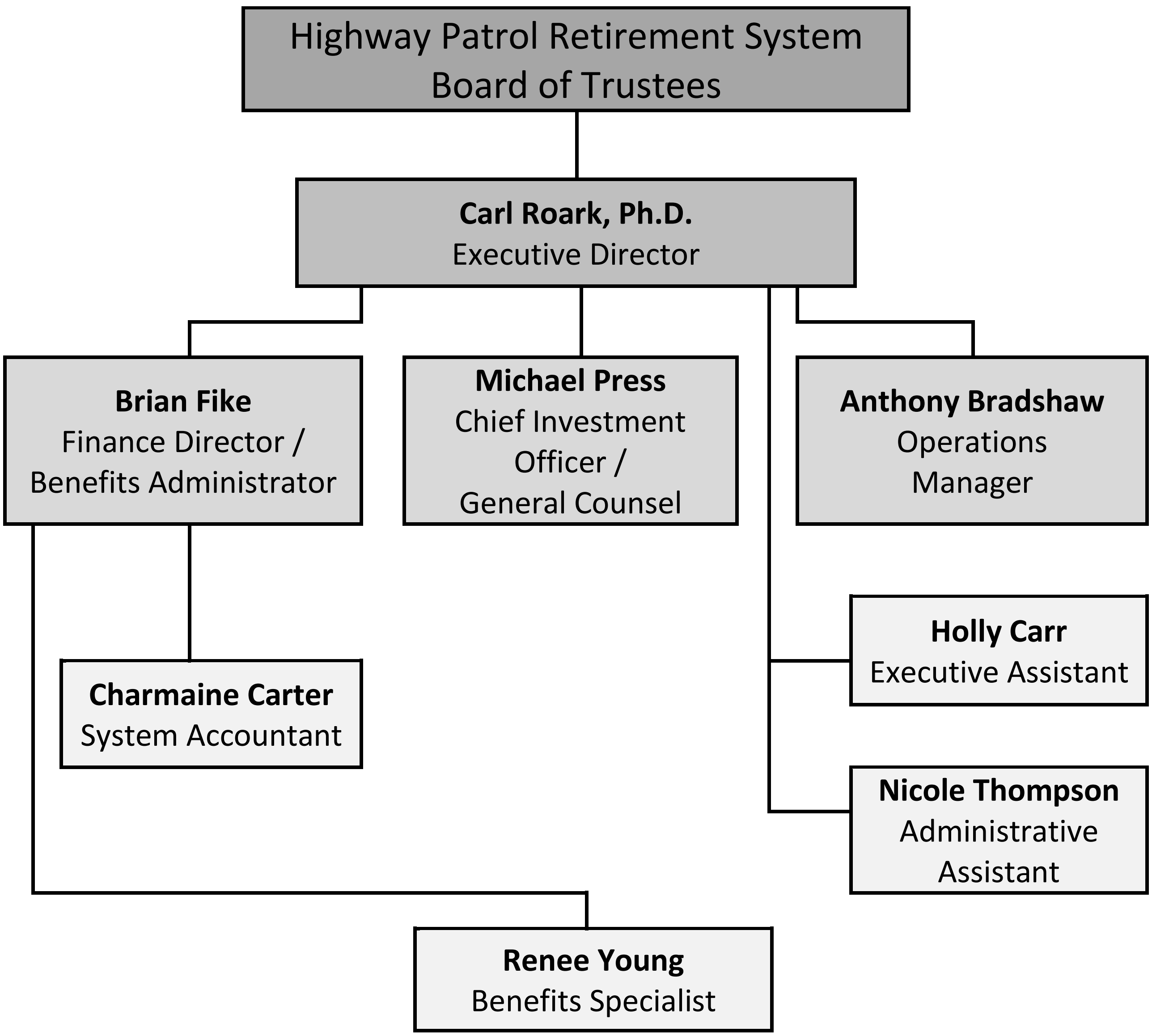
Captain (ret.) Carl Roark, Ph.D.
Executive Director

Michael D. Press
Chief Investment Officer / General Counsel

Brian C. Fike
Finance Director / Benefits Administrator

Anthony C. Bradshaw
Operations Manager

Highway Patrol Retirement System Organizational Chart



See Page 9 for a list of consultants and investment managers.

Consultants

Medical Advisor	Actuary	Investment Consultant
David A. Tanner, DO Columbus, Ohio	Foster & Foster Fort Myers, Florida	Clearstead Cleveland, Ohio

Investment Managers

Alpine General Partner VIII, LLC San Francisco, California *Private Equity*	**Harrison Street** Chicago, Illinois *Real Estate*	**Proterra Investment Partners** Minneapolis, Minnesota *Private Credit*
Baillie Gifford Overseas Limited Edinburgh *Global Equity - Growth*	**H.I.G. WhiteHorse** Miami, Florida *Fixed Income & Private Equity*	**Quantum Energy Partners** Houston, Texas *Private Equity*
Bain Capital Credit Boston, Massachusetts *Distressed Credit*	**Invesco Trust Company** Atlanta, Georgia *International Equity*	**Silver Point Capital, L.P.** Greenwich, Connecticut *Fixed Income*
Black Diamond Capital Management Stamford, Connecticut *Private Equity*	**Johnson Institutional Management** Cincinnati, Ohio *Core Fixed Income*	**The Carlyle Group** Washington, D.C. *Private Equity*
Blue Point Capital Partners Cleveland, Ohio *Private Equity*	**Kayne Anderson Capital Advisors** Los Angeles, California *Energy/Mezzanine & Private Equity*	**The Vanguard Group** Wayne, Pennsylvania *Domestic Equity*
Carlson Capital Dallas, Texas *Merger Arbitrage*	**Long Wharf Real Estate Partners** Boston, Massachusetts *High Yield Fixed Income*	**Westfield Capital Management** Boston, Massachusetts *Small Cap Growth Equity*
Credit Suisse Asset Management New York, New York *High Yield Fixed Income*	**Marathon Asset Management** New York, New York *Real Estate*	
Dimensional Fund Advisors Austin, Texas *Small Cap Blend / International Equity*	**MetLife Investment Management** Philadelphia, Pennsylvania *Emerging Markets*	
Driehaus Capital Management Chicago, Illinois *International Small Cap Growth Equity*	**Mondrian Investment Group (U.S.), Inc.** Wilmington, Delaware *Global Equity - Value*	
DSC Meridian Capital New York, New York *Credit Hedge Fund*	**Ninety One North America, Inc.** New York, New York *Global Equity - Core*	
Evanston Capital Management Evanston, Illinois *Fund of Hedge Funds*	**Oaktree Capital Management** New York, New York *Real Estate*	
GCM Grosvenor Chicago, Illinois *Private Equity*	**Pacific Investment Management Co.** Newport Beach, California *Real Estate*	
Genstar Capital San Francisco, California *Midmarket Buyout*	**Pantheon Ventures** San Francisco, California *Private Equity*	
HarbourVest Partners Boston, Massachusetts *Private Equity*	**Partners Group (USA)** New York, New York *Direct Infrastructure*	

See the Investment Section, Pages 82-84 for payments to investment managers and brokers.

Legislative Summary

There was no legislation passed in 2023 that impacts HPRS.

June 20, 2024

Letter of Transmittal

Members of the Board of Trustees, Active and Retired Members of HPRS:

We are pleased to present to you the *Annual Comprehensive Financial Report (ACFR)* for the Highway Patrol Retirement System (HPRS) for the period ended December 31, 2023. This report is intended to provide financial, investment, actuarial, and statistical information in a single publication. Working with each HPRS staff member and various consultants employed by HPRS, HPRS management takes full responsibility for the accuracy and completeness of this report. The data presented in this report demonstrates the careful stewardship of the system's assets to enable the Board to provide excellent pension and health care benefits to our members.

HPRS was created by the Ohio Legislature in 1941 to provide pension benefits to the sworn officers and communications personnel of the Ohio State Highway Patrol (OSHP). Prior to this action of the Legislature, active-duty members of the OSHP contributed to the Ohio Public Employees Retirement System. Currently, only sworn officers, cadets in training to become sworn officers, and communications personnel hired prior to November 2, 1989 are permitted to be contributing members of HPRS. In 1974, the Legislature authorized HPRS to offer health care benefits to retired members if excess funds are available.

In addition to pension benefits, HPRS provides disability benefits to active-duty members, disabled both in the line of duty and not in the line of duty. Survivor and death benefits and health care coverage are provided for benefit recipients and eligible dependents. A full description of benefits provided by HPRS can be found in the *Summary of Plan Provisions* portion of the Actuarial Section.

Major Plan Initiatives and Changes in 2023

In 2023, HPRS went through the ORSC-mandated 10-year Fiduciary Performance Audit. The audit was completed by Funston Advisory Services. The audit found that overall, HPRS is a well-run retirement system with appropriate governance and oversight, and the Board functions effectively and provides clear direction to staff and advisors. The audit report contained 111 minor recommendations, mostly centered around documentation of processes, updating the decade-old risk assessment, and improvement of IT resources. HPRS management and staff, in conjunction with the Board, are in the process of implementing these recommendations.

Also in 2023, HPRS completed the implementation of the Willis Towers Watson exchange and Health Reimbursement Arrangement (HRA) for the pre-Medicare population, which operates much like the Medicare exchange that launched in 2022. The implementation was successful, and the pre-Medicare exchange launched as expected on January 1, 2024. As a result of this shift, HPRS ended its relationships with Medical Mutual of Ohio and Express Scripts, and currently all member healthcare is provided through these two exchanges.

For 2023, the employee contribution rate was reduced from 14% to 13% of payroll per the Board's funding policy. The Board approved a 3.00% COLA for 2023 for eligible beneficiaries. In late 2023, the Board voted to increase the employee contribution rate to 14% starting in January 2024, and per the funding policy, COLA for 2024 was set at 0.00%.

Investments

The primary objective of the Highway Patrol Retirement System is to provide eligible members and beneficiaries with scheduled pension benefits. It is particularly important that the Board develops and implements an investment strategy that provides the funds necessary to maintain the security and safety of the plan. With benefit recipients living longer, health care costs rising at a rate of many times the actual rate of inflation, and the ever-present possibility of financial downturns, such as the recession of 2008, the investment strategy must be monitored and adjusted constantly.

Consistent with prudent standards for preservation of capital and maintenance of liquidity, the goal of the fund is to earn the highest possible rate of return consistent with HPRS's tolerance for risk as determined periodically by the Board in its role as a fiduciary. This objective should ensure adequate funds to meet scheduled benefits. Diversification of assets will ensure that adverse or unexpected results from a security class will not have a detrimental impact on the entire portfolio.

Following the downturn in world markets in 2022, the bulls surged back in 2023. The Dow Jones Industrial Average gained 13.8%, the S&P 500 rebounded to increase by 24.23%, and the Nasdaq proved to be the biggest winner, skyrocketing up 43.42% on the year. Internationally, the MSCI World Index kept the rally going, finishing up 19.49%.

As the post-COVID inflationary environment remained stubborn, the Fed stayed busy, hiking the target fed funds rate four times between February 2023 and July 2023 to a target range of 5.25% to 5.50%, and has held the rate steady through the first half of 2024. Inflation has eased a bit, but remains above expectations, and the Fed has hinted that rate decreases might be on the table in the last quarter of 2024.

HPRS' investment portfolio improved 14.39%, slightly below its overall benchmark of 14.41%, net of fees. Most asset classes finished the year with double-digit returns, with the real estate portfolio standing out as the sole negative class. All classes mirrored or beat their respective benchmarks for the year.

A more detailed report on investment operations and performance can be found in the *Management's Discussion and Analysis* section, beginning on page 20, and the Investment Section, beginning on page 71.

Internal Controls

The management of HPRS has implemented and is responsible for a system of internal accounting controls, designed to provide reasonable assurance of the safeguarding of assets and the reliability of financial records. Again in 2023, the Summit County Internal Audit Department (SCIAD) was retained to perform internal auditing services, specifically an audit of HPRS' IT assets, and its retroactive pay process for union members. Although one minor recommendation for improvement was given, no material weaknesses were identified. In 2024, SCIAD will again provide internal audit services for HPRS, including a comprehensive risk assessment as recommended by the fiduciary performance audit.

Because the cost of a control should not exceed the benefits to be derived, the objective is to provide reasonable, rather than absolute assurance, that the financial statements are free of any material misstatements. The internal accounting controls in place are adequate to meet the purpose for which they were intended and are reviewed annually by an external auditor. Please see the 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 on page 66. The financial statements, supporting schedules, and statistical tables are presented fairly in all material respects.

Funding

The funding of pension and health care benefits of HPRS comes from a combination of employer and employee contributions and investment returns. Ohio law requires public pension plans to be able to amortize pension obligations within a 30-year period. At the close of 2009, HPRS was not able to amortize pension liabilities in 30 years or less. The funding status percentage dropped from 80.9% at the end of 2007 to 59.5% at the end of 2011. Due to changes that were enacted by the Board in 2013 and 2014, the amortization period no longer exceeds the 30-year limit. The funding status for the period ended December 31, 2022, as reflected in the annual actuarial valuation, was 73.9%, and the amortization period was 21 years. On the health care side, under intermediate actuarial assumptions regarding future health care cost trends, the fund is expected to be solvent until 2038, according to the December 31, 2021 actuarial report. The System's actuary, Foster & Foster will complete their valuation as of December 31, 2023, which will be issued around mid-year 2024.

Awards

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Highway Patrol Retirement System for its Annual Comprehensive Financial Report for the fiscal year ended December 31, 2022. To be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized Annual

Comprehensive Financial Report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe that our current ACFR continues to meet the Certificate of Achievement program's requirements, and we are submitting it to the GFOA to determine its eligibility for another certificate.

Professional Services

To aid in efficient and effective management, professional services are provided to the HPRS by consultants appointed by the Board. The system's actuarial services are provided by Foster & Foster of Ft. Myers, FL. The investment advisor to the Board is Clearstead of Cleveland, Ohio. Under contract with the Auditor of State of Ohio, Rea and Associates of Dublin, Ohio, audited the financial records of the system. The Summit County Internal Audit Department of Akron, Ohio, was retained to perform internal auditing services.

Acknowledgements

The preparation of this report is only possible through the combined efforts of the system's staff under the direction of the Board of Trustees. It is intended to provide complete and reliable information as a basis for making management decisions, a means for determining compliance with legal provisions, and a means for determining responsible stewardship over the assets contributed by the members and their employer, the State of Ohio.

Upon publication of this report at www.ohprs.org, HPRS will notify interested parties of its availability, including all State Highway Patrol facilities, professional consultants, investment managers, ranking members of the appropriate Ohio House and Senate committees, the Ohio Retirement Study Council, and the Office of Budget and Management.

Submitted for your review,

Carl Roark, Ph.D.	Brian C. Fike, JD, CPA
Executive Director	Finance Director

Financial Section

INDEPENDENT AUDITOR'S REPORT

To the Ohio Highway Patrol Retirement System Board
Delaware County, Ohio
1900 Polaris Parkway, Suite 201
Columbus, Ohio 43240

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of the Ohio Highway Patrol Retirement System (the HPRS), a component unit of the State of Ohio, as of and for the year ended December 31, 2023, and the related notes to the financial statements, which collectively comprise the HPRS'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 respective fiduciary net position of the Ohio Highway Patrol Retirement System as of December 31, 2023, and the respective changes in fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit 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 (*Government Auditing Standards*). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the HPRS, 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 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 HPRS'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.

Auditor's 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 auditor's 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 HPRS'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 HPRS'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 management's discussion and analysis and the required supplementary schedules, 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.

Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the HPRS' basic financial statements. The schedules of administrative expenses, investment expenses, and payments to consultants are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with GAAS. In our opinion, the schedules of administrative expenses, investment expenses, and payments to consultants are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Other Information

Management is responsible for the other information included in the annual report. The other information comprises the introductory, investment, actuarial, and statistical sections but does not include the basic financial statements and our auditor's report thereon. Our opinion on the basic financial statements does not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated June 20, 2024 on our consideration of the HPRS'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 HPRS'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 HPRS's internal control over financial reporting and compliance.

Rea & Associates, Inc.

Rea & Associates, Inc.
Dublin, Ohio
June 20, 2024

Financial Highlights

- As of December 31, 2023, HPRS had a net position of $1,069,260,074. All assets are held in trust for pension and health care benefits and are available to meet HPRS's ongoing obligations to plan participants and their beneficiaries.
- During 2023, HPRS's fiduciary net position increased by $92,981,788, or 9.5%.
- HPRS's funding objective is to meet long-term benefit obligations through contributions and investment income. At December 31, 2022, the date of the most recent actuarial valuation, HPRS' assets equaled 73.9% of the present value of pension obligations.
- Additions to fiduciary net position for the year were $190,901,952, which includes member and employer contributions of $49,251,746 and an investment gain of $135,961,494.
- Deductions from fiduciary net position decreased 2.3% over the prior year. Of this amount, pension benefits decreased by 1.9%, health care expenses increased by 5.7% and administrative expenses increased by 47.5%.

Overview of the Financial Statements

The financial statements consist of the following components:

1. Statement of Fiduciary Net Position
2. Statement of Changes in Fiduciary Net Position
3. Notes to the Financial Statements

This report also contains other supplementary information in addition to the basic financial statements themselves.

The Statement of Fiduciary Net Position provides a snapshot of account balances at year-end, indicating the assets available for future payments to benefit recipients, less any current liabilities of the system. The Statement of Changes in Fiduciary Net Position provides a summary of current-year additions and deductions to the plan.

The Statement of Fiduciary Net Position and the Statement of Changes in Fiduciary Net Position report information about HPRS's activities and financial position. These statements reflect the full accrual basis of accounting, which is similar to the accounting method used by most private sector companies. All of the current year's revenues and expenses are taken into account regardless of when cash is received or paid. All investment gains and losses are shown at trade date rather than settlement date. Investments are shown at fair value, reflecting both realized and unrealized gains and losses. Each capital asset is depreciated over its expected useful life.

The difference between HPRS' assets and liabilities is reported on these statements as the Net Position – Restricted for Pension and Post-Employment Health Care Benefits. Over time, increases and decreases in HPRS's net position are one indicator of whether the fund's financial health is improving or deteriorating. Other factors, such as market conditions, should be considered in measuring HPRS's overall health (see HPRS's financial statements on pages 24-25 of this report).

The Notes to the Financial Statements provide additional information that is essential to a full understanding of the data provided in the financial statements (see the *Notes to the Financial Statements* on pages 26-56 of this report).

Other Information

In addition to the financial statements and accompanying notes, this report presents certain required supplementary information concerning HPRS's progress in funding its obligations to provide pension benefits to members (see the *Required Supplementary Schedules* on pages 57-64 of this report).

The schedules of administrative expenses, investment expenses, and payments to consultants are presented immediately following the required supplementary information.

HPRS Activities

Additions to Fiduciary Net Position

Employer and member contributions, as well as income from investments, provide reserves needed to finance retirement benefits and health care. In 2023, total contributions and investment returns resulted in positive additions of $190.9 million. Employer contributions increased by 0.5% and member contributions decreased by 6.6%.

Additions to Fiduciary Net Position
(in thousands)

	2023	2022	$ Change	% Change
Net appreciation in fair value of investments	120,707	(119,413)	$240,120	201.1
Interest and dividend income	23,283	18,976	4,307	22.7
Investment expenses	(8,028)	(8,590)	562	6.5
Employer contributions	33,040	32,862	178	0.5
Member contributions	16,212	17,361	(1,149)	(6.6)
Transfers from other Ohio systems	2,720	805	1,915	237.9
Health care premiums	2,473	2,416	57	2.4
Retiree drug subsidy	1	434	(433)	(99.8)
Prescription drug rebates	494	1,200	(706)	(58.8)
Total additions	$190,902	($53,949)	$244,851	453.9

The *Investment Section* of this report summarizes the result of investment activity for the year ended December 31, 2023.

Deductions from Fiduciary Net Position

HPRS was created to provide retirement, disability, and survivor benefits to qualified members and their beneficiaries. The costs of these programs include benefit payments by the plan, refunded contributions, and the administrative costs of the system. In 2023, total deductions from the fiduciary net position decreased 2.3%, health care expenses increased by 5.7%, and administrative expenses increased by 47.2%. Refunds of member contributions decreased by 85.7%, and transfers of contributions to other Ohio retirement systems increased by 67.9%.

Deductions from Fiduciary Net Position
(in thousands)

	2023	2022	$ Change	% Change
Pension benefits	$76,888	$78,389	($1,501)	(1.9)
DROP benefits	7,528	6,473	1,055	16.3
Refunds of member contributions	543	3,785	(3,242)	(85.7)
Health care expenses	10,462	9,900	562	5.7
Administrative expenses	2,227	1,509	718	47.5
Transfers to other Ohio systems	272	162	110	67.9
Total deductions	$97,920	$100,218	($2,298)	(2.3)

Changes in Fiduciary Net Position

In 2023, the Net Position – Restricted for Pension and Post-Employment Health Care Benefits increased by $92,981,788, or 9.5%. Investment income attributable to the increase in fair values of investments, interest and dividend income equaled $143,990,170. All assets are available to meet HPRS's ongoing obligations to plan participants and their beneficiaries.

Changes in Fiduciary Net Position
(in thousands)

	2023	2022
Beginning balance	$976,278	$1,130,445
Ending balance	1,069,260	976,278
Total change	$92,982	($154,166)
% change	9.5%	(13.6)%

Capital Assets

As of December 31, 2023, HPRS's investment in capital assets totaled $5,928 (net of accumulated depreciation). This investment in capital assets includes office equipment, software, and furniture for administrative use. (*See Note 4 on page 32 for additional information*.)

Total Assets

In 2023, total assets increased by $92,575,651, or 9.3%. The change in total assets was largely attributable to increases in the fair value of investments.

Assets
(in thousands)

	2023	2022	$ Change	% Change
Cash and short-term investments	$50,660	$53,703	($3,043)	(5.7%)
Receivables	3,315	5,979	(2,664)	(44.6)
Investments, at fair value	1,028,902	930,429	98,473	10.6
Other assets	104	295	(191)	(64.7)
Total assets	$1,082,981	$990,406	$92,575	9.3%

Total Liabilities

In 2023, total liabilities increased by $655,295, or 4.8%.

Liabilities
(in thousands)

	2023	2022	$ Change	% Change
Total liabilities	$14,329	$13,674	$655	4.8

Requests for Information

This financial report is designed to provide retirees, members, trustees, investment managers, and the public with a general overview of HPRS's finances and to show accountability for the money it receives. Questions concerning any of the information provided in this report or requests for additional financial information can be directed to:

Brian C. Fike, CPA, *Finance Director*
State Highway Patrol Retirement System
1900 Polaris Parkway, Suite 201, Columbus, OH 43240-4037
Phone: 614.431.0781
Email: b.fike@ohprs.org

Statement of Fiduciary Net Position
December 31, 2023

	Pension	Post-Employment Health Care	Total
Assets			
Cash and Short-Term Investments	$ 44,829,053	$ 5,830,968	$ 50,660,021
Receivables			
Employer Contributions Receivable	1,410,541	-	1,410,541
Member Contributions Receivable	1,123,697	-	1,123,697
Accrued Investment Income	636,340	82,770	719,110
Health Care Receivable	-	59,741	59,741
Miscellaneous Receivable	2,491	-	2,491
Total Receivables	3,173,069	142,511	3,315,580
Investments, at Measurement Value			
Domestic Equity	194,467,599	25,280,585	219,748,184
International Equity	50,683,305	6,588,231	57,271,536
Fixed Income	99,435,525	12,925,444	112,360,969
Real Estate	73,785,986	9,591,307	83,377,293
Private Equity	223,573,409	29,061,903	252,635,312
Hedge Funds	52,753,408	6,857,320	59,610,728
Direct Infrastructure	17,161,501	2,230,793	19,392,294
Global Equity	198,679,379	25,825,973	224,505,352
Total Investments	910,540,112	118,361,556	1,028,901,668
Other Assets			
Prepaid Expense	4,686	610	5,296
Property and Equipment Net	5,246	682	5,928
Net Pension Asset	92,796	-	92,796
Total Other Assets	102,728	1,292	104,020
Total Assets	958,644,962	124,336,327	1,082,981,289
Deferred Outflows of Resources			
Deferred Outflows – Pension/OPEB	554,496	110,355	664,851
Liabilities			
Accounts Payable	337,756	43,932	381,688
Accrued Payroll Liabilities	288,054	37,468	325,522
Accrued Pension Liabilities	11,151,939	-	11,151,939
Accrued Health Care Liabilities	-	1,275,970	1,275,970
Net Pension Liability	1,161,515	-	1,161,515
Net OPEB Liability	-	32,594	32,594
Total Liabilities	12,939,264	1,389,964	14,329,228
Deferred Inflows of Resources			
Deferred Inflows – Pension/OPEB	36,152	20,686	56,838
Net Position – Restricted for Pension and Post-Employment Health Care Benefits	$946,224,042	$123,036,032	$1,069,260,074

See the accompanying Notes to the Financial Statements, pages 26-56.

Statement of Changes in Fiduciary Net Position
Year ended December 31, 2023

	Pension	Post-Employment Health Care	Total
Additions			
Contributions			
Employer	$33,039,696		$33,039,696
Member	16,212,050	-	16,212,050
Transfers from Other Systems	2,719,652	-	2,719,652
Other income			
Health Care Premiums	-	2,473,472	2,473,472
Retiree Drug Subsidy	-	1,111	1,111
Prescription Drug Rebates	-	494,477	494,477
Total Contributions	51,971,398	2,969,060	54,940,458
Investment Activity			
Net Appreciation (Depreciation) in Fair Value of Investments	106,814,002	13,893,421	120,707,423
Interest and Dividend Income	20,602,903	2,679,844	23,282,747
	127,416,905	16,573,265	143,990,170
Less: Investment Expenses	(7,105,137)	(923,539)	(8,028,676)
Net Income from Investment Activity	120,311,768	15,649,726	135,961,494
Total Additions	172,283,166	18,618,786	190,901,952
Deductions			
Pension Benefits	76,887,672	-	76,887,672
DROP Benefits	7,528,103	-	7,528,103
Refunds of Member Contributions	543,483	-	543,483
Health Care Expenses	-	10,462,275	10,462,275
Administrative Expenses	1,970,255	256,274	2,226,529
Transfers to Other Systems	272,102	-	272,102
Total Deductions	87,201,615	10,718,549	97,920,164
Change in Fiduciary Net Position	85,081,551	7,900,237	92,981,788
Net Position – Restricted for Pension and Post-Employment Health Care Benefits			
Balance, December 31, 2022	861,142,491	115,135,795	976,278,286
Balance, December 31, 2023	$946,224,042	$123,036,032	$1,069,260,074

See the accompanying Notes to the Financial Statements, pages 26-56.

Note 1 Summary of Significant Accounting Policies

Basis of Accounting

HPRS' financial statements are prepared using the accrual basis of accounting, under which expenses are recorded when incurred and revenues are recorded when earned and measurable. Member and employer contributions are recognized in the period in which the contributions are due. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan. Investment purchases and sales are recorded at the trade date. Administrative expenses are financed by investment income.

The accounting and reporting policies of HPRS conform to generally accepted accounting principles in the United States of America (GAAP). The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported assets and liabilities, disclosure of contingent assets and liabilities, and the reported revenues and expenses during the accounting period. Actual results could differ from these estimates.

The Governmental Accounting Standards Board (GASB) requires that plan assets be split between pension benefits and health care. To meet this requirement, plan assets and liabilities not specifically identifiable to a plan were proportionately allocated to the pension and post-employment health care plans. Additionally, a portion of the investment activity and administrative expenses are allocated to the health care fund. The amounts are derived from the health care projected allocation rate calculation. This calculation is the proportion of projected post-employment health care net position compared to the projected total net position.

Investment Accounting

Income on all investments is recognized on an accrual basis. Gains and losses on sales and exchanges, recognized at the trade date, are determined using the average cost of equity securities sold, and for all other investments, the specific cost of securities sold.

Certain investments are reported at fair value, which is the amount that the plan could reasonably expect to receive in a current sale between a willing buyer and a willing seller, other than in a forced or liquidation sale. Other investments are measured at Net Asset Value (NAV).

Securities traded on a national exchange are valued at the last reported sales price at the current exchange rate. Fair values of real estate and private equity investments are based on information provided by the fund's managers or by independent appraisals.

Net appreciation (or depreciation) in fair value of investments is determined by calculating the change in the fair value between the beginning of the year and the end of the year, less purchases at cost, plus sales at fair value. Investment expenses consist of expenses directly related to HPRS investment operations, as well as an allocation of certain administrative expenses.

Use of Estimates

In preparing financial statements in conformity with GAAP, the management of HPRS makes estimates and assumptions that affect: (1) the reported amounts of assets and liabilities; (2) disclosures of contingent assets and liabilities; and (3) the amount of revenues and expenses during the reporting period. Actual results could differ from those estimates and assumptions. Certain investment assets, including private equity and real estate, use estimates in reporting fair value in the financial statements. These estimates are subject to uncertainty in the near term, which could result in changes in the values reported for those assets in the Statement of Fiduciary Net Position.

Capital Assets

When acquired, an item of property or equipment in excess of $5,000 is capitalized at cost. An improvement in excess of $5,000 that extends the useful life of an asset is capitalized as well. An expenditure for maintenance or repair of an asset is expensed as incurred. Depreciation is computed using the straight-line method over the useful life of each asset (typically, between three and ten years).

Accrued Health Care Liabilities

Accrued health care liabilities are based upon estimates furnished by the claim's administrators. These estimates have been developed from prior claims experience.

In general, costs of member health care benefits are recognized as claims are incurred and premiums are paid. Health care expenses of $10,462,275 for 2023 are shown on the accompanying Statement of Changes in Fiduciary Net Position.

Contributions and Benefits

Based on statutory requirements, employer and employee contributions are recognized when due. In accordance with the terms of the plan, benefits and refunds are recognized when due and payable.

Federal Income Tax Status

HPRS is a qualified entity under Section 501(a) of the Internal Revenue Code and is, therefore, exempt from federal income taxes.

Recently Issued Accounting Pronouncements

GASB issued Statement No. 94, *Public-Private and Public-Public Partnerships and Availability Payment Arrangements.* The Statement's objective is to improve financial reporting by addressing issues related to public-private and public-public partnership arrangements. (PPPs). The Statement also provides guidance for accounting and financial reporting for availability payment arrangements. The requirements for this Statement are effective for reporting periods beginning after June 15, 2022. HPRS Management has evaluated the pronouncement and has determined there is no material impact to the financial statements.

GASB issued Statement No. 96, *Subscription-Based Information Technology Arrangements.* The Statement provides guidance on the accounting and financial reporting for subscription-based technology arrangements (SBITAs) for government end users. The requirements for this Statement are effective for reporting periods beginning after June 15, 2022. HPRS Management has evaluated the pronouncement and has determined there is no material impact to the financial statements.

Note 2 Plan Description

Organization

HPRS is a single-employer retirement system for employees of the Ohio State Highway Patrol, including officers with arrest authority, cadets in training at the Highway Patrol Training Academy, and members of the radio division who were hired prior to November 2, 1989. HPRS was created by Ohio Revised Code Chapter 5505 and is administered by a Board of Trustees consisting of five active members, two retired members, three appointed members, and one ex-officio member. The Board appoints an executive director, chief investment officer, actuary, investment consultant, medical advisor, and internal auditor.

HPRS administers both a defined benefit pension plan and a post-employment health care plan, which is considered to be an "other post-employment benefit," or OPEB. Financial information for pensions and OPEB is presented separately in the financial statements. HPRS, a separate financial reporting entity in accordance with criteria established by GASB Statement No. 39 (an amendment to No. 14), is a component unit of the State of Ohio. HPRS does not have financial accountability over any other entities.

Membership

HPRS membership consisted of the following at the end of 2022 and 2023:

Membership Data Year ended December 31	2023	2022
Pension & OPEB Benefits		
Retirees & other benefit recipients	1,887	1,852
Deferred retirees	45	49
Active members		
15 or more years of service	611	657
Less than 15 years of service	788	723

Benefits

Members are eligible for pension and health care benefits upon reaching both an age and a service requirement with the Ohio State Highway Patrol. The pension benefit is a percentage of the member's final average salary, which is defined as the average of the member's five highest salaried years. For 20 or more years of service, the percentage is determined by multiplying 2.5% times the first 20 years of service, plus 2.25% for the next 5 years of service, plus 2.0% for each year in excess of 25 years of service. A member's pension may not exceed 79.25% of the final average salary. Retirement with reduced benefits is available upon reaching age 48 with 20 years of service credit. Retirement with full benefits is available upon reaching age 48 with 25 years of service credit, or age 52 with 20 years of service credit. Beginning in 2020, new hires of the Ohio State Highway Patrol will be eligible for retirement with full benefits upon reaching age 52 with 20 years of service credit. All members must retire upon attaining age 60. Ohio law permits, but does not require, HPRS to offer health care to its membership. HPRS currently offers medical, hospitalization and prescription drug coverage for its members and their dependents. In addition to pension and health care benefits, HPRS also provides for disability and survivor benefits.

In 2006, HPRS implemented the Deferred Retirement Option Plan (DROP). In general, a member who is eligible to retire with an unreduced pension benefit may enter the DROP. The member will continue to work for the Ohio State Highway Patrol. A DROP member does not accumulate additional pension service credit; however, instead of receiving a monthly pension benefit, the member accrues that benefit in a tax-deferred account until employment with the Ohio State Highway Patrol is terminated. The DROP activity is discussed in Note 11.

Former members with at least 15 years of service but less than 20 years of service are eligible for a pension upon reaching age 55. The percentage of final average salary is determined by multiplying 1.5% by the number of years of service credit. These members, though eligible to receive a pension, are not eligible for health care benefits.

Contributions

The Ohio Revised Code requires contributions by both active members and the Ohio State Highway Patrol. The employer contribution rate is established by the Ohio General Assembly. The HPRS Board sets the employee contribution rate between 10.0%-14.0% of payroll.

In 2023, the member contribution rate was 13.0% of payroll, and the employer contribution rate was 26.5%.

Based on the December 31, 2021 actuarial valuation, the Board allocated the employer contribution rate to pension benefits and OPEB effective January 1, 2022 as follows:

Pension	OPEB	Total
23.14%	3.36%	26.50%

Based on the December 31, 2022 actuarial valuation, the Board allocated the employer contribution rate to pension benefits and OPEB effective January 1, 2023 as follows:

Pension	OPEB	Total
26.50%	0%	26.50%

Upon request of a member who terminates employment with the Ohio State Highway Patrol, member contributions are refunded. If a member dies while active in the service of the Ohio State Highway Patrol, member contributions are refunded to the member's beneficiary, provided that no survivor benefits are payable.

A member with credited service in OPERS, School Employees Retirement System (SERS), State Teachers Retirement System (STRS), Ohio Police & Fire Pension Fund (OP&F), or Cincinnati Retirement System (CRS) may transfer that service credit to HPRS. Similarly, a member with credited service in HPRS may transfer that service to OPERS, SERS, STRS, OP&F, or CRS.

Note 3 Net Position

Chapter 5505 of the Revised Code requires that various funds be established to account for contributions, reserves, income, and expenses.

The Employees' Savings Fund was created to accumulate the contributions deducted from the salaries of members, less any refunds of member contributions. Upon retirement, a member's contributions are transferred to the Pension Reserve Fund.

The Employer's Accumulation Fund is the fund in which the state's contributions to HPRS are accumulated. Included in this fund are the reserves allocated to the payment of OPEB.

The Pension Reserve Fund is the fund from which all pensions are paid to members who retire on or after January 1, 1966.

The Survivors' Benefit Fund is the fund from which survivor benefits are paid to qualifying beneficiaries.

The Income Fund is used to accumulate all interest, dividends, distributions, and other income from deposits and investments. Gifts, bequests to the system, transfers, and any other income are also credited to the Income Fund.

The Expense Fund provides for the payment of administrative expenses with the necessary money allocated to it from the Income Fund.

At December 31, 2023, the fiduciary net position was allocated to the various funds as follows:

Fiduciary Net Position December 31, 2023	
Employees' Savings Fund	$130,246,404
Employer's Accumulation Fund	123,036,032
Pension Reserve fund	815,977,638
Survivors' Benefit Fund	-
Income Fund	-
Expense Fund	-
Total	$1,069,260,074

Note 4 Property and Equipment

The following is a summary of equipment, at cost, less accumulated depreciation, at December 31, 2023:

Capital Assets - Equipment December 31, 2023	
Cost, 12/31/2022	$147,040
(+) Additions	6,240
(-) Retirements	6,465
Cost, 12/31/2023	$146,815
Accumulated depreciation, 12/31/2022	$147,040
(+) Additions	312
(-) Retirements	6,465
Accumulated depreciation, 12/31/2023	$140,887
Book value, 12/31/2023	$5,928

The following is a summary of furniture, at cost, less accumulated depreciation, at December 31, 2023:

Capital Assets - Furniture December 31, 2023	
Cost, 12/31/2022	$82,710
(+) Additions	-
(-) Retirements	-
Cost, 12/31/2023	$82,710
Accumulated depreciation, 12/31/2022	$82,710
(+) Additions	-
(-) Retirements	-
Accumulated depreciation, 12/31/2023	$82,710
Book value, 12/31/2023	$0

Note 5 Fair Value Measurement

HPRS' investments measured and reported at fair value are classified according to the following hierarchy:
Level 1 – Investments reflect prices quoted in active markets.
Level 2 – Investments reflect prices that are based on a similar observable asset either directly or indirectly, which may include inputs in markets that are not considered to be active.
Level 3 – Investments reflect prices based upon unobservable sources.

The categorization of investments within the hierarchy is based upon the pricing transparency of the instrument and should not be perceived as a measurement of investment's risk.

Debt and equities classified in Level 1 of the fair value hierarchy are valued by an external pricing vendor. Assets classified in Level 2 are subject to pricing by an alternative pricing source, due to lack of information available by the primary vendor.

Investments and Short-Term Holdings Measured at Fair Value

Investments by Fair Value Level	12/31/2023	Fair Value Measurements Using: Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Debt Securities				
Marketable Certificates of Deposit	-	-	-	-
Municipal Bonds	981,380	-	981,380	-
U.S. Agency Bonds	14,010,242	-	14,010,242	-
U.S. Corporate Bonds	19,981,455	-	19,981,455	-
U.S. Government	16,890,182	16,890,182	-	-
Total Debt Securities	51,863,259	16,890,182	34,973,077	-
Equity Securities				
Domestic Equity Mutual Funds	203,015,593	203,015,593	-	-
Global Equity Mutual Funds	46,417,903	46,417,903	-	-
Foreign Equity Mutual Funds	22,621,510	22,621,510	-	-
Foreign Stocks	3,353,709	3,353,709	-	-
U.S. Common and Preferred Stock	16,732,591	16,732,591	-	-
Total Equity Securities	292,141,306	292,141,306	-	-
Total Investments by Fair Value Level	$344,004,565	309,031,488	34,973,077	-
Investments Measured at the Net Asset Value (NAV)				
Commingled Global Equity Funds	$178,087,449			
Commingled International Equity Funds	31,296,317			
Real Assets	52,056,632			
Direct Lending	60,497,710			
Hedge Funds	59,610,728			
Private Equity	219,970,974			
Private Real Estate Funds	83,377,293			
Total Investments Measured at the NAV	684,897,103			
Total Investments	$1,028,901,668			

The valuation method for investments measured at the net asset value (NAV) per share, or equivalent, is presented in the next table.

Investments Measured at the Net Asset Value	12/31/2023	Unfunded Commitments	Redemption Frequency (If Currently Eligible)	Redemption Notice Period
Commingled Global Equity Funds (1)	178,087,449	-	Monthly	10 Days
Commingled International Equity Funds (1)	31,296,317	-	Daily	1-3 Days
Real Assets (2)	52,056,632	19,132,498	-	-
Direct Lending (3)	60,497,710	37,197,436	-	-
Hedge Funds (4)	59,610,728	-	Monthly, Quarterly	45 - 65 days
Private Equity (5)	219,970,974	56,833,307	-	-
Private Real Estate Funds (5)	83,377,293	32,009,999	Quarterly	30 days
Total Investments Measured at the NAV	$684,897,103			

(1) Commingled Equity Funds: Three equity funds are commingled in nature. Each are valued at the net asset value of units held at the end of the period based upon the fair value of the underlying investments.
(2) Direct Infrastructure / Real Assets: HPRS has committed to three global infrastructure limited partnerships and two other private energy real asset limited partnerships. Infrastructure and private real asset strategies offer strong return potential, consistent cash flow yield and defensive characteristics. The fair values of these funds are determined using net assets valued one quarter in arrears plus current quarter cash flows. These funds are not eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which on average can occur over the span of 5 to 10 years.
(3) Direct Lending: HPRS has committed to six direct lending limited partnerships. Direct lending funds generate strong cash flow, have variable interest rates, and are well protected through debt covenants. The fair values of these funds have been determined using net assets valued one quarter in arrears plus current quarter cash flows. These funds are not eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which on average can occur over the span of 5 to 10 years.
(4) Hedge Fund: One multi-manager, multi-strategy “fund-of funds” investing predominantly in limited partnerships and similar pooled investment vehicles managed by independent portfolio managers that employ diverse alternative investment strategies across a variety of asset classes. HPRS also has a position in a merger arbitrage hedge fund that offers monthly liquidity, is intended to be market neutral and offer strong diversification benefits.
(5) Private Equity and Real Estate Funds: HPRS currently has ten private real estate investments and twenty-nine private equity investments in its portfolio. These strategies have exposure to several categories of investments, including real estate equity and debt, buyout, mezzanine debt, co-investment, and energy related private investments. The fair values of these funds have been determined using net assets valued one quarter in arrears plus current quarter cash flows. Only one of these funds is eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which on average can occur over the span of 5 to 10 years.

Note 6 Deposits and Investment Risk

Investments

Ohio Revised Code Section 5505.06 grants "full power" to the Retirement Board to invest the system's assets pursuant to a prudent person standard. This standard provides that "the board and other fiduciaries shall discharge their duties with respect to the funds solely in the interest of the participants and beneficiaries; for the exclusive purpose of providing benefits to participants and their beneficiaries and defraying reasonable expenses of administering the system; with care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims; and by diversifying the investments of the system so as to minimize the risk of large losses, unless under the circumstances it is clearly prudent not to do so."

All investments, both domestic and international, are registered in the name of HPRS.

Deposits

HPRS cash balances consist of an operating cash account held at PNC Bank, cash on deposit with the State Highway Patrol Federal Credit Union, and excess investment cash held by the custodian, PNC Bank. Cash balances are either interest-bearing or invested in highly liquid debt instruments with an original maturity of six months or less. As of December 31, 2023, the carrying value of all deposits was $50,660,021 (including money market funds of $33,722,085 and U.S. Treasury Bills valued at $4,988,250), as compared to bank balances of $50,825,994. The difference in the carrying amount and the bank balances is caused by outstanding warrants and deposits in transit.

Concentration of Credit Risk

Concentration of credit risk is the risk of inability to recover the value of deposits, investments, or collateral securities in the possession of an outside party.

Investment managers are expected to maintain diversified portfolios by sector and issuer. Pursuant to its investment policy, and excluding U.S. government securities, HPRS has no more than 10% of the fixed income portfolio invested in the securities of any one issuer, and no more than 5% in any one issue, with the exception of U.S. government securities.

Credit Risk

Credit risk is the risk that an issuer or counterparty to an investment will be unable to fulfill its obligations. HPRS does not have a policy to limit credit risk.

HPRS exposure to credit risk on fixed income securities, based on S&P Quality Ratings, is as follows:

S&P Quality Ratings December 31, 2023	
AA	$1,392,579
A	8,672,051
BBB	11,670,683
Unrated	30,127,946
Total Investments	$51,863,259

Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates between the U.S. dollar and foreign currencies could adversely affect an investment's fair value. HPRS does not have a policy to limit foreign currency risk. HPRS's exposure to foreign currency risk derives from its positions in foreign currency-denominated investments. As of December 31, 2023, HPRS had zero exposure to foreign currency risk.

Interest Rate Risk

Interest rate risk is the risk that an interest rate change could adversely affect an investment's fair value. HPRS does not have a policy to limit interest rate risk.

The reporting of effective duration in the table below quantifies, to the fullest extent possible, the interest rate risk of the system's fixed income assets.

Investment Maturities December 31, 2023	
Less than 1 year	$351,960
1 - 5 years	8,402,923
Greater than 5, up to 10 years	24,409,929
Greater than 10 years	18,698,447
Total	$51,863,259

Custodial Credit Risk

Custodial credit risk is the risk that, in the event of a failure of a depository institution or counterparty to a transaction, HPRS will be unable to recover the value of deposits, investments, or collateral securities in the possession of an outside party.

As of December 31, 2023, the carrying amounts of HPRS's operating and investment cash deposits totaled $50,660,021, and the corresponding bank balances totaled $50,826,009. Of the bank balances, the Federal Deposit Insurance Corporation insured $250,000. In accordance with state law, bank balances of $3,691,786 were collateralized with securities held in the name of HPRS's pledging financial institution.

Investment Concentrations

The following is a list of investments in any one organization that represents 5% or more of the pension plan's net position held in trust for pension benefits:

Vanguard Mutual Funds - $181,312,520
Mondrian Investment Group - $97,836,117
Ninety-One - $80,251,332

Money-Weighted Rate of Return

The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts invested. For the fiscal year ended December 31, 2023, the annual money-weighted rate of return on pension plan investments, net of investment expense was 14.14%

Commitments

As of December 31, 2023, unfunded commitments related to the real estate, private equity, direct infrastructure, and direct lending investment portfolios totaled $145,173,240.

Note 7 Derivatives

A derivative is an investment vehicle that derives its value from another instrument or index. Derivatives are primarily used to maximize yields and offset volatility caused by interest rate and currency fluctuations. These instruments leave investors exposed to various credit, market, and legal risks.

As of December 31, 2023, HPRS did not have any direct investments in derivatives; however, it held shares in commingled funds that had incidental exposure to derivatives.

Note 8 Net Pension Liability and Actuarial Information

The components of the net pension liability as of December 31, 2023:

Schedule of Net Pension Liability
Year ended December 31

Year	Total Pension Liability	Fiduciary Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll[1]	Net Pension Liability as a % of Covered Payroll
2014	$1,044,345,838	$740,661,880	$303,683,958	70.92%	$99,211,756	306.10%
2015	1,111,064,399	704,225,034	406,839,365	63.38%	99,983,224	406.91%
2016	1,137,269,498	721,685,656	415,583,842	63.46%	108,788,871	382.01%
2017	1,178,543,088	786,354,140	392,188,948	66.72%	112,705,188	347.98%
2018	1,472,338,067	715,480,960	756,857,107	48.59%	116,009,622	652.41%
2019	1,263,838,541	817,859,488	445,979,053	64.71%	118,370,595	376.77%
2020	1,299,260,233	907,391,508	391,868,725	69.84%	117,996,230	332.10%
2021	1,314,958,872	1,000,315,787	314,643,085	76.07%	111,621,001	281.89%
2022	1,348,840,676	861,142,491	487,698,185	63.84%	112,476,672	433.60%
2023	1,388,487,763	952,865,676	435,622,087	68.63%	118,412,014	367.89%

Source: GRS/F&F

[1]Includes members of DROP

The Total Pension Liability was determined by an actuarial valuation as of December 31, 2022, using the key actuarial assumptions, methods, and other inputs listed below as of December 31, 2023 and projected to that date assuming no Plan membership gains or losses.

Actuarial Assumptions

Valuation Date	December 31, 2022, projected to December 31, 2023
Inflation	2.75% wage inflation; 2.50% price inflation
Salary Increases	3.90% to 20.50% including inflation
Investment Rate of Return	7.25%

Long-Term Expected Return on Plan Assets

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 allocations as of December 31, 2023 were provided by the system's investment consultant. The development of the expected long-term rate of return based on the Plan's asset allocation and the best estimates of geometric real rates of return for each major asset class as of December 31, 2023 is as follows:

Asset Allocation
December 31, 2023

Asset Class	Target Allocations	Long-Term Expected Real Rate of Return
Cash	4.00%	0.10%
Domestic Equity	20.00	4.10
Global Equity	22.00	6.10
Non-US Equity	6.00	4.20
Opportunistic Fixed Income	9.00	2.80
Core Fixed Income	6.00	1.40
Real Estate	8.00	7.40
Private Equity	15.00	8.00
Absolute Return	6.00	3.70
Real Assets	4.00	5.40
Total	100.00%	

Source: Foster & Foster

Single Discount Rate

A single discount rate of 7.25% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 7.25% and the municipal bond rate of 4.00%. The projection of cash flows used to determine this single discount rate assumed that:

(1) Plan member contributions will be 13.0% of payroll for 2023 and 14.0% for 2024 and each year thereafter
(2) The employer contribution rate allocated to the pension program will be 26.50% of payroll
(3) Administrative expenses as of December 31, 2023 were projected to future period using an assumed growth rate of 2.50%

Based on these assumptions, the pension plan's fiduciary net position and future contributions were sufficient to finance 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. The resulting single equivalent discount rate was 7.25% as of December 31, 2023, and this discount rate was used, as prescribed, in the measurement of the Plan's Total Pension Liability under GASB accounting rules.

Regarding the sensitivity of the net pension liability to changes in the Single Discount Rate, the following presents the plan's net pension liability, calculated using a Single Discount Rate of 7.25%, as well as what the plan's net pension liability would be if it were calculated using a Single Discount Rate that is 1 percentage-point lower or 1 percentage-point higher:

NPL Sensitivity

	1% Decrease 6.25%	Current Single Discount Rate Assumption 7.25%	1% Increase 8.25%
Net Pension Liability	$593,079,325	$435,622,087	$304,156,541

Source: Foster & Foster

<u>Mortality Rates for Pension</u>

The pre-retirement mortality tables, for post-retirement mortality, used in evaluating allowances to be paid were the PubS-2010 healthy public safety employee below median amount-weighted mortality, adjusted by a factor of 100.4% of gender-specific table rates at each age, with generational improvements using 75% of the most recent projection scale (currently scale MP-2021) and a base year of 2010. For spouses of deceased members, Pub-2010 contingent survivor above-median amount-weighted adjusted by a factor of 109.7% of gender-specific table rates at each age, with generational improvements using 75% of most recent projection scale (currently Scale Mp-2021) and a base year of 2010.

The healthy retiree mortality tables, for post-retirement mortality, used in evaluating allowances to be paid were the PubS-2010 total healthy public safety annuitant amount-weighted mortality, adjusted by a factor of 94.5% of gender-specific table rates at each age, with generational improvements using 75% of most recent projection scale (currently Scale MP-2021) and a base year of 2010. For spouses of retired members, Pub-2010 contingent survivor above-median amount-weighted mortality, adjusted by a factor of 109.7% of gender-specific table rates at each age rates, with generational improvements using 75% of most recent projection scale (currently Scale MP-2021) and a base year of 2010.

The disabled retiree mortality tables, for post-retirement mortality, used in evaluating allowances to be paid were the PubS-2010 total disabled public safety annuitant amount-weighted mortality, adjusted by a factor of 101.6% of gender-specific table rates at each age rates, with generational improvements using 75% of most recent projection scale (currently Scale MP-2021) and a base year of 2010. For spouses of disabled members, Pub-2010 contingent survivor above-median amount-weighted mortality, adjusted by a factor of

109.7% of gender-specific table rates at each age rates, with generational improvements using 75% of most recent projection scale (currently Scale MP-2021) and a base year of 2010.

Experience Study

The rates of retirement, disability incidence and classification, withdrawal, mortality improvement, and salary increases used in this report were updated to better reflect anticipated plan experience based on the results of an actuarial experience study for the period December 31, 2017 through December 31, 2022.

Note 9 Net Other Postemployment Benefits (OPEB) Liability and Actuarial Information

The components of the net OPEB liability as of December 31, 2023:

Schedule of Net OPEB Liability
Year ended December 31

Year	Total OPEB Liability	Fiduciary Net Position	Net OPEB Liability	Plan Net Position as a % of Total OPEB Liability	Covered Payroll[1]	Net OPEB Liability as a % of Covered Payroll
2017	$566,130,019	$111,798,820	$454,331,199	19.75%	$112,705,188	403.11%
2018	459,600,937	101,827,574	357,773,363	22.16%	116,009,622	308.40%
2019	581,436,281	110,986,378	470,449,903	19.00%	118,370,595	397.44%
2020	752,036,057	118,622,893	633,413,164	15.77%	117,996,230	536.81%
2021	510,842,828	130,128,730	380,714,098	25.47%	111,621,001	341.08%
2022	353,427,147	115,135,796	238,291,351	32.58%	112,476,672	211.86%
2023	342,145,634	123,899,283	218,246,351	36.21%	122,123,467	178.71%

Source: GRS/Foster & Foster

The Total OPEB Liability was determined by an actuarial valuation as of December 31, 2022, using the key actuarial assumptions, methods, and other inputs listed below as of December 31, 2023 and projected to that date assuming no changes in the projected eligible member population during the measurement period.

Actuarial Assumptions	
Valuation Date	December 31, 2022, projected to December 31, 2023
Inflation	2.75% wage inflation; 2.50% price inflation
Salary Increases	3.90% to 20.50% including inflation
Investment Rate of Return	7.25%
Health Care Cost Trend	Medicare Eligible (HRA): 5.60% for 2023, decreasing to an ultimate rate of 4.75% by 2030
	Medicare Ineligible: 7.50% for 2023, decreasing to an ultimate rate of 4.75% by 2032
	Dental: 4.00% for all years
	Vision: 3.25% for all years

Long-Term Expected Return on Plan Assets

The long-term expected return on OPEB net assets is determined by a model that uses expected arithmetic returns for a given investment horizon to determine the underlying log-normally distributed (i.e., "geometric") returns for each asset class and for the entire portfolio and reflects certain inputs and assumptions such as long-term inflation rate and the System's Annual Investment Plan and long-term asset allocation. The resulting long-term expected rate of return is equal to the geometric combination of the allocation-weighted average expected real rate of return of the portfolio and the expected long-term rate of inflation. The development of the expected long-term rate of return based on the OPEB Plan's asset allocation and the estimates of arithmetic real rates of return for each major asset class as is:

Asset Allocation
December 31, 2023

Asset Class	Target Allocations	Long-Term Expected Real Rate of Return
Cash	4.00%	0.30%
Domestic Equity	20.00	4.30
Global Equity	22.00	6.30
Non-US Equity	6.00	4.40
Opportunistic Fixed Income	9.00	3.00
Core Fixed Income	6.00	1.60
Real Estate	8.00	7.60
Private Equity	15.00	8.20
Absolute Return	6.00	3.90
Real Assets	4.00	5.60
Total	100.00%	

Source: Foster & Foster

Single Discount Rate

A single discount rate of 4.28% was used to measure the total OPEB liability. This single discount rate was a blended rate based on the expected rate of return on pension plan investments of 7.25% and the municipal bond rate of 4.00%. The municipal bond rate is based on the S&P Municipal Bond 20 Year High Grade Rate Index as published by the S&P Dow Jones Indices and prescribed it for use in determining the Plan's discount rate under GASB accounting rules as of the Measurement Date. The projection of cash flows used to determine this single discount rate assumed that:

(1) Total payroll for the initial projection year consists of the payroll of the active membership as of the Valuation Date who are expected to be actively employed on the Measurement Date. In subsequent years, total payroll was assumed to increase annually by a rate of 2.75%
(2) The System is assumed to make no projected contributions to the Plan
(3) Active employees do not explicitly contribute to the Plan
(4) The average administrative expenses of the two most recent years were projected to increase 2.50% annually and were allocated to current and future employees based on the change in the percentage of total membership attributable to each group during each future period and are assumed to be paid in the middle of each fiscal year

Based on these assumptions, the OPEB Plan's fiduciary net position was projected to fund expected benefit payments through 2036, and as a result, the municipal bond rate was used to determine the discount rate. Therefore, the long-term expected rate of return on pension plan investments of 7.25% was used to discount projected benefit payments for roughly 13 years, and the remaining benefit payments were discounted using the S&P municipal bond rate. The resulting single equivalent discount rate was 4.28% as of December 31, 2023, and this discount rate was used, as prescribed, in the measurement of the Plan's Total Pension Liability under GASB accounting rules.

Regarding the sensitivity of the net OPEB liability to changes in the single discount rate, the following presents the plan's net OPEB liability, calculated using a single discount rate of 4.28%, as well as what the plan's net OPEB liability would be if it were calculated using a single discount rate that is 1 percentage-point lower or 1 percentage-point higher:

Net OPEB Liability Sensitivity			
	1% Decrease 3.28%	**Current Single Discount Rate Assumption 4.28%**	**1% Increase 5.28%**
Net OPEB Liability	$282,711,409	$218,246,351	$168,293,550
			Source: Foster & Foster

Regarding the sensitivity of the net OPEB liability to changes in the health care cost trend rates, the following presents the plan's net OPEB liability, calculated using the assumed trend rates as well as what the plan's net OPEB liability would be if it were calculated using a trend rate that is 1percentage-point lower or 1% percentage-point higher:

Net OPEB Liability Sensitivity			
	1% Decrease	**Current Health Care Cost Trend Rate Assumption**	**1% Increase**
Net OPEB Liability	$162,626,919	$218,246,351	$291,552,249
			Source: Foster & Foster

Mortality Rates for OPEB

The pre-retirement mortality tables, for post-retirement mortality, used in evaluating allowances to be paid were the PubS-2010 healthy public safety employee below median amount-weighted mortality, adjusted by a factor of 100.4% of gender-specific table rates at each age, with generational improvements using 75% of the most recent projection scale (currently scale MP-2021) and a base year of 2010. For spouses of deceased members, Pub-2010 contingent survivor above-median amount-weighted adjusted by a factor of 109.7% of gender-specific table rates at each age, with generational improvements using 75% of most recent projection scale (currently Scale Mp-2021) and a base year of 2010.

The healthy retiree mortality tables, for post-retirement mortality, used in evaluating allowances to be paid were the PubS-2010 total healthy public safety annuitant amount-weighted mortality, adjusted by a factor of 94.5% of gender-specific table rates at each age, with generational improvements using 75% of most recent projection scale (currently Scale MP-2021) and a base year of 2010. For spouses of retired members, Pub-2010 contingent survivor above-median amount-weighted mortality, adjusted by a factor of 109.7% of gender-specific table rates at each age rates, with generational improvements using 75% of most recent projection scale (currently Scale MP-2021) and a base year of 2010.

The disabled retiree mortality tables, for post-retirement mortality, used in evaluating allowances to be paid were the PubS-2010 total disabled public safety annuitant amount-weighted mortality, adjusted by a factor of 101.6% of gender-specific table rates at each age rates, with generational improvements using 75% of most recent projection scale (currently Scale MP-2021) and a base year of 2010. For spouses of disabled members, Pub-2010 contingent survivor above-median amount-weighted mortality, adjusted by a factor of 109.7% of gender-specific table rates at each age rates, with generational improvements using 75% of most recent projection scale (currently Scale MP-2021) and a base year of 2010.

Experience Study
The actuarial assumptions used in this report were last reviewed and updated as part of the five-year experience study for the period December 31, 2017 through December 31, 2022.

Note 10 Pension and OPEB Benefits for Employees

Plan Description – Ohio Public Employees Retirement System (OPERS)
The employees of HPRS are members of OPERS. OPERS administers three separate pension plans: The Traditional Pension Plan – a cost-sharing, multiple-employer defined benefit pension plan; the Member-Directed Plan – a defined contribution plan; and the Combined Plan – a cost-sharing, multiple-employer defined benefit pension plan that has elements of both a defined benefit and defined contribution plan. Effective January 1, 2022, new members may no longer select the Combined Plan, and current members may no longer make a plan change to this plan.

OPERS maintains a cost-sharing, multiple-employer defined benefit post-employment health care trust, which funds multiple health care plans including medical coverage, prescription drug coverage and deposits to a Health Reimbursement Arrangement to qualifying benefit recipients of both the Traditional Pension and the Combined plans. This trust is also used to fund health care for Member-Directed Plan participants, in the form of a Retiree Medical Account (RMA). At retirement or refund, Member-Directed Plan participants may be eligible for reimbursement of qualified medical expenses from their vested RMA balance.

To qualify for health care coverage, age-and-service retirees under the Traditional Pension and Combined plans must have 20 or more years of qualifying Ohio service credit. Health care coverage for disability benefit recipients and qualified survivor benefit recipients is available. The health care coverage provided by OPERS meets the definition of an Other Post Employment Benefit (OPEB) as described in GASB Statement 75. Please see the Plan Statement in the OPERS 2022 Annual Comprehensive Financial Report for details.

The Ohio Revised Code permits, but does not require, OPERS to provide health care to its eligible benefit recipients. Authority to establish and amend health care coverage is provided to the OPERS Board of Trustees (OPERS Board) in Chapter 145 of the Ohio Revised Code.

OPERS issues a stand-alone financial report. Interested parties may obtain a copy by visiting https://www.opers.org/financial/reports.shtml, by writing to OPERS, 277 East Town Street, Columbus, OH 43215-4642, or by calling 614.222.5601 or 800.222.7377.

Funding Policy

The Ohio Revised Code provides the statutory authority requiring public employers to fund health care through their contributions to OPERS. A portion of each employer's contribution to OPERS is set aside to fund OPERS health care plans.

Employer contribution rates are expressed as a percentage of the earnable salary of active members. In 2023, State and Local employers contributed at a rate of 14.0% of earnable salary and Public Safety and Law Enforcement employers contributed at 18.1%. These are the maximum employer contribution rates permitted by the Ohio Revised Code. Active member contributions do not fund health care.

HPRS employer contributions to OPERS for the years ended December 31, 2023, 2022, and 2021, were $119,717, $116,816, and $106,673, respectively, which were equal to the required contributions for each year.

Each year, the OPERS Board determines the portion of the employer contribution rate that will be set aside to fund health care plans. As recommended by OPERS' actuary, the portion of employer contributions allocated to health care beginning January 1, 2018 decreased to 0.0% for both the Traditional and Combined plans. The OPERS Board is also authorized to establish rules for the retiree or their surviving beneficiaries to pay a portion of the health care provided. Payment amounts vary depending on the number of covered dependents and the coverage selected. The employer contribution as a percentage of covered payroll deposited for Member-Directed Plan for 2022 was 4.0%.

Pension Assets, Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

At December 31, 2023, HPRS reported a liability of $1,161,515 for its proportionate share of the Traditional Plan's net pension liability and an asset of $92,796 for its proportionate share of the Combined Plan's net pension asset. The net pension liability and asset were measured as of December 31,

2022, and the total pension liability used to calculate the net pension liability and asset was determined by an actuarial valuation as of that date. HPRS's proportion of the net pension liability was based on a projection of the system's long-term share of contributions to the pension plan relative to the projected

contributions of all participating employers, actuarially determined. At December 31, 2022, HPRS's proportions were as follows:

Traditional Plan	0.003932%
Combined Plan	0.039372%

For the year ended December 31, 2023, HPRS recognized pension expense of $176,170.

At December 31, 2023, HPRS reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

Deferred Outflows and Inflows of Resources

	Deferred *Outflows* of Resources	Deferred *Inflows* of Resources
Difference between expected and actual experience	$44,286	$13,259
Net difference between projected and actual earnings on pension plan investments	364,887	-
Assumption changes	18,414	-
Changes in proportion	11,323	22,893
Contributions subsequent to the measurement date	115,586*	-
Total	554,496	36,152

*$115,586 reported as deferred outflows of resources related to pensions resulting from HPRS' contributions subsequent to the measurement date will be recognized as a reduction of net pension liability in the year ending December 31, 2024.

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended December 31:	
2024	39,298
2025	82,511
2026	104,396
2027	175,026
2028	(130)
2029	685
2030	778
2031	197

Actuarial Assumptions – OPERS Pension

The total pension liability in the December 31, 2022 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Actuarial Assumption - OPERS December 31, 2020 Valuation Date		
	Traditional Pension Plan	Combined Plan
Investment Rate of Return	6.90%	6.90%
Wage Inflation	2.75%	2.75%
Projected Salary Increases	2.75% - 10.75% (includes wage inflation at 2.75%)	2.75% - 8.25% (includes wage inflation at 2.75%)
Cost-of-Living Adjustments	Pre 1/7/2013 Retirees: 3.00% Simple; Post 1/7/2013 Retirees: 3.00% Simple through 2023, then 2.05% Simple	Pre 1/7/2013 Retirees: 3.00% Simple; Post 1/7/2013 Retirees: 3.00% Simple through 2023, then 2.05% Simple

Pre-retirement mortality rates are based on 130% of the Pub-2010 General Employees mortality tables (males and females) for State and Local Government divisions and 170% of the Pub-2010 Safety Employee mortality tables (males and females) for the Public Safety and Law Enforcement divisions. Post-retirement mortality rates are based on 115% of the PubG-2010 Retiree mortality tables (males and females) for all divisions. Post-retirement mortality rates for disabled retirees are based on the PubNS-2010 Disabled Retiree mortality table (males and females) for all divisions. For all of the previously described tables, the base year is 2010 and mortality rates for a particular calendar year are determined by applying the MP-2020 mortality improvement scales (males and females) to all of these tables.

The discount rate used to measure the total pension liability was 6.90% for the Traditional Pension Plan, Combined Plan and Member-Directed Plan. The projection of cash flows used to determine the discount rate assumed that contributions from plan members and those of the contributing employers are made at the contractually required rates, as actuarially determined. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments for the Traditional Pension Plan, Combined Plan and Member-Directed Plan was applied to all periods of projected benefit payments to determine the total pension liability.

The following table presents HPRS' proportionate share of the net pension liability or asset calculated using the discount rate of 6.90%, as well as what HPRS's proportionate share of the net pension liability would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current rate:

Sensitivity of HPRS' proportionate share of the Net Pension Liability (Asset)			
	1% Decrease – 5.9%	**Current Rate – 6.9%**	**1% Increase – 7.9%**
Traditional Plan HPRS	$1,739,910	$1,161,515	$680,393
Combined Plan HPRS	(48,428)	(92,796)	(127,959)

The allocation of investment assets within the Defined Benefit portfolio is approved by the Board as outlined in the annual investment plan. Plan assets are managed on a total return basis with a long-term objective of achieving and maintaining a fully funded status for the benefits provided through the defined benefit pension plans. The following table displays the Board-approved asset allocation policy for 2022 and the long-term expected real rates of return.

OPERS Asset Allocation
December 31, 2022

Asset Class	Target Allocation	Weighted Average Long-Term Expected Real Rate of Return (Geometric)
Fixed Income	22.00%	2.62%
Domestic Equities	22.00	4.60
Real Estate	13.00	3.27
Private Equity	15.00	7.53
International Equities	21.00	5.51
Risk Parity	2.00	4.37
Other Investments	5.00	3.27
Total	100.00%	

The long-term expected rate of return on defined benefit investment assets was determined using a building-block method in which best estimate ranges of expected future real rates of return are developed for each major asset class.

These ranges are combined to produce the long-term expected real rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adjusted for inflation. Best estimates of geometric rates of return were provided by the Board's investment consultant.

During 2022, OPERS managed investments in three investment portfolios: the Defined Benefit portfolio, the Health Care portfolio, and the Defined Contribution portfolio. The Defined Benefit portfolio contains the investment assets the Traditional Pension Plan, the defined benefit component of the Combined Plan and the annuitized accounts of the Member-Directed Plan. Within the Defined Benefit portfolio, contributions into the plans are recorded at the same time, and benefit payments all occur on the first of the month. Accordingly, the money-weighted rate of return is considered to be the same for all plans within the portfolio. The annual money-weighted rate of return expressing investment performance, net of investment expenses and adjusted for the changing amounts actually invested, for the Defined Benefit portfolio was a loss of 12.1% for 2022.

OPEB Liabilities, OPEB Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

At December 31, 2023, HPRS reported a liability of $32,594 for its proportionate share of OPERS net OPEB liability. The net OPEB liability was measured as of December 31, 2022, and the total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation as of that date. HPRS's proportion of the net OPEB liability was based on a projection of the system's long-term share of contributions to the OPEB plan relative to the projected contributions of all participating employers, actuarially determined. At December 31, 2022, HPRS' proportion was as follows:

OPEB	0.005169%

For the year ended December 31, 2023, HPRS recognized OPEB income of $60,269.

At December 31, 2023, HPRS reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

Deferred Outflows and Inflows of Resources	Deferred *Outflows* of Resources	Deferred *Inflows* of Resources
Difference between expected and actual experience	$-	$8,130
Net difference between projected and actual earnings on pension plan investments	64,728	-
Assumption changes	31,833	2,619
Changes in proportion	9,670	9,937
Contributions subsequent to the measurement date	4,124	-
Total	110,355	20,686

Amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in pension expense as follows:

Year ended December 31:	
2024	10,308
2025	23,782
2026	20,184
2027	31,269

Actuarial Assumptions – OPERS OPEB

The total OPEB liability was determined by an actuarial valuation as of December 31, 2021, rolled forward to the measurement date of December 31, 2022. The actuarial valuation used the following actuarial assumptions applied to all prior periods included in the measurement in accordance with the requirements of GASB 74:

Actuarial Assumption - OPERS December 31, 2021 Valuation Date (rolled forward to December 31, 2022)	
	OPEB
Single Discount Rate	5.22%
Investment Rate of Return	6.00%
Municipal Bond Rate	4.05%
Wage Inflation	2.75%
Projected Salary Increases	2.75% - 10.75% (includes wage inflation at 2.75%)
Health Care Cost Trend Rate	5.50% Initial 3.50% Ultimate in 2036

Pre-retirement mortality rates are based on 130% of the Pub-2010 General Employee mortality tables (males and females) for State and Local Government divisions and 170% of the Pub-2010 Safety Employee mortality tables (males and females) for the Public Safety and Law Enforcement divisions. Post-retirement mortality rates are based on 115% of the PubG-2010 Retiree mortality tables (males and females) for all divisions. Post-retirement mortality rates for disabled retirees are based on the Pub NS-2010 Disabled mortality tables (males and females) for all divisions. For all of the previously described tables, the base year is 2010 and mortality rates for a particular calendar year are determined by applying the MP-2020 mortality improvement scale to all of these tables.

A single discount rate of 5.22% was used to measure the total OPEB liability on the measurement date of December 31, 2022; however, the single discount rate used at the beginning of the year was 6.00%. Projected benefit payments are required to be discounted to their actuarial present value using a single discount rate that reflects (1) a long-term expected rate of return on OPEB plan investments (to the extent that the health care fiduciary net position is projected to be sufficient to pay benefits), and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate are not met). This single discount rate was based on an expected rate of return on the health care investment portfolio of 6.00% and a municipal bond rate of 4.05%. The projection of cash flows used to determine this single discount rate assumed that employer contributions will be made at rates equal to the actuarially determined contribution rate. Based on these assumptions, the health care fiduciary net position and future contributions were sufficient to finance health care costs through 2054. As a result, the long-term expected rate of return on health care investments was applied to projected costs through the year 2054, and the municipal bond rate was applied to all health care costs after that date.

The following table presents HPRS's proportionate share of the net OPEB asset or liability calculated using the discount rate of 5.22%, as well as what HPRS's proportionate share of the net OPEB asset or liability would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current rate:

Sensitivity of HPRS' proportionate share of the Net OPEB Liability/Asset			
	1% Decrease – 4.22%	**Current Rate – 5.22%**	**1% Increase – 6.22%**
Net OPEB Liability/Asset	$110,927	$32,594	($32,048)

Retiree health care valuations use a health care cost-trend assumption that changes over several years built into the assumption. The near-term rates reflect increases in the current cost of health care; the trend starting in 2023 is 5.50%. If this trend continues for future years, the projection indicates that years from now virtually all expenditures will be for health care. A more reasonable alternative is that the health plan cost trend will decrease to a level at, or near, wage inflation. On this basis, the actuaries project premium rate increases will continue to exceed wage inflation for approximately the next decade, but by less each year, until leveling off at an ultimate rate, assumed to be 3.50% in the most recent valuation.

Changes in the health care cost trend rate may also have a significant impact on the net OPEB liability or asset. The following table presents HPRS' proportionate share of the net OPEB liability calculated using the assumed trend rates, as well as what HPRS's proportionate share of the net OPEB liability would be if it were calculated using a health care cost trend rate that is one percentage point lower or one percentage point higher than the current rate:

Sensitivity of HPRS' proportionate share of the Net OPEB Liability/Asset			
	1% Decrease	**Current Rate**	**1% Increase**
Net OPEB Liability	$30,549	$32,594	$34,891

The allocation of investment assets within the Health Care portfolio is approved by the Board as outlined in the annual investment plan. Assets are managed on a total return basis with a long-term objective of continuing to offer a sustainable health care program for current and future retirees. The System's primary goal is to achieve and maintain a fully funded status for benefits provided through the defined pension plans. Health care is a discretionary benefit. The table below displays the Board-approved asset allocation policy for 2022 and the long-term expected real rates of return:

OPERS OPEB Asset Allocation
December 31, 2022

Asset Class	Target Allocation	Weighted Average Long-Term Expected Real Rate of Return (Geometric)
Fixed Income	34.00%	2.56%
Domestic Equities	26.00	4.60
Real Estate	7.00	4.70
International Equities	25.00	5.51
Risk Parity	2.00	4.37
Other Investments	6.00	1.84
Total	100.00%	

The long-term expected rate of return on health care investment assets was determined using a building-block method in which best-estimate ranges of expected future real rates of return are developed for each major asset class. These ranges are combined to produce the long-term expected real rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adjusted for inflation. Best estimates of geometric rates of return were provided by the Board's investment consultant.

During 2022, OPERS managed investments in three investment portfolios: the Defined Benefit portfolio, the Health Care portfolio, and the Defined Contribution portfolio. The Health Care portfolio includes the assets for health care expenses for the Traditional Pension Plan, Combined Plan and Member-Directed Plan eligible members. Within the Health Care portfolio, contributions into the plans are assumed to be received continuously throughout the year based on the actual payroll payable at the time contributions are made, and health care-related payments are assumed to occur mid-year. Accordingly, the money-weighted rate of return is considered to be the same for all plans within the portfolio. The annual money-weighted rate of return expressing investment performance, net of investment expenses and adjusted for the changing amounts actually invested, for the Health Care portfolio was a loss of 15.6% for 2022.

Note 11 DROP Activity

DROP Activity
Year ended December 31, 2023

Beginning Balance	$29,561,772
Contributions	7,486,900
Distributions	(4,161,826)
Net Adjustments	3,157,573
Ending Balance	$36,044,419

Note 12 Risk Management

HPRS purchases insurance coverage for general liability, property damage, cyber, and employee and public official liability with varying policy limits. In the past three years, no settlements have exceeded insurance coverage, and coverage has not been significantly reduced.

Note 13 Contingent Liabilities

At any given time, HPRS is a party to various litigation actions. While the final outcome of any action cannot be determined, management does not expect that the liability, if any, for these legal actions will have a material adverse effect on the financial position of HPRS.

Required Supplementary Schedules

Schedule of Changes in Net Pension Liability and Related Ratios
Years ended December 31, 2014-2023

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total Pension Liability										
Service Cost	18,710,927	$19,112,038	$19,853,117	$20,462,293	$29,856,107	$19,678,759	$19,634,876	$18,094,205	$17,805,023	$17,656,943
Interest on the Total Pension Liability	96,062,795	93,506,132	92,394,742	90,170,736	85,534,239	89,298,391	85,936,111	84,194,909	81,577,033	79,175,488
Benefit Changes	42,714	-	-	-	-	-	(5,681,779)	-	-	-
Difference between Expected & Actual Experience	13,217,351	9,925,954	(7,142,981)	5,921,752	(7,402,798)	537,872	17,854,158	(8,632,852)	(6,365,985)	-
Assumption Changes	(3,291,639)	-	-	-	(241,353,490)	256,572,285	-	-	40,773,369	-
Benefit Payments/Refunds	(85,095,061)	(88,662,320)	(89,406,239)	(81,133,089)	(75,133,584)	(72,294,328)	(76,467,776)	(67,451,163)	(67,070,879)	(66,703,454)
Net Change in Total Pension Liability	39,647,087	33,881,804	15,698,639	35,421,692	(208,499,526)	293,792,979	41,275,590	26,205,099	66,718,561	30,128,977
Total Pension Liability – Beginning	**1,348,840,676**	**1,314,958,872**	**1,299,260,233**	**1,263,838,541**	**1,472,338,067**	**1,178,545,088**	**1,137,269,498**	**1,111,064,399**	**1,044,345,838**	**1,014,216,861**
Total Pension Liability – Ending (a)	**1,388,487,763**	**1,348,840,676**	**1,314,958,872**	**1,299,260,233**	**1,263,838,541**	**1,472,338,067**	**1,178,545,088**	**1,137,269,498**	**1,111,064,399**	**1,044,345,383**
Plan Fiduciary Net Position										
Employer Contributions	33,039,696	28,972,464	30,089,578	32,855,342	33,107,047	26,014,314	26,109,836	25,383,684	22,895,242	22,325,421
Employee Contributions	18,659,600	18,004,154	16,489,483	18,106,460	16,252,737	14,451,649	14,504,919	14,101,171	13,686,292	11,577,268
Pension Plan Net Investment Income	127,085,384	(96,156,340)	136,722,435	121,225,640	129,802,232	(37,810,306)	101,482,224	46,423,125	(5,701,922)	45,104,959
Benefit Payments/Refunds	(85,095,061)	(88,662,320)	(89,406,239)	(81,146,074)	(75,133,584)	(72,294,328)	(76,467,776)	(67,451,163)	(67,070,879)	(66,703,454)
Pension Plan Administrative Expense	(1,996,434)	(1,331,254)	(970,978)	(1,509,348)	(1,649,904)	(1,435,864)	(1,437,267)	(1,352,722)	(1,084,161)	(1,031,473)
Other			-	-	-	199,355	478,548	356,527	838,582	420,984
Net Change in Plan Fiduciary Net Position	**91,723,185**	**(139,173,296)**	**92,924,279**	**89,532,020**	**102,378,528**	**(70,875,180)**	**64,670,484**	**17,460,622**	**(36,436,846)**	**11,693,705**
Plan Fiduciary Net Position – Beginning	**861,142,491**	**1,000,315,787**	**907,391,508**	**817,859,488**	**715,480,960**	**786,356,140**	**721,685,656**	**704,225,034**	**740,661,880**	**728,968,175**
Plan Fiduciary Net Position – Ending (b)	**952,865,676**	**861,142,491**	**1,000,315,787**	**907,391,508**	**817,859,488**	**715,480,960**	**786,356,140**	**721,685,656**	**704,225,034**	**740,661,880**
Net Pension Liability – Ending (a) – (b)	**435,622,087**	**$487,698,185**	**$314,643,085**	**$391,868,725**	**$445,979,053**	**$756,857,107**	**$392,188,948**	**$415,583,842**	**$406,839,365**	**$303,683,503**
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	68.63%	63.84%	76.07%	69.84%	64.71%	48.59%	66.72%	63.46%	63.38%	70.92%
Covered Payroll	118,412,014	112,476,672	$111,621,001	$117,996,230	$118,370,595	$116,009,622	$112,705,188	$108,788,871	$99,983,221	$99,211,756
Net Pension Liability as a Percentage of Covered Payroll	367.89%	433.60%	281.89%	332.10%	376.77%	652.41%	347.98%	382.01%	406.91%	306.10%
Notes to Schedule:	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source: GRS/F&F

Schedule of Employer Contributions - Pension
Years ended December 31, 2014 - 2023

Year	Actuarially Calculated Employer Contribution	Actual Contributions	Annual Contribution Deficiency	Covered Payroll	Annual Contributions as a % of Covered Payroll	% Contributed
2014	29,767,228	22,325,421	(7,441,807)	99,211,756	22.50	75
2015	22,446,316	22,895,242	448,926	99,983,224	22.90	102
2016	24,407,389	25,383,684	976,295	108,788,871	23.33	104
2017	25,349,355	26,109,836	760,481	112,705,188	23.17	103
2018	26,014,314	26,014,314	0	116,009,622	22.42	100
2019	31,269,882	33,107,047	1,837,165	118,370,595	27.97	106
2020	32,265,286	32,855,342	590,056	117,996,230	27.84	102
2021	31,938,478	30,089,578	(1,848,900)	111,621,001	26.96	94
2022	28,708,522	28,972,464	263,942	112,476,672	25.76	100
2023	30,818,072	33,039,696	(2,221,624)	118,412,014	27.90	107

Source: GRS/F&F

Schedule of Investment Returns
Year ended December 31

	Annual Return[1]
2023	14.14%
2022	(9.46)
2021	16.43
2020	16.90
2019	18.22
2018	(5.23)
2017	14.15
2016	6.60
2015	(0.61)
2014	5.99

Source: Clearstead

[1]Annual money-weighted rate of return, net of investment expenses

Notes to the Trend Data - Pension

Valuation Date	December 31, 2022
Actuarial Cost Method	Entry Age Normal (Level Percent of Pay)
Amortization Method	Level-Percentage Closed
Remaining Amortization Period	21 years
Asset Valuation Method	Four-year smoothed market with a 20% Corridor
Inflation	3.00% wage inflation; 2.50% price inflation
Salary Increases	3.80% to 13.50% including inflation
Investment Rate of Return	7.25%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition
Mortality	Healthy Active Lives: PubS-2010 (amount-weighted) employee tables. Retiree and Vested Terminated Lives: PubS-2010 (amount-weighted) healthy retiree tables adjusted by 94%. Contingent Survivor Lives: PubS-2010 (amount-weighted, above-median) contingent survivor tables adjusted by 105%. Disabled Lives: PubS-2010 (amount-weighted) disabled retiree tables. The mortality assumptions for all participants are sex distinct with mortality improvement projected five years beyond the valuation date using scale MP-2021 and a base year of 2010.

Schedule of Changes in Net OPEB Liability and Related Ratios
Years ended December 31, 2017-2023

	2023	2022	2021	2020	2019	2018	2017
Total OPEB Liability							
Service Cost	$9,307,666	$18,271,163	$29,981,189	$19,270,150	$18,125,171	$26,136,968	$23,656,819
Interest on the Total OPEB liability	16,114,845	12,959,444	15,920,330	19,149,833	16,991,685	19,662,580	19,242,920
Changes of benefit terms	-	-	(142,052,226)	-	-	-	709,187
Difference between Expected and Actual Experience	(1,715,893)	(5,746,989)	5,300,713	(26,653,702)	(26,860,308)	(74,912,273)	(1,203,916)
Assumption Changes	(27,494,916)	(177,048,514)	(144,181,853)	167,136,540	122,197,501	(68,877,841)	46,862,079
Benefit payments, including refunds of employee contributions	(7,493,215)	(5,850,785)	(6,161,382)	(8,303,045)	(8,618,705)	(8,538,516)	(9,433,745)
Net Change in Total OPEB Liability	(11,281,513)	(157,415,681)	(241,193,229)	170,599,776	121,835,344	(106,529,082)	79,833,344
Total OPEB Liability - Beginning	**353,427,147**	**510,842,828**	**752,036,057**	**581,436,281**	**459,600,937**	**566,130,019**	**486,296,675**
Total OPEB Liability - Ending (a)	**342,145,634**	**353,427,147**	**510,842,828**	**752,036,057**	**581,436,281**	**459,600,937**	**566,130,019**
Plan Fiduciary Net Position							
Employer Contributions	-	3,890,000	-	-	-	4,623,201	4,640,177
Employee Contributions	-	-	-	-	-	-	-
Net investment income	16,512,479	(12,854,216)	17,793,515	16,140,521	18,006,553	(5,852,119)	14,467,179
Benefit payments, including refunds of employee contributions	(7,493,215)	(5,850,785)	(6,161,382)	(8,303,045)	(8,618,705)	(8,538,516)	(9,433,745)
OPEB plan administrative expense	(255,777)	(177,933)	(126,296)	(200,961)	(229,044)	(203,812)	(204,198)
Net Change in Plan Fiduciary Net Position	**8,763,487**	**(14,992,934)**	**11,505,837**	**7,636,515**	**9,158,804**	**(9,971,246)**	**9,469,413**
Plan Fiduciary Net Position - Beginning	**115,135,796**	**130,128,730**	**118,622,893**	**110,986,378**	**101,827,574**	**111,798,820**	**102,329,407**
Plan Fiduciary Net Position - Ending (b)	**123,899,283**	**115,135,796**	**130,128,730**	**118,622,893**	**110,986,378**	**101,827,574**	**111,798,820**
Net OPEB Liability - Ending (a) - (b)	**$218,246,351**	**$238,291,351**	**$380,714,098**	**$633,413,164**	**$470,449,903**	**$357,773,363**	**$454,331,199**
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	36.21%	32.58%	25.47%	15.77%	23.59%	22.16%	19.75%
Covered Payroll²	122,123,467	$112,476,672	$111,621,001	$117,996,230	$118,370,595	$116,009,622	$112,705,188
Net OPEB Liability as a Percentage of Covered Payroll	178.71%	211.86%	341.08%	536.81%	397.44%	308.40%	403.11%

Source: GRS/F&F

Schedule of Employer Contributions - OPEB
Years ended December 31, 2017-2023

Year	Actuarially Calculated Employer Contribution	Actual Contributions	Annual Contribution Deficiency (Excess)	Covered Payroll	Annual Contributions as a % of Covered Payroll	% Contributed
2017	30,774,152	4,640,177	26,133,975	112,705,188	4.12%	15.08%
2018	22,105,633	4,623,201	17,482,432	116,009,622	3.99%	20.91%
2019	15,228,377	-	15,228,377	118,370,595	0.00%	0.00%
2020	17,303,902	-	17,303,902	117,996,230	0.00%	0.00%
2021	15,435,382	-	15,435,382	111,621,001	0.00%	0.00%
2022	10,787,780	3,890,000	6,897,780	112,476,672	3.46%	36.05%
2023	9,146,859	-	9,146,859	122,123,467	0.00%	0.00%

Source: GRS / F&F

Schedule of Investment Returns

Year ended December 31

	Annual Return
2023	14.14%
2022	(9.46)
2021	16.43
2020	16.90
2019	18.22
2018	(5.23)
2017	14.15
2016	6.60
2015	(0.61)
2014	5.99

Source: Clearstead

Notes to the Trend Data - OPEB

Valuation Date	December 31, 2022
Actuarial Cost Method	Entry Age Normal
Amortization Method	Level percent of pay - open
Equivalent Single Amortization Period	30 years
Asset Valuation Method	Four-year smoothed market with a 20% Corridor
Inflation	3.50% wage inflation; 2.50% price inflation
Salary Increases	3.80% to 13.50% including inflation
Investment Rate of Return	7.25%, net to OPEB plan investment expense, including inflation
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition.

		Schedule of HPRS' Proportionate Share of the Net Pension Liability – Last 10 Years[1]							
Ohio Public Employees Retirement System – Traditional Pension Plan	**2023**	**2022**	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**
HPRS' proportion of the net pension liability (asset)	0.003932%	0.003889%	0.003991%	0.004088%	0.004527%	0.004786%	0.004728%	0.004710%	0.005055%
HPRS' proportionate share of the net pension liability (asset)	$1,161,515	$338,359	$590,980	$808,021	$1,239,854	$750,831	$1,073,648	$815,831	$609,690
HPRS' covered payroll	610,622	564,480	562,179	575,112	611,504	632,469	611,150	586,187	619,711
HPRS' proportionate share of the net pension liability (asset) as a % of its covered payroll	190%	60%	105%	140%	203%	119%	176%	139%	98%
Plan fiduciary net position as a % of the total pension liability	75.74%	92.62%	86.88%	82.17%	74.70%	84.66%	77.25%	81.08%	86.45%
Ohio Public Employees Retirement System – Combined Pension Plan	**2023**	**2022**	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**
HPRS' proportion of the net pension liability (asset)	0.039372%	0.037338%	0.037444%	0.034801%	0.017626%	0.011893%	0.011169%	0.010530%	0.010396%
HPRS' proportionate share of the net pension liability (asset)	(92,796)	(147,114)	(108,087)	(72,437)	(19,710)	(16,190)	(6,216)	(5,124)	(4,003)
HPRS' covered payroll	170,164	170,220	165,016	154,720	75,384	48,708	43,475	38,320	36,600
HPRS' proportionate share of the net pension liability (asset) as a % of its covered payroll	55%	86%	66%	47%	26%	33%	14%	13%	11%
Plan fiduciary net position as a % of the total pension liability	137.14%	169.88%	157.67%	145.28%	126.64%	137.28%	116.55%	116.90%	114.83%

[1]Additional years will be added as they become available

Schedule of Contributions - Last 10 Years[1]

Ohio Public Employees Retirement System – Traditional Pension Plan	2023	2022	2021	2020	2019	2018	2017	2016	2015
Contractually required contribution	$85,487	$79,028	$78,705	$80,516	$85,611	$82,221	$73,338	$70,343	$74,365
Contributions in relation to the contractually required contribution	85,487	79,028	78,705	80,516	85,611	82,221	73,338	70,343	74,365
Contribution deficiency (excess)	-	-	-	-	-	-	-	-	-
HPRS' covered payroll	610,622	564,480	562,179	575,112	611,504	632,469	611,150	586,187	619,711
Contributions as a % of covered payroll	14%	14%	14%	14%	14%	13%	12%	12%	12%
Ohio Public Employees Retirement System – Combined Pension Plan	**2023**	**2022**	**2021**	**2020**	**2019**	**2018**	**2017**	**2016**	**2015**
Contractually required contribution	23,823	23,831	23,102	21,689	10,554	6,332	5,217	4,598	4,560
Contributions in relation to the contractually required contribution	23,823	23,831	23,102	21,689	10,554	6,332	5,217	4,598	4,560
Contribution deficiency (excess)	-	-	-	-	-	-	-	-	-
HPRS' covered payroll	170,164	170,220	165,016	154,720	75,384	48,708	43,475	38,320	36,600
Contributions as a % of covered-employee payroll	14%	14%	14%	14%	14%	13%	12%	12%	12%

[1]Additional years will be added as they become available

Notes to Required Supplementary Schedules

Schedule of Changes in Net Pension Liability and Net OPEB Liability

The total pension liability and total OPEB liability contained in these schedules were provided by HPRS's actuary, Foster & Foster. The net pension liability is measured as the total pension liability, less the amount of the fiduciary net position of the Retirement System related to Pension. The net OPEB liability is measured as the total OPEB liability, less the amount of the fiduciary net position of the Retirement System related to OPEB.

Schedule of Administrative Expenses
Year ended December 31, 2023

Personnel	$1,178,215
Professional and technical services	
Computer services	48,683
Actuary	101,206
Education	27,865
Medical consulting	7,600
Audit	438,172
Legal	114,634
Miscellaneous services	23,764
Medical services	6,910
Total professional and technical services	768,834
Communications	
Printing	2,731
Postage	4,653
Telephone	3,975
Internet	7,920
Total communications	19,279
Other expenses	
Office rent	128,644
Depreciation	312
Insurance	68,139
Supplies	3,180
Miscellaneous	18,380
Loss on disposal of equipment	-
Ohio Retirement Study Council	3,359
Travel	15,442
Memberships and subscriptions	10,310
New equipment	4,028
Computer Service – Offsite server	5,100
Cable	1,889
Retiree Health Care Consultant	-
Write Off	1,418
Total other expenses	260,201
Total administrative expenses	$2,226,529

Above amounts do not include investment-related administrative expenses.

Schedule of Investment Expenses
Year ended December 31, 2023

Personnel	$155,162
Professional services	
Investment services	7,559,984
Monitoring services	302,672
Total professional services	7,862,656
Other expenses	
Due diligence	2,345
Computer services	5,409
Memberships and subscriptions	2,801
Printing and supplies	303
Total other expenses	10,858
Total investment expenses	$8,028,676

Payments to Consultants
Year ended December 31, 2023

Consultant	Fee	Service
Attorney General's Office	$15,254	Legal
Bricker Graydon	67,980	Legal
Calfee Halter & Griswold	180	Legal
Clearstead	302,672	Investment
County of Summit, Ohio	19,825	Auditing
David Tanner, MD	7,600	Medical
Foster & Foster	100,206	Actuarial
Funston Advisory	390,400	Auditing
Ohio Auditor of State	697	Auditing
Rea & Associates	27,250	Auditing
Seyfarth Shaw, LLP	31,220	Legal
Total	$963,284	

See the Investment Section, pages 80-82 for payments to investment managers and brokers.

INDEPENDENT AUDITOR'S 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*

To the Ohio Highway Patrol Retirement System Board
Delaware County, Ohio
1900 Polaris Parkway, Suite 201
Columbus, Ohio 43240

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 (*Government Auditing Standards*), the financial statements of the Ohio Highway Patrol Retirement System (the HPRS), a component unit of the State of Ohio, as of and for the year ended December 31, 2023, and the related notes to the financial statements, which collectively comprise the HPRS' basic financial statements, and have issued our report thereon dated June 20, 2024.

Report on Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the HPRS' 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 HPRS' internal control. Accordingly, we do not express an opinion on the effectiveness of the HPRS' 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 were not identified.

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether the HPRS' 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 HPRS' internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the HPRS' internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Rea & Associates, Inc.

Rea & Associates, Inc.
Dublin, Ohio
June 20, 2024

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Investment Section

Investment Overview

Introduction

Chapter 5505 of the Ohio Revised Code and the Board-adopted *Investment Policy* govern investment activity at HPRS. In accordance with Ohio Revised Code 5505.06, "The Board shall have full power to invest the funds. The Board and other fiduciaries shall discharge their duties with respect to the funds solely in the interest of the participants and beneficiaries; for the exclusive purpose of providing benefits to participants and their beneficiaries and defraying reasonable expenses of administering the system; with care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims; and by diversifying the investments of the system so as to minimize the risk of large losses, unless under the circumstances it is clearly prudent not to do so."

HPRS's total investment portfolio, as reflected in the *Statement of Fiduciary Net Position* (page 24), is comprised of the Pension (Defined Benefit) and Post-Employment Health Care portfolios' assets. Defined Benefit portfolio assets originate from member and employer contributions to the system. The management of these assets is the responsibility of the HPRS Investment Committee, under the direction of the Board of Trustees, and HPRS's Investment Consultant, Clearstead. Clearstead assists the Board with the construction and diversification of HPRS's investment portfolio and manager selection. Additionally, Clearstead assists with matters of investment policy and asset allocation recommendations and provides monthly and quarterly performance reviews.

Investment Policy

The Board-adopted *Investment Policy* (pages 85-95) provides information on HPRS's investment policies and performance objectives. The policy establishes asset allocation targets, risk tolerances, return objectives, and other guidelines, such as defining the responsibilities of the fiduciaries who implement the strategies and manage HPRS's investment portfolio.

Investment Summary

HPRS's *Investment Summary* (page 74) includes the total fund assets of the Pension and Post-Employment Health Care portfolios. All investments are reported at fair value, which is the amount that the plan could reasonably expect to receive in a current sale between a willing buyer and a willing seller, other than in a forced or liquidation sale.

A complete listing of assets held as of December 31, 2023 is available from HPRS upon request.

Investment Performance

As shown in the *Schedule of Investment Results* (page 78), performance information is reported gross-of-fees (net-of-fees for alternative investments) versus benchmark for the total fund and each asset class over selected periods. All returns are calculated in U.S. Dollars using a time-weighted rate of return. Net-of-fees returns are available from HPRS upon request.

Source: HPRS Investment Staff

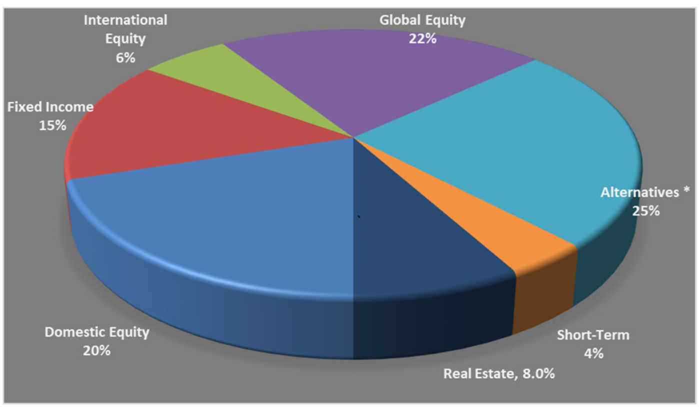
Investment Summary
December 31, 2023

	Fair Value	Actual	Target	Range
Domestic equity	$219,748,184	20.4%	20.0%	15 - 25%
Fixed income	112,360,969	10.4	15.0	9 – 29
Alternatives *	331,638,334	30.7	25.0	15 - 35
International equity	57,271,536	5.3	6.0	1 – 11
Global equity	224,505,352	20.8	22.0	17 – 27
Short-term	50,660,021	4.7	4.0	0 - 9
Real estate	83,377,293	7.7	8.0	3 - 13
Net portfolio value	$1,079,561,689	100.0%	100.0%	

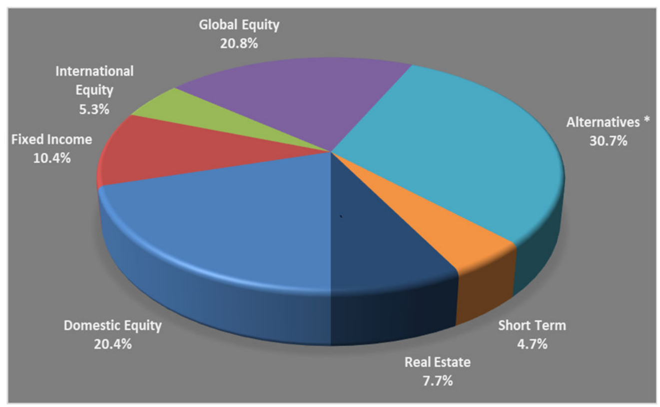
* Alternatives include private equity, fund of hedge funds, and direct infrastructure investments

Asset Allocation – Total Fund
December 31, 2023

Policy Allocation



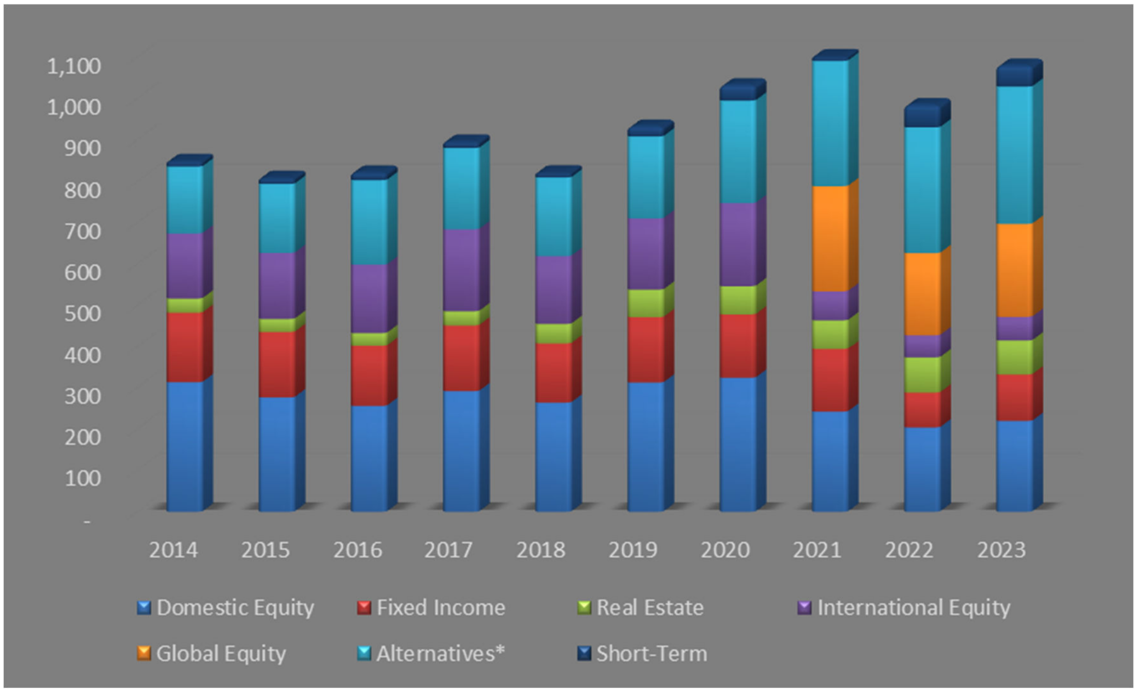
Actual Allocation



* Alternatives include private equity, fund of hedge funds, and direct infrastructure investments

Report on Investment Activity

Ten-Year Investment Comparison
(in millions)



* Alternatives include private equity, fund of hedge funds, and direct infrastructure investments.

Economic & Market Review – 2023

The consensus expectation at the beginning of 2023 was that the US economy would enter recession. Markets expected the Federal Funds rate to be lower (not higher as it ended up being) by this past December as compared to the beginning of 2023, employment was supposed to soften considerably with little to no employment growth, and the Federal Reserve's aggressive policy was set to cause an accident in financial markets. Instead, in 2023, real GDP grew (on a quarter-over-quarter basis) by +2.2% in Q1, +2.1% in Q2, and +4.9% in Q3, with Q4 expected to come in at +1.2% (though real-time data indicates GDP will register north of +2.3% for Q4).1 Meanwhile, the unemployment rate rose modestly from 3.4% to 3.7%, thanks to an increase in the labor participation rate—job creation averaged nearly 240,000 per month during 2023.[1] One thing some prognosticators got right was the notion of a Fed-induced financial market accident, though it showed up in a place that very few expected (i.e., not in credit markets) through the mini banking crisis that resulted from system wide deposit flights and declining government bond values as interest rates rose.

One of the big surprises in 2023 was the resilience and tightness of the labor economy and the US economy enters 2024 on better footing than most expected would be the case. Post-Covid normalization between the manufacturing and services sectors of the economy continued over the course of 2023, as the manufacturing sector spent the entirety of 2023 in contraction—with the ISM's (Institute for Supply Management) Manufacturing index averaging 47.0 during the year.[2] In the services sector, spending supported the overall economy, and, while slower than 2022, the ISM Services index averaged 53.0 during 2023 and grew in every month of the year.2

Bond markets enter 2024 after a roller coaster of a ride in 2023. As seen in the chart below, the 10-Year US Treasury (UST) Yield began 2023 at 3.88% and ended 2023 at 3.88%. For those of us that had to wake up every day and confront markets, we witnessed the 10-Year UST Yield reach as low as 3.25% in the aftermath of the mini banking crisis while testing 5.00% in mid-October— only to end up right where it started. Credit spreads remained tight relative to historical spreads both in high yield and investment grade credit markets, but the absolute level of yields remains attractive.

The S&P 500 now approaches all-time highs set in early 2022, and we can officially say the index has done nothing for two years—though in spectacular fashion (much like the bond market's journey in 2023). Over those two years (2022 and 2023), the S&P 500's trek to near zero return included a peak-to-trough drawdown of -25.0%, followed by a recovery of +33.0% to get back to near even. Throughout much of 2023, the returns were highly concentrated, being driven by the so-called magnificent seven (Microsoft, Amazon, Tesla, Nvidia, Alphabet, Tesla, Meta); those companies distorted the market's returns and led to growth stocks outperforming value stocks by a wide margin. Further highlighting the extreme concentration of the S&P 500, nearly 72% of the index's constituents underperformed the index in 2023—a record share dating back to at least 1980. But

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[1] Bloomberg LP, https://www.atlantafed.org/cqer/research/gdpnow, as of 12/27/2023

[2] Bloomberg LP

growth and value stocks share an odyssey of nothingness from 2022 much like that which was experienced by the S&P 500. In fact, despite growth trouncing value in 2023, value has performed better since the beginning of 2022. Needless to say, the volatility between growth and value has been significant and not picking sides has been a good strategy over that stretch.

Geopolitical tensions persisted, contributing to market volatility and uncertainty. Trade disputes, particularly between the United States and China, continued to weigh on the global economy. Additionally, regional conflicts, sanctions, and political instability in various parts of the world added to geopolitical risks (e.g. Israel, Korean Peninsula and Russia/Ukraine). These issues along with numerous elections around the world will be pertinent in 2024.

Market Benchmark Returns: As of 12/31/2023

Universe	Benchmark	1M	3M	12M	YTD
US Large Cap	S&P 500	4.5%	11.7%	26.3%	26.3%
US Small Cap	Russell 2000	12.2%	14.0%	16.9%	16.9%
Developed Intl	MSCI EAFE	5.3%	10.4%	18.2%	18.2%
Emerging Intl	MSCI Em Mkt	3.9%	7.9%	9.8%	9.8%
Real Estate	NAREIT	8.9%	17.6%	11.5%	11.5%
Core Fixed	BarCap Agg	3.8%	6.8%	5.5%	5.5%
Short Fixed	BarCap 1-3Yr	1.2%	2.7%	4.6%	4.6%
Long Fixed	BarCap LT G/C	7.9%	13.2%	7.1%	7.1%
Corp Debt	BarCap Corp	4.2%	8.2%	8.2%	8.2%

Source: Bloomberg

Source: Clearstead

Schedule of Investment Results
Year ended December 31, 2023

	2023	2022	3-Year	5-Year
Domestic Equity	**25.4%**	**-17.3%**	**9.7%**	**16.3%**
Russell 3000	26.0	-19.2	8.5	15.2
International Equity	**13.1**	**-22.1**	**-3.5**	**6.0**
MSCI ACWI ex US IMI	11.0	-20.3	-3.5	4.0
Global Equity	**24.6**	**-22.5**	-	-
MSCI AC World Index (Net)	22.2	-18.4	5.8	11.7
Fixed Income	**11.0**	**-4.9**	**3.5**	**5.6**
Barclays Capital Aggregate/Opp. Blend	10.0	-8.5	0.8	3.2
Real Estate	**-4.5**	**7.6**	**5.5**	**6.1**
NCREIF	-5.7	5.9	4.1	4.8
Alternatives ▲	**10.2**	**2.6**	**12.8**	**12.8**
HFRI Fund of Funds Composite Blend	9.7	3.5	12.6	11.9
Total Fund	**15.0**	**-9.5**	**7.0**	**11.2**
Absolute Objective	7.25	7.25	7.25	7.25
Relative/Composite Benchmark ►	14.4	-9.5	6.6	10.1

▲ Includes private equity, direct infrastructure and fund of hedge funds. Performance results for private equity classes are typically reported on a quarter lag basis, adjusted for cash flow activity during the fourth quarter.
► Relative Composite Benchmark: Russell 3000, 31%; MSCI ACWI ex USA IMI, 20%; BBgBarc US Aggregate TR, 10%; HPRS Opportunistic Benchmark, 9%; BofA Merrill Lynch 91-Day T-Bill, 1%; HFRI Fund of Funds Composite Index, 12%; NCREIF Timberland, 3%; Alerian MLP, 2%; HPRS Private Equity Benchmark, 7%; NCREIF Property Index, 5%.

The HPRS Total Fund performance returns consist of all assets of the fund. All returns are calculated in U.S. Dollars using a time-weighted rate of return based on market values.
Performance is net of fees for alternative investments and gross of fees on all other investments. Net of fees returns are available upon request, and investment management fees vary among asset classes.
Market value adjustments made as of December 31 will be reflected in the investment returns in the next financial statement.

Source: Clearstead

Total Fund Rates of Return vs Policy Benchmark
(Gross of fees)

Domestic Equity Holdings
December 31, 2023

Security	Shares	Market Price	Fair Value
ITT Inc.	4,540	$119.32	$541,713
Meritage Homes Corp.	3,060	174.20	533,052
Option Care Health Inc.	14,150	33.69	476,714
Smartsheet Inc.	9,740	47.82	465,767
M/I Homes Inc.	3,370	137.74	464,184
Casella Waste Systems Inc.	5,320	85.46	454,647
Saia Inc.	1,020	438.22	446,984
Samsara Inc.	13,010	33.38	434,274
Haemonetics Corp.	5,045	85.51	431,398
Wingstop Inc.	1,670	256.58	428,489
Other	279,209		12,055,368
Total domestic equity securities	340,134		$16,732,590
Domestic Equity Commingled Funds			
Vanguard Institutional Index Fund			$181,312,520
DFA Small Cap Subtrust			21,703,074
Total domestic equity commingled funds			203,015,594
Total domestic equity			**$219,748,184**

International Equity Holdings
December 31, 2023

Security	Shares	Market Price	Fair Value
Ascendis Pharmaceuticals A/S ADR	6,340	$125.95	$798,523
Axalta Coating Systems Inc.	11,300	33.97	383,861
Fabrinet	1,870	190.33	355,917
Alkermes PLC	11,450	27.74	317,623
WNS Holdings, Inc.	4,960	63.20	313,472
Sensata Technologies Holdings	7,990	37.57	300,184
Moonlake Immunotherapeutics	4,280	60.39	258,469
BRP Inc.	2,590	71.69	185,677
Camtek Ltd.	1,950	69.38	135,291
Bicycle Therapeutics PLC	6,490	18.08	117,339
Other	15,908		187,354
Total international equity securities	75,128		$3,353,710
International Equity Commingled Funds			
Invesco Emerging Markets			$31,296,316
Driehaus International Small Cap Growth			13,274,655
DFA International Small Cap Value			9,346,855
Total international equity commingled funds			53,917,826
Total international equity			**$57,271,536**

Global Equity Holdings
December 31, 2023

Global Equity Commingled Funds	
Mondrian Global All Countries World Equity	$97,836,117
Ninety-One Global Franchise	80,251,332
Bailie Gifford Long Term Global Growth	46,417,903
Total global equity commingled funds	224,505,352
Total global equity	**$224,505,352**

Fixed Income Holdings
December 31, 2023

Security	Par Value	Fair Value
USA Treasury Notes 3.375% Due 5/15/2033	$3,950,000	$3,790,776
USA Treasury Notes 3.500% Due 2/15/2033	3,100,000	3,006,163
USA Treasury Notes 4.125% Due 11/15/2032	2,600,000	2,642,848
USA Treasury Notes 2.500% Due 02/15/2045	3,410,000	2,582,154
USA Treasury Notes 2.375% Due 02/15/2042	3,350,000	2,570,355
FNMA Pool AL9992 3.000% Due 02/01/2037	1,846,109	1,719,595
FHLB 4.750% Due 12/10/2032	1,350,000	1,392,579
USA Treasury Notes 2.875% Due 05/15/2032	1,400,000	1,297,296
FNMA Pool CA3967 3.500% Due 08/01/2049	1,305,185	1,216,224
FHLMC Pool SD7556 3.000% Due 08/01/2052	1,226,314	1,097,342
Other	32,366,704	30,547,927
Total fixed income securities	$55,904,312	$51,863,259
Fixed Income Commingled Funds		
Silver Point Specialty Lending Fund		$19,542,817
HIG Whitehorse Principal Lending Fund		17,456,070
BlackRock Global Credit Opportunities II Fund		7,424,579
HIG Whitehorse Direct Lending Adv Fund		5,938,548
Proterra Credit Fund 2		5,461,413
Silver Point Specialty Credit Fund III		4,674,283
Total fixed income commingled funds		$60,497,710
Total fixed income		**$112,360,969**

Real Estate Holdings
December 31, 2023

Real Estate Commingled Funds	
Harrison Street Core Property	$34,110,382
Long Wharf Real Estate Partners Fund IV	87,867
Long Wharf Real Estate Partners Fund V	11,503,323
Long Wharf Real Estate Partners Fund VI	10,295,707
Marathon European Credit Opportunity Fund III	6,406,797
Oaktree Real Estate Opportunities Fund IV	10,831
Oaktree Real Estate Opportunities Fund V	75,982
Oaktree Real Estate Opportunities Fund VI	2,221,314
Oaktree Real Estate Opportunities Fund VII	5,776,681
Oaktree Real Estate Opportunities Fund VIII	12,888,409
Total real estate commingled funds	$83,377,293
Total real estate	**$83,377,293**

Private Equity Holdings
December 31, 2023

Asset	Fair Value
Alpine Investors VIII, LP	$8,489,291
Bain Capital Distressed and Special Situations 2019 (A), LP	12,392,043
BDCM Opportunity Fund V, LP	7,045,876
Blue Point Capital Partners Fund III	4,373,081
Blue Point Capital Partners Fund IV	14,741,902
Carlyle Global Infrastructure Opportunity Fund, LP	9,642,193
GCM Grosvenor Private Equity Opportunities Fund, LP[1]	209,367
Genstar X LP	14,144,615
HarbourVest Partners 2013 Direct Fund LP	3,877,237
HarbourVest Partners Co-Investment Fund IV LP	12,750,844
HarbourVest Partners Co-Investment Fund IV LP AIV	(331,708)
HarbourVest Partners Co-Investment Fund V LP	16,348,061
HarbourVest Partners Co-Investment Fund V LP AIV	2,466,199
HarbourVest Partners Co-Investment Fund VI LP	14,573,135
HIG Advantage Buyout Fund, LP	19,495,184
HIG Middle Market LBO Fund III LP	12,702,970
HIG Middle Market LBO Fund IV LP	645,675
HIG Whitehorse Equity Sidecar LP	3,045,558
Kayne Anderson Energy Fund V	2,597,579
Kayne Anderson Energy Fund VI	199,142
Kayne Anderson Mezzanine Partners	32,854
Kayne Anderson Private Energy Income Fund	5,870,012
Kayne Anderson Private Energy Income Fund II	17,152,133
Pantheon Multi-Strategy Program 2014	36,717,039
Pantheon USA Fund VII, LP	2,722,771
PIMCO Corporate Opportunities Fund II	11,555,516
Quantum Energy Partners VII, LP	17,509,944
Quantum Energy Partners VII Co-Investment Fund, LP	1,666,799
Total private equity	**$252,635,312**

Fund of Hedge Funds Holdings
December 31, 2023

Asset	Fair Value
Evanston Capital Weatherlow Offshore Fund II	$35,513,587
Carlson Black Diamond Arbitrage Partners LP	13,017,907
DSC Meridian Credit Opportunities Onshore Fund LP	11,079,234
Total fund of hedge funds	**$59,610,728**

Direct Infrastructure Holdings
December 31, 2023

Asset	Fair Value
Partners Group Direct Infrastructure 2016 (USD) A, LP	$10,186,494
Partners Group Direct Infrastructure III (USD) A, LP	9,205,800
Total direct infrastructure	**$19,392,294**

All values are stated in U.S. dollars. A complete list of holdings is available upon request.

Summary Schedule of Investment Manager Fees
Year ended December 31, 2023

Manager	Strategy	Assets Managed	Fees	Performance Fees
Domestic Equity				
Dimensional Fund Advisors	Small Cap Blend	21,703,074	68,049	-
Vanguard Institutional Index Fund	Large Cap Blend	181,312,520	35,195	-
WA Account	Miscellaneous	2,364	-	-
Westfield Capital Management	Small Cap Growth	20,083,937	237,875	-
International Equity				
Dimensional Fund Advisors	Small Cap Value	9,346,855	37,771	-
Driehaus Capital Management	Small Cap Growth	13,274,655	143,210	-
Invesco Trust Company	Emerging Markets	31,296,316	297,556	-
Fixed Income				
BlackRock	Global Credit	7,424,579	126,804	210,162
Credit Suisse	High Yield	-	14,558	-
WhiteHorse Capital	Direct Lending	23,394,618	594,085	434,567
Johnson Institutional Management	Intermediate-Term	51,863,258	67,294	-
Proterra Investment Partners LP	Private Credit	5,461,413	142,631	13,816
Silver Point Capital LP	Specialty Credit	24,217,100	155,180	251,839

Summary Schedule of Investment Manager Fees (con't.)

Real Estate				
Harrison Street Real Estate Capital LLC	Specialty Real Estate	34,110,381	397,136	-
Long Wharf Real Estate Partners	Specialty Real Estate	21,886,897	315,024	-
Marathon Asset Management	Credit Opportunity	6,406,797	122,493	-
Oaktree Capital Management	Specialty Real Estate	20,973,218	453,372	106,064
Private Equity				
Alpine Investors		8,489,291	59,128	-
Bain Capital Credit, LP	Specialty Credit	12,392,043	125,000	-
Black Diamond Capital Management		7,045,876	70,927	-
Blue Point Capital Partners	Mid-Market Buyout	19,114,983	200,597	-
The Carlyle Group		9,642,193	119,550	-
GCM Grosvenor	Fund of Funds	209,367	-	-
Genstar Capital Partners		14,144,615	73,784	-
HarbourVest Partners	Co-Investment	49,683,768	325,793	-
HIG Capital		35,889,387	941,936	318,032
Kayne Anderson Capital Advisors LP	Energy, MLP, & Mezzanine	25,851,720	205,577	754,598
Pantheon Ventures LP	Fund of Funds	39,439,810	176,595	-
Pacific Investment Management Co. LLC	Corporate Opportunities	11,555,516	62,481	14,404
QEM Management LLC	Energy	19,176,743	146,293	43,449
Hedge Funds				
Carlson Capital LP	Arbitrage	13,017,907	127,994	-
DSC Meridian Capital		11,079,234	126,958	-
Evanston Capital Management	Fund of Funds	35,513,587	327,873	-
Direct Infrastructure				
Partners Group		19,392,294	356,557	-
Global Equity				
Bailie Gifford		46,417,903	307,786	-
Mondrian		97,836,117	385,658	-
Ninety-One		80,251,332	315,820	-
Total		**$1,028,901,668**	**$7,664,540**	**$2,146,931**

Summary Schedule of Broker Fees

Year ended December 31, 2023

Broker	Fees	Shares	Average Cost
Wells Fargo Securities	-	14,435,302	0.000
Citigroup Global	3	9,100,160	0.000
StoneX Group	-	6,445,138	0.000
Goldman Sachs & Co.	76	5,501,890	0.000
RBC Capital Markets	-	4,930,000	0.000
Jane Street Execution Services	-	3,205,000	0.000
Janney Montgomery Scott	-	2,317,360	0.000
Bank of America Securities	-	2,060,160	0.000
Millenium Advisors	-	1,875,000	0.000
PNC Bank NA	-	1,810,582	0.000
MarketAxess Corp	-	1,785,000	0.000
Bank of New York	-	1,588,276	0.000
Daiwa Securities	-	1,510,000	0.000
US Bancorp Investments	-	975,000	0.000
JP Morgan Securities	17	800,590	0.000
Robert W. Baird & Co.	3,160	783,070	0.004
Cantor Fitzgerald	-	750,000	0.000
Abel Noser Corp.	3,060	305,950	0.010
Mutual Fund Agent	-	215,009	0.000
Jeffries & Co.	4	210,220	0.000
Cap Institutional Services	2,967	197,770	0.015
Morgan Stanley	-	178,740	0.000
KeyBanc Capital	-	125,000	0.000
Instinet	387	19,360	0.020
BMO Capital Markets	145	3,630	0.040
Leerink Partners	41	1,030	0.040
Barclay's Capital	36	900	0.040
Raymond James	-	650	0.000
Wedbush Securities	16	400	0.040
Mizuho Securities	13	320	0.040
Evercorp ISI	6	300	0.020
Liquidnet Inc.	6	200	0.030
Direct Trading	3	100	0.025
Sanford C. Bernstein	2	90	0.020
Total	**$9,942**	**61,132,197**	**$0.000**

Brokerage commissions do not include commissions paid by external investment managers utilizing commingled fund structures. HPRS maintains a commission recapture program with Abel / Noser Corporation.

HPRS Investment Policy

INTRODUCTION:

The State Highway Patrol Retirement System ("System") was established by section 5505.02 of the Ohio Revised Code (ORC) for State Highway Patrol employees, as defined in division (A) of ORC section 5505.01.

Pursuant to ORC section 5505.04, the administration and management of the Highway Patrol Retirement System are vested in the State Highway Patrol Retirement Board ("Board"). Members of the State Highway Patrol Retirement Board are the trustees of the funds created by ORC section 5505.03. The Board has full power to create and adopt, in regular meetings, an investment committee, policies, objectives, or criteria for the operation of the investment program that include asset allocation targets and ranges, risk factors, asset class benchmarks, time horizons, total return objectives, and performance evaluation guidelines.

SYSTEM OBJECTIVE:

The primary objective of the State Highway Patrol Retirement System is to provide eligible members and beneficiaries with scheduled pension benefits. To reach this objective, the Board and other System fiduciaries will comply with the duty detailed in ORC section 5505.06; to exercise care, skill, prudence, and diligence -- under the circumstances then prevailing -- that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character with like aims. A secondary objective of the fund is to maintain a sufficient degree of liquidity in order to meet unanticipated demands and changing environments. Members of the Retirement Board and other fiduciaries of the Retirement System fully accept the duty to incur only reasonable expenses in the operation of the State Highway Patrol Retirement System.

INVESTMENT POLICY PURPOSE:

This Investment Policy Statement ("Statement") details the policies, procedures, asset allocation and guidelines for investment of the System, as established by the Board. It defines and assigns the responsibilities of all involved parties. The policy is intended to be sufficiently specific to be meaningful, yet flexible enough to be practical.

The investment policies and restrictions presented in this Statement serve as a framework to achieve the investment objectives at a level of risk deemed acceptable. These policies and restrictions are designed to minimize interference with efforts to attain overall objectives and to minimize the potential of excluding any appropriate investment opportunities.

INVESTMENT OBJECTIVES:

The overall long-term investment objective for the System is to earn 7.25% over a market cycle. Meeting this return objective among other factors will help the System achieve full funded status in the future. This investment objective should be achieved with the least required level of portfolio volatility.

DUTIES AND RESPONSIBILITIES:

Board

The role of the Board is supervisory, and discretion is delegated to investment managers who must adhere to the general guidelines established by the Board. The primary role of the Board is to:

- Establish performance goals
- Identify and review appropriate investment policy and guidelines
- Retain outside investment and actuarial counsel
- Review the results of the fund on a regular basis and implement necessary changes in the investment policies, objectives, asset allocation, and investment managers as needed

Investment Committee

As delegated by the Board, the Investment Committee is responsible for ensuring that the investment process is managed in a prudent manner, seeking to meet the System's return objectives.

The Investment Committee will, at least quarterly, review the performance of the overall portfolio and selected components against their investment goals and policies.

The Investment Committee will, in accordance with the Manager Review Policy, consider whether the manager continues to operate in the manner represented when retained and outlined in the agreement between the System and the investment manager. The Committee will have the discretion to accept, reject or modify, in accordance with the Manager Review Policy, any recommendation to terminate an investment manager. The elected Chair, or Vice-Chair, will report to the Board at regularly scheduled meetings.

Other roles of the Investment Committee include the following:

- Approve the initiation of a search in accordance with the Selection of Investment Managers and Agents Policy as well as the Manager Search and Termination Policy
- Validate that the search process was carried out appropriately
- Attend manager presentations when necessary
- Request additional information, if warranted

Investment Objectives, Policies, and Guidelines

Chief Investment Officer and Staff

The Chief Investment Officer (CIO), who is responsible for the day-to-day management of the investment program, is employed by, and is directly responsible to, the Retirement Board. A complete job description is available from HPRS upon request.

Other roles of the staff include the following:

- Rebalance the investment portfolio within the asset allocation guidelines of the Statement
- Implement tactical asset allocation positioning within the asset allocation guidelines of the Statement
- Raise cash for the payment of pension benefits and other commitments
- Post RFPs to HPRS' website
- Oversee the work of the Investment Consultant
- Ensure processes are completed in an appropriate manner
- Ensure the Investment Committee and Board receive appropriate information
- Coordinate the development and execution of manager contracts and guidelines
- Conduct on-site due diligence with firms if deemed appropriate

Investment Consultant

An Investment Consultant is employed by, and is directly responsible to, the Retirement Board. The consultant is a fiduciary to the System, attends Investment Committee and Board meetings, provides monthly investment monitoring reports, and works with the CIO to implement the Investment Policy of the Retirement Board.

Other roles of the investment consultant include the following:

- Reviewing asset allocation and investment strategy to determine if the current strategy meets the investment objective of the System
- Monitoring the performance of the total portfolio to determine if the collective investment strategy is outperforming the established benchmarks over rolling time periods
- Recommending strategic and tactical changes to asset allocation from time to time
- Communicating with investment managers to determine portfolio composition and ascertain information concerning organizational change
- Performing an annual fee assessment of the investment portfolio
- Identify the need for new managers
- Develop any request for proposals (RFP) for new managers
- Conduct on-site due diligence with candidate firms when necessary
- Conduct on-site due diligence with existing managers when necessary
- Attend the ORSC or other legislative meetings as needed

Custodian

As provided in ORC section 5505.11, the Treasurer of State is the custodian of HPRS funds. The Treasurer appoints a banking institution as a sub-custodian, which acts as the custodian of HPRS funds. All disbursements are processed under the direction of the Treasurer after authorization by the Board. The custodian will physically maintain possession of securities owned by the System, collect dividend and interest payments, redeem maturing securities, and affect receipt and delivery following purchases and sales. The custodian shall also perform regular accounting of all assets owned, purchased, or sold, as well as movement of assets into and out of the System accounts. The custodian is also responsible for providing monthly statements to the System and investment consultant.

Investment Managers

Each investment manager has discretion to purchase, sell, or hold the specific securities that will be used to meet the System's investment objectives. Each investment manager will be held responsible and accountable to achieve the objectives herein stated. While it is not believed that the limitations will hamper any investment manager, the investment manager should request modifications that it deems appropriate.

Managers are expected to:

- Act as a fiduciary to the System
- Meet with the Board or Investment Committee when requested, to review investment activity and results
- Hold and maintain errors and omissions insurance and provide proof of this insurance
- Provide frequent communication with HPRS and the Investment Consultant on all significant matters pertaining to the investment of assets
- Promptly notify HPRS and the Investment Consultant of any significant changes in the manager's investment strategy, organizational structure, financial condition, or personnel assigned to manage HPRS assets

ADDITIONAL PROVIDERS:

Additional specialists such as attorneys, auditors, and others may be employed by the Investment Committee to assist in meeting its responsibilities and obligations to administer the System prudently. All expenses for such experts must be customary and reasonable and will be borne by the System as deemed appropriate and necessary.

ASSET ALLOCATION GUIDELINES:

The asset allocation targets for the System are as follows:

	Long-Term Targets		
		Sub Category	Range
Public Equity	**48.0%**		**38% - 58%**
Global Equity		22.0%	17% - 27%
US Equity		20.0%	15% - 25%
Non- US Equity		6.0%	1% - 11%
Alternative Investments	**25.0%**		**15% - 35%**
Absolute Return		6.0%	0% - 11%
Private Equity		15.0%	10% - 25%
Real Assets		4.0%	0% - 9%
Real Estate	**8.0%**	8.0%	**3% - 13%**
Fixed Income	**19.0%**		**9% - 29%**
Core Fixed Income		6.0%	1% - 11%
Opportunistic		9.0%	4% - 14%
Cash		4.0%	0% - 9%
Total Pension	**100.0%**		

ASSET CLASS PURPOSE:

- The purpose of the public equity allocation is to provide a total return that will simultaneously provide for growth in principal and current income sufficient to support the System, while at the same time preserve the purchasing power of the System's assets. It is recognized that the public equity allocation entails the assumption of greater market variability and risk.
- The purpose of the alternative investment allocation is to provide diversification, risk reduction, hedge inflation, as well as enhance the performance of the System. These purposes will vary by investment.
  - Absolute Return: The purpose of this allocation is to provide diversification, risk reduction and moderate growth.
  - Private Equity: The purpose of this allocation is to provide diversification and growth above public equity.
  - Real Assets: The purpose of this allocation is to provide diversification, income, and to hedge inflation.
- The purpose of the real estate component is to provide for growth of principal while at the same time preserving the purchasing power of the portfolio's assets. In addition, the real

estate component seeks to enhance the overall portfolio by providing income, a hedge on inflation and modest diversification.

- The purpose of the fixed income allocation is to provide a deflation hedge, to reduce the overall volatility of the System, and to produce income.
- The purpose of the cash allocation is to provide liquidity for short-term obligations. All cash and equivalent investments should be made with concern for quality. High return is desirable, but the highest possible investment return should be sacrificed where quality is considered questionable.

PERMISSIBLE INVESTMENTS:

System assets may invest in the following types of investments:

Equity Securities

- Common stocks
- Convertible preferred stocks
- American depository receipts (ADRs) of non-U.S. companies
- Stocks of non-U.S. companies (Ordinary shares)
- Equity collective pools, mutual funds, and exchange traded funds

Alternative Investments

- Tactical asset allocation strategies
- Absolute return strategies
- Long-short strategies
- Hedge funds or hedge fund-of-fund strategies
- Private equity and debt strategies
- Timber investments
- Energy master limited partnerships
- Infrastructure strategies
- Alternative collective pools, mutual funds, and exchange traded funds

Real Estate

- U.S. and non-U.S. public real estate (REITS)
- U.S. and non-U.S. private real estate
- Real estate collective pools, mutual funds, and exchange traded funds

Fixed Income Securities

- U.S. government and agency securities
- Municipal bonds
- Corporate notes and bonds
- Convertible notes and bonds
- Mortgage-backed bonds
- Preferred stock
- Fixed income securities of foreign governments and corporations
- Below investment grade corporate bonds
- Tactical fixed income strategies
- Private lending strategies
- Fixed income collective pools, mutual funds, and exchange traded funds

Cash Equivalents

- Treasury bills
- Commercial paper
- Banker's acceptances
- Repurchase agreements
- Certificates of deposit
- Money market collective pools, mutual funds, and exchange traded funds

PERFORMANCE BENCHMARKS:

Performance results will be measured in three ways over a full business cycle:

1. The investment objective of the System: 7.25% (actuarial rate of return)
2. A blended benchmark of market indices based on the targeted asset allocation for the System portfolio:

Asset Class	Benchmark(s)	Weight
U.S. Equity	Russell 3000 Index	20%
Non-U.S. Equity	International Blend: 67% MSCI Emerging Market Index/ 33% MSCI EAFE Small Cap Index	6%
Global Equity	MSCI ACWI Index	22%
Absolute Return	HFRI Fund of Funds Composite	6%
Real Assets	100% Real Assets Composite	4%
Private Equity	Total Portfolio: PE composite performance PE Secondary: Wilshire 5000 + 3% lagged 1 quarter PE Tertiary: Cambridge Private Equity Index	15%
Real Estate	Total Portfolio: Real estate composite performance Real Estate Primary: NCREIF Property Index	8%
Core Fixed Income	Bloomberg U.S. Aggregate Bond Index	6%
Global Opportunistic Fixed Income	Credit Suisse Leveraged Loans Index	9%
Cash	ML 91-Day T-Bill Index	4%

3. The System will be compared to a peer universe of similar sized public pension funds

SEPARATE ACCOUNT PORTFOLIO GUIDELINES:

The following guidelines only apply to separately managed accounts. Mutual funds and collective vehicles are not expected to comply with these guidelines but rather are bound to their fund prospectus for mutual funds and ETFs or the governing documents for collective pools.

Equity

An equity manager may not:

- Hold more than 15% of the account value in a single issuer
- Where a sector is greater than 10% of the benchmark, allow that sector to exceed 60% of the portfolio
- Where a sector is 10% or less of the benchmark, allow that sector to exceed 40% of the portfolio
- Invest in international-domiciled securities exceeding 20% of portfolio value in a domestic mandate
- Allow one country to be more than 20 percentage points above the country weighting of the relative benchmark in an international mandate
- Invest in emerging markets exceeding 35% of portfolio value in a developed international mandate

Equity managers are prohibited from investing in the following:

- Private placements
- Unregistered or restricted stock
- Derivatives
- Margin Trading/Short Sales
- Commodities
- Real Estate Property (excluding REITs)
- Guaranteed Insurance Contracts
- Securities issued by Highway Patrol Retirement System or its affiliates

Core Fixed Income

A core fixed income allocation will be diversified as to type of security, issuer, coupon, and maturity. Qualifying bonds, at the time of purchase, will be rated as investment-grade by at least two nationally recognized bond rating services. Generally, the average maturity of a fixed income allocation will be ten years or less, although individual securities may be longer.

No more than ten percent of a fixed income allocation will be invested in the securities of any one issuer and no more than five percent in any one issue, with the exception of U.S. government securities. Diversification of the bond portfolio will be accomplished by investing in a combination of U.S. government bonds, U.S. agency bonds, U.S. corporate bonds, high yield bonds, and non-U.S. bonds.

Managers are prohibited from using derivative instruments.

Manager Selection

Investment Managers shall be selected in accordance with the Selection of Investment Managers and Agents Policy as well as the Manager Search and Termination Policy.

The Board will consider investments that enhance the welfare of the State of Ohio, and Ohio citizens, where such investments offer safety and quality of return comparable to other investments currently available. Equal consideration will be given to investments otherwise qualifying under this section that involve minority-owned and controlled firms, or firms owned and controlled by women, either alone or in joint venture with other firms.

The Board will, at least annually, establish a policy with the goal to increase utilization of Ohio-qualified investment managers, when an Ohio-qualified investment manager offers quality, services, and safety comparable to other investment managers otherwise available.

Investment Objectives, Policies, and Guidelines

The Board will, at least annually, establish a policy with the goal to increase utilization of Ohio-qualified agents for the execution of domestic equity and fixed income trades on behalf of the System, when an Ohio-qualified agent offers quality, services, and safety comparable to other agents otherwise available.

Voting of Proxies

Investment managers are responsible for voting proxies and should be made in the best interest of investors.

Execution of Security Trades

The Investment Committee expects the purchase and sale of its securities to be made in a manner designed to receive the combination of best price and execution.

Directed Brokerage

In separately managed equity accounts, HPRS investment managers are encouraged to use brokers that are under contract with HPRS to provide execution-only brokerage. Every five years, these brokers will be reviewed; the Board may consider issuing a Request for Proposal if it is deemed necessary. An investment manager may be excused from the directed brokerage requirement if it can document favorable execution.

Periodic Portfolio and Policy Reviews

Asset allocation should be reviewed at least annually to ensure that the plan is on track to achieve the investment goals and that all the major assumptions used to establish the plan remain reasonable. A comprehensive review of asset allocation in the form of asset-liability modeling should be conducted every five years, or whenever a major structural change occurs in liabilities or investment assets.

An asset allocation plan may require reconsideration when it becomes apparent that the assets are not keeping pace with the liabilities of a plan. This may occur not only as a result of the assets not performing as expected but also because the liabilities may not be behaving as expected.

To assure the continued relevance of the guidelines and objectives, as established in this investment policy statement, the Board should review the investment policy annually, or as deemed necessary.

Investment Policy Revisions

Approved, No Revisions, December 21, 2023
Approved and Revised, December 16, 2022
Approved and Revised, December 16, 2021
Approved and Revised, December 17, 2020
Approved and Revised, December 19, 2019
Approved and Revised, February 21, 2019
Approved and Revised, December 20, 2018
Revised, December 14, 2017
Revised December 15, 2016
Revised, December 17, 2015
Revised, December 18, 2014
Approved, No Revisions, December 19, 2013
Revised, February 21, 2013
Revised, February 23, 2012
Revised, October 27, 2011
Revised, August 26, 2010
Revised, April 22, 2010
Revised, February 25, 2010
Revised, April 23, 2009
Revised, October 25, 2007
Revised, June 16, 2005
Revised, June 26, 2003
Revised, November 15, 2001
Revised, June 22, 1999
Revised, March 13, 1997
Adopted and approved, September 7, 1994
Revised, June 29, 1994
Revised, September 5, 1990
Revised, June 1, 1988
Adopted and approved, June 11, 1986

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Actuarial Section

VIA EMAIL

June 20, 2024

Board of Trustees
Ohio State Highway Patrol Retirement System
1900 Polaris Parkway, Suite 201
Columbus, OH 43240-4037

Dear Board:

Each year, an actuarial funding valuation is performed by a qualified actuary to determine the current financial status of the plan and calculate the contribution requirement that, combined with future investment returns, will ensure that all future obligations of the plan are satisfied. In these calculations, the actuary uses assumptions to estimate future experience and methods that serve as a budgeting mechanism to allocate contributions to the appropriate generation of taxpayers. The most recent funding valuation was completed based on the personnel data, assets, and plan provisions as of December 31, 2023.

In addition to the funding valuation, the actuary provides separate reports that contain the related results for GASB Statements No. 67 (pension) and No. 74 (retiree healthcare). The total pension/OPEB liability, net pension/OPEB liability, and certain sensitivity information shown in the GASB results are based on an actuarial valuation performed as of the December 31, 2022 measurement date. The calculation of the liability for GASB results was performed for the purpose of satisfying the requirements of GASB Statements No. 67 and No. 74. Use of these results for other purposes may not be applicable and produce significantly different results.

DATA SOURCES

The plan administrative staff provided the actuary with the personnel data used in the analysis. The actuarial value of assets was determined based on financial statements supplied by plan administrative staff. While we cannot verify the accuracy of all this information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy of the information and believe that it has produced appropriate results.

EXPERIENCE

The experience of the Fund over the last year is outlined in the funding report. Overall, the Fund experienced an actuarial loss of $11.4 million, which consists of a $3.5 million gain on the Fund's actuarial value of assets and a $14.9 million loss on the System's actuarial accrued liability. Based on the actuarial value of assets, the Fund earned 7.60% compared to the assumed 7.25% return. For funding purposes, investment gains/losses are smoothed over a four-year period, subject to an 80% and 120% corridor on market value.

BENEFIT CHANGES SINCE PRIOR REPORT

There have been no benefit changes since prior report.

ASSUMPTIONS

The changes to the assumptions in the December 31, 2023 GASB Statements No. 67 are as follows:

- Salary Increase Rates
- Retirement Rates
- Withdrawal Rates
- Disability Rates
- Mortality Rates
- Marriage Percentage
- DROP Election
- Payroll Growth Rate

The assumptions were updated as a result of an experience study conducted in February 2024.

The changes to the assumptions in the December 31, 2023 GASB Statements No. 74 (retiree healthcare) are as follows:

- The discount rate was changed from 4.51% to 4.28%. This change is driven by the 20-year municipal bond index rate.

- The per capita claims cost and contribution amounts were updated to reflect the most recent 36-month Plan experience. Administrative fees, stop-loss premiums, and HRA contribution rates have also been updated to use rates effective January 1, 2023.

- The following assumptions were updated in conjunction with an experience study conducted in February 2024:
  - Salary Increase Rates
  - Retirement Rates
  - Withdrawal Rates
  - Disability Rates
  - Mortality Rates
  - Marriage Percentage
  - DROP Election
  - Payroll Growth Rate

In our opinion, the assumptions used in the valuations, as adopted by the Board of Trustees, represent reasonable expectations of anticipated fund experience.

SCHEDULES FOR COMPREHENSIVE ANNUAL FINANCIAL REPORT

The following schedules in the Actuarial Section of the Annual Financial Report were prepared based on information presented in the actuarial valuation reports. For more details on the development of these results, please see the complete valuation reports.

- Statement of Actuarial Assumptions and Methods
- Short-Term Solvency Test
- Active Membership Data

- Retirees and Beneficiaries Added to and Removed from Rolls
- Number of Retired Lives Covered by Medical Mutual & Aetna Medicare Advantage – Added to and Removed from Rolls
- Summary of Plan Provisions

ACTUARIAL CERTIFICATION

The valuations have been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board, and reflects laws and regulations issued to date pursuant to the provisions of Chapter 5505 of the Ohio Revised Code, as well as applicable federal laws and regulations. Future actuarial measurements may differ significantly from the current measurements for a variety of reasons including changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations.

In our opinion, the assumptions and method used to determine the annual required contribution, as adopted by the Board of Trustees, represent reasonable expectations of anticipated plan experience. Further, it is our opinion that all assumptions and methods used for funding purposes meet parameters set by Actuarial Standards of Practice.

In our opinion, the valuation results fairly represent the financial condition of the Ohio State Highway Patrol Retirement System as of December 31, 2023 and the GASB Statement Nos. 67 and 74 results as of December 31, 2023.

The undersigned are familiar with the immediate and long-term aspects of pension valuations and meets the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All the sections of each valuation report are considered an integral part of the actuarial opinions.

To our knowledge, no associate of Foster & Foster, Inc. working on this report has any direct financial interest or indirect material interest in the Ohio State Highway Patrol Retirement System, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the Ohio State Highway Patrol Retirement System. Thus, there is no relationship existing that might affect our capacity to prepare and certify this actuarial report.

Regards,

Jason L. Franken

Jason L. Franken, FSA, EA, MAAA

Bradley R. Heinrichs

Bradley R. Heinrichs, FSA, EA, MAAA

Statement of Actuarial Assumptions and Methods

After consulting with the actuary, these assumptions have been adopted by the Highway Patrol Retirement System Board of Trustees, effective for the year ended December 31, 2020, following a five-year experience study covering the period January 1, 2014 through December 31, 2018. The assumptions used for funding purposes are based on the December 31, 2022 actuarial valuation, while the assumptions used for financial reporting purposes are based on the December 31, 2023 reports issued in accordance with GASB Statements 67 and 68 and Statements 74 and 75.

Funding Method

An entry age normal actuarial cost method of valuation is used in determining benefit liabilities and normal cost. Differences between assumed experience and actual experience ("actuarial gains and losses") become part of actuarially accrued liabilities. Unfunded actuarially accrued liabilities are amortized to produce payments (principal and interest) that are a level percent of payroll contributions.

Asset Valuation Method

The asset valuation method fully recognizes assumed investment income each year. Differences between actual and expected investment income are phased-in over a closed four-year period.

Investment Return

The investment return rates used in making valuations are 7.25% for both pension and OPEB assets, compounded annually (net of investment expenses).

Payroll Growth

Base pay increases are assumed to be 3.0% annually, attributable to broad economic effects such as inflation and real wage growth. Additional merit and seniority increases are assumed as follows:

Payroll Growth

Service Years	Merit & Seniority	Base (Economic)	Total
0 - 1	10.5%	3.0%	13.5%
2 - 3	6.5	3.0	9.5
4 - 5	5.0	3.0	8.0
6 – 11	2.0	3.0	5.0
12 +	0.8	3.0	3.8

Other Assumptions

80% of active participants are assumed to be married for purposes of death-in-service benefits and for purposes of retiring with the automatic joint and survivor benefit.

Health care costs are assumed to increase between 4.75% and 7.65% per year until 2033, ultimately declining to 4.75% for future years.

Each benefit recipient is assumed to be eligible for Medicare at age 65.

Statement of Actuarial Assumptions and Methods

Post-employment mortality is based on the MP-2021 Healthy Annuitant mortality table for males and females, adjusted for mortality improvement back to the observation period base year of 2010. Mortality rates for a particular calendar year are determined by applying the MP-2021 mortality improvement scale to the above-described tables.

Rates of separation from active service before retirement are developed on the basis of actual plan experience.

Probabilities of Separation from Active Employment before Age & Service Retirement
Percentage of Active Members Separating Within Next Year

Sample Age	Disability	Service	Other
20	0.06%	0	13.00%
25	0.06	1 - 2	6.50
30	0.17	3 - 5	4.50
35	0.32	6 - 9	2.50
40	0.53	10 - 20	1.00
45	0.64	21 & up	2.50
50	0.85		
55	1.00		

Probabilities of Age & Service Retirement
Percentage of Eligible Members Retiring Within Next Year

Retirement Ages	Unreduced Benefit	Reduced Benefit
48	20%	5.0%
49	15	5.0
50	15	5.0
51	15	10.0
52	20	--
53	10	--
54	20	--
55	30	--
56	40	--
57	40	--
58	40	--
59	40	--
60+	100	--

Summary of Unfunded Actuarial Liabilities

Each time a new benefit is added which applies to service already rendered, an "unfunded actuarial accrued liability" is created. In addition, if actual financial experiences are less favorable than assumed financial experiences, the difference is added to unfunded actuarial accrued liabilities.

In an inflationary economy, the value of the dollar is decreasing. This environment results in employee pays increasing in dollar amounts resulting in unfunded actuarial accrued liabilities increasing in dollar amounts, all at a time when the actual substance of these items may be decreasing. Looking at just dollar amounts of unfunded actuarial accrued liabilities can be misleading. Unfunded actuarial accrued liabilities divided by active employee payroll provides an index, which aids understanding. The smaller ratio of unfunded liabilities to active member payroll, the stronger the system. Observation of this relative index over a period of years will give an indication of whether the system is becoming financially stronger or weaker.

Summary of Assets and Actuarial Liabilities for Retirement, Survivor, and Disability Allowances
Years Ended December 31

Year	Actuarially Accrued Liability (AAL)	Actuarial Valuation of Assets (AVA)	Unfunded Actuarially Accrued Liability (UAAL)	Ratio of AVA to AAL	Active Member Payroll	UAAL as % of Active Member Payroll
2013►	989,101,470	690,605,582	298,495,888	69.8	98,519,844	303.0
2014	1,012,752,337	712,285,604	300,466,733	70.3	99,211,756	302.9
2015►	1,078,984,597	739,848,920	339,135,677	68.6	99,983,224	339.2
2016	1,127,927,927	763,667,712	364,260,215	67.7	108,788,871	334.8
2017▲	1,153,619,256	774,670,663	378,948,593	67.2	112,705,188	336.2
2018▲	1,158,179,566	769,097,204	389,082,362	66.4	116,009,622	335.4
2019	1,173,155,313	796,284,462	376,870,851	67.9	118,370,595	318.4
2020	1,203,886,606	907,391,508	359,142,477	70.2	117,996,230	304.4
2021	1,233,493,873	1,000,315,787	339,064,208	72.5	111,621,001	303.8
2022	1,263,806,590	861,142,491	329,312,962	73.9	112,476,672	292.8

▲ Plan Amendment
► Assumption or method change

Short-Term Solvency Test

The HPRS financing objective is to pay for benefits through contributions that remain approximately level from year-to-year as a percent of member payroll. If the contributions to the system are level in concept and soundly executed, the system will pay all promised benefits when due, which is the ultimate test of financial soundness.

A short-term solvency test is one means of checking a system's progress under its funding program. In a short-term solvency test, the plan's present assets (cash and investments) are compared with (1) active member contributions on deposit, (2) the liabilities for future benefits to present retired lives, and (3) the liabilities for service already rendered by active members. In a system that has been following the discipline of level percent financing, the liabilities for active member contributions on deposit (column 1 below) and the liabilities for future benefits to present retired lives (column 2 below) will be fully covered by present assets, except in rare circumstances. In addition, the liabilities for service already rendered by active members (column 3 below) will be partially covered by the remainder of the present assets. Generally, if the system has been using level cost financing, the funded portion of column 3 will increase over time.

Short-Term Solvency Test
Accrued Liabilities and Assets Allocated to Retirement, Survivor, and Disability Allowances

Year	(1) Active Member Contributions	(2) Retirees, Beneficiaries, & Deferrals	(3) Active Members (Employer Financed Portion)	Valuation Assets	% of Accrued Liabilities Covered by Reported Assets		
					(1)	(2)	(3)
2013►	113,334,067	601,342,081	274,425,322	690,605,582	100	96	-
2014	117,441,639	622,719,141	272,591,557	712,285,604	100	96	-
2015►	122,286,821	662,562,480	294,135,296	739,848,920	100	93	-
2016	127,311,764	688,936,795	311,679,368	763,667,712	100	92	-
2017▲	130,494,700	717,621,283	305,503,273	774,670,663	100	90	-
2018▲	138,101,643	706,952,911	313,125,012	769,097,204	100	89	-
2019►	143,160,097	719,452,018	310,543,198	796,284,462	100	91	-
2020	147,608,705	748,539,825	307,738,076	844,744,129	100	93	-
2021	144,993,174	797,843,018	290,657,681	894,429,665	100	94	-
2022	144,460,309	830,076,790	289,269,491	934,493,628	100	95	-

▲ Plan Amendment
► Assumption or method change

In a short term OPEB solvency test, the plan's present assets (cash and investments) are compared with (1) the liabilities for future benefits to present retired lives, and (2) the liabilities for service already rendered by active members. In a system that has been following the discipline of level percent financing, the liabilities for active member contributions on deposit (column 1 below) and the liabilities for future benefits to present retired lives (column 1 below) will be fully covered by present assets, except in rare circumstances. In addition, the liabilities for service already rendered by active members (column 2 below) will be partially covered by the remainder of the present assets. Generally, if the system has been using level cost financing, the funded portion of column 2 will increase over time.

Short-Term Solvency Test

Accrued Liabilities and Assets Allocated to Retirement, Survivor, and Disability Health Care

Year	(1) Retirants, Beneficiaries, & Vested Deferreds	(2) Active Members (Employer Financed Portion)	Health Care Valuation Assets	% of Accrued Liabilities Covered by Reported Assets (1)	(2)
2014▲	177,574,474	199,108,639	103,812,807	58	-
2015►	195,195,607	217,156,476	106,550,139	55	-
2016	187,123,383	216,579,635	108,282,136	58	-
2017▲►	125,764,087	122,323,654	110,137,458	88	-
2018►	120,357,969	141,646,686	109,458,262	91	-
2019	168,752,009	134,575,043	108,058,572	64	-
2020	162,432,699	122,895,230	110,433,029	68	-
2021	130,826,489	98,410,633	116,354,253	89	-
2022	132,026,693	85,678,413	124,942,932	95	-

▲ Plan Amendment
► Assumption or method change

Additional years will be displayed as they become available. Ultimately 10 years of data will be shown.

Active Member Valuation Data

Years Ended December 31

Year	Active Members	Annual Payroll ($)	Average Annual Salary ($)	% Increase in Average Pay
2013	1,613	98,519,844	61,079	2.4
2014	1,622	99,211,756	61,166	0.1
2015	1,621	99,983,224	61,680	0.8
2016	1,670	108,788,871	65,143	5.6
2017	1,650	112,705,188	68,306	4.9
2018	1,668	116,009,622	69,550	1.8
2019	1,614	118,370,595	73,340	5.4
2020	1,542	117,996,230	76,522	4.3
2021	1,454	111,621,001	76,768	0.3
2022	1,380	112,476,672	81,505	6.2

Retirees and Beneficiaries Added to and Removed from Rolls
Years Ended December 31

Year	Added to Rolls		Removed from Rolls		Rolls at End of Year	
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances
2013	61	3,204,660	35	843,804	1,523	56,007,360
2014	66	3,008,568	31	723,492	1,558	58,292,436
2015	73	3,102,744	83*	1,671,876	1,548	59,723,304
2016	69	3,576,372	37	841,200	1,580	62,458,476
2017	83	3,878,244	26	675,084	1,637	65,661,636
2018	72	3,127,464	38	1,066,116	1671	67,722,984
2019	63	2,881,148	35	772,944	1699	69,831,187
2020	83	3,372,681	52	1,649,076	1730	71,554,792
2021	120	4,613,439	43	1,344,674	1807	74,823,557
2022	99	5,358,174	54	1,816,998	1,852	78,364,733

**Includes Alternate Payee records, which were combined with Participant records beginning with December 31, 2015*

Number of Retired Lives Covered by Medical Mutual & Added and Removed from Rolls
Years Ended December 31

Year	Added to Rolls	Removed from Rolls	Retirees with Health Care, Dental, or Vision Coverage
	Number	Number	Number
2018	42	77	1,351
2019	88	46	1,393
2020	83	52	1,730
2021	120	43	1,807
2022	38	112	391

The number of lives was compiled from data files provided by HPRS staff. This is the number of retired members covered and will differ from the number of actual lives covered based on the type of coverage elected. Additional years will be displayed as they become available. Ultimately 10 years of data will be shown.

Purpose
In 1941, the Highway Patrol Retirement System (HPRS) was created by the Ohio General Assembly to provide for retirement and survivor benefits for members and dependents.

Administration
The general administration and management of HPRS are vested in the Highway Patrol Retirement System Board of Trustees under Ohio Revised Code Chapter 5505. The eleven-member Board consists of the Superintendent of the State Highway Patrol, three appointed members, five elected active members, and two elected retired members.

The appointed members are investment experts designated by the Governor, the Treasurer of State, and the General Assembly. The active members are elected to four-year terms by members of the plan. Any contributing member is eligible to become an active member candidate, and each contributing member is eligible to vote in the active member election process. Any retiree who is an Ohio resident and who has not served as a statutory or active member of the Board during the past three years is eligible to become a retired member candidate. Each retiree is eligible to vote in the retired member election.

The Superintendent of the State Highway Patrol serves by virtue of the office held. A chairperson and vice-chairperson are elected by the Board annually. All regular Board meetings are public meetings. While the Board members serve without compensation, they are not expected to suffer any loss because of absence from regular employment while engaged in official Board duties. In addition, the members of the Board are reimbursed for actual and necessary expenses.

Employer Contributions
Ohio law requires that the Board certify the employer contribution rate to the Office of Budget and Management in even-numbered years. The employer rate may not be lower than the member rate, nor may it exceed three times the member rate. The employer contribution rate was 26.5% in 2023.

Member Contributions
Each member of HPRS, through payroll deduction, must contribute the legally established contribution rate as a percentage of salary. Individual member accounts are maintained by HPRS and, upon termination of employment, the amount contributed is refundable in lieu of the payment of a pension benefit. The member contribution rate was 13.0% in 2023.

Service Credit
Prior to retirement, the following types of additional service credit may be purchased: (1) military service, (2) prior refunded full-time service as a contributing member of the State Highway Patrol Retirement System, the Ohio Police & Fire Pension Fund, the State Teachers Retirement System of Ohio, the School Employees Retirement System of Ohio, the Ohio Public Employees Retirement System, and the Cincinnati Retirement System. Military service and prior refunded full-time service in HPRS and the Ohio Police & Fire Pension Fund may be used to meet the minimum service requirement in order to qualify

for unreduced pension benefits. In the case of prior service credit that was not refunded, service credit may be transferred directly from another Ohio retirement system to HPRS.

Retirement

Age and Service Retirement

Upon retirement from active service, a member is eligible to receive a pension by achieving a minimum age and service requirement, as follows:

Age	Service Credit
52	20 years
48*	25 years

*Age 52 for troopers hired after January 1, 2020

A member may retire at age 52 to age 60, provided he has 20 or more years of service, or at age 48 with 25 or more years of contributing service. For members hired after January 1, 2020, 52 is the minimum retirement age. The member's pension equals the sum of 2.5% of final average salary times years of service not in excess of 20, 2.25% of final average salary times years of service in excess of 20 but not in excess of 25, and 2% of final average salary times years of service in excess of 25. The maximum pension payable is 79.25% of the member's final average salary. A member must retire upon attainment of age 60.

The final average salary, which includes base pay, longevity pay, hazard duty pay, shift differential, and professional achievement pay, is the average of a member's five highest years of salary.

Benefit payments become effective the day following the last day of employment and are payable monthly throughout the retiree's lifetime.

Deferred Retirement

A member who has acquired 20 years of service and retires is eligible to receive a pension computed in the same manner as an age and service pension at the attainment of age 52. A reduced benefit is payable if the retirant elects to receive a benefit after age 48 and prior to age 52. The reduction is waived for members with 25 or more years of service.

Reduced Retirement

A member who has acquired at least 20 but less than 25 years of service and is between the ages of 48 and 52 is eligible to receive a pension computed in the same manner as an age and service pension but reduced as follows:

Age	Percent of Age & Service Pension
48	75%
49	80%
50	86%
51	93%
52	100%

The election to receive a reduced pension may not be changed once a retiree has received a benefit payment.

Other Pension

A member who has acquired 15 years of service and who voluntarily resigns or is discharged is eligible to receive a pension equal to 1.5% of final average salary multiplied by total service. The pension shall begin the first month after attainment of age 55, provided the member does not withdraw his accumulated contributions from the employees' savings fund.

Resignation or Discharge

With less than 20 years of service credit, a member may not collect a pension if "dishonesty, cowardice, intemperate habits, or conviction of a felony" was the basis for discharge or resignation from the Ohio State Highway Patrol.

Disability Retirement

A member who retires as the result of a disability that was incurred in the line of duty is eligible to receive a pension that is the larger of (1) 61.25% of average final salary, or (2) the age and service pension. A member who retires as the result of a disability that was not incurred in the line of duty is eligible to receive a pension that is the larger of (1) 30% of average annual salary or (2) the age and service pension.

Deferred Retirement Option Plan (DROP)

A member who is eligible to retire with an unreduced pension benefit may enter the DROP. The member will continue to work for the Ohio State Highway Patrol. For actuarial purposes, a DROP member is considered retired; however, instead of receiving a monthly pension benefit, the member begins to accrue funds in a tax-deferred account. The DROP account is funded by the member's continuing active contributions and a pension accrual, as well as interest that accrues on these amounts.

A member may participate in DROP until age 60, but for no more than eight years. The minimum participation period is two years for members who enter the DROP at age 52 or more and three years for members who enter the DROP before age 52. A member who terminates employment earlier than the minimum participation period will forfeit any accrued interest.

When a DROP member terminates employment with the Ohio State Highway Patrol, the member will begin to receive the monthly pension benefit that had previously been funding the DROP account. In addition, after the minimum participation period, the proceeds of the DROP account will be rolled over into a qualified plan or paid to the member in a lump sum, an annuity, or a combination of these distribution types.

Payment Plans
Each retirement applicant must select a benefit payment plan. Regardless of the plan selected, a survivor benefit is paid to an eligible survivor of a deceased active member or retiree. The plan options are as follows:

Plan 1 - Single Life Annuity
This plan pays the highest monthly benefit, calculated as a percentage of final average salary, and is limited to the lifetime of the retiree. A member who receives a disability retirement may only receive a single life annuity.

Plan 2 - Joint and Survivor Annuity
This plan pays a reduced monthly benefit for a member’s lifetime and provides for a monthly benefit to a surviving beneficiary.

Plan 3 - Life Annuity Certain and Continuous
This plan is an annuity, payable for a guaranteed minimum period. If a retiree dies before the end of the period, the pension benefit is paid to the designated beneficiary for the remainder of the period.

Partial Lump-Sum (PLUS) Distribution
In addition to selecting one of the three retirement payment plans, a retiree may elect to receive a lump-sum cash payment, either as a taxable distribution, or as a rollover to a tax-qualified plan. Following this payment, a retiree will receive a reduced monthly benefit for life. To be eligible for a PLUS distribution, a retiree must have attained age 51 with at least 25 years of total service, or age 52 with at least 20 years of total service. The lump-sum amount may not be less than six times the monthly single life pension and not more than 60 times the monthly single life pension.

Survivor Benefits
A surviving spouse of a deceased retiree, or of an active member who was eligible to receive a retirement pension at the time of death, who retired or entered DROP prior to the effective date of House Bill 362 (May 11, 2018) receives a monthly benefit equal to one-half the deceased member’s monthly pension benefit (minimum $900). A surviving spouse of an active member who was not eligible for a retirement benefit at the time of death, or a deceased member who retired after May 11, 2018 receives a monthly survivor benefit of $900, subject to annual review and increase by the Board.

Each surviving dependent child receives $150 monthly until age 18. If the child is a full-time student, this benefit continues until age 23. A surviving qualified disabled child receives this benefit for life, or recovery from the qualifying disability.

Health Care

A comprehensive group medical health care plan is currently offered to all eligible benefit recipients and dependents. Benefit recipients may elect to cover spouses and dependent children by authorizing the appropriate premium deduction.

Dental and vision coverage is also available to benefit recipients and dependents. The Board, which has the authority to implement changes, annually evaluates the premiums and plan design.

Medicare

Medicare-eligible members are allocated a monthly amount pursuant to a Health Reimbursement Arrangement (HRA) to purchase individual plans on a vendor-operated exchange. HPRS no longer reimburses Part B premiums.

Cost of Living (COLA)

The Board has been vested with the responsibility to establish the COLA rate each year between 0.0 and 3.0%. In October 2023, the Board set a COLA rate of 0.00%, effective January 1, 2024. Various benefit recipients are eligible for a COLA according to the table below:

Cost of Living Adjustment Eligibility		
Type of Benefit Recipient	**Pension Effective Date Prior to January 7, 2013**	**Pension Effective Date on or After January 7, 2013**
Service Retirant / DROP Participant	The later of age 53 or the 13th month after benefit commences	The later of age 60 or the 13th month after benefit commences
Disability Retirant	The earlier of age 53 or the 61st month after the benefit commences	
Beneficiary / Survivor	The 13th month after the benefit commences	

Death After Retirement

Upon the death of a retiree, a lump-sum payment of $5,000 is paid to the surviving spouse or to the retiree's estate if there is no surviving spouse.

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Statistical Section

Introduction

The objectives of the statistical section are to provide financial statement users with additional historical perspective, context, and relevant details that will assist in using information in the financial statements, notes to the financial statements, and required supplementary information in order to better understand and assess HPRS's overall financial condition.

The schedules, beginning on page 115, show financial trend information that will assist users in understanding and assessing how HPRS's financial condition has changed over the past ten years. The financial trend schedules presented are --

- Changes in Fiduciary Net Position - Pension
- Changes in Fiduciary Net Position - OPEB
- Benefit Deductions from Net Position by Type - Pension
- Benefit Deductions from Net Position by Type - OPEB

The schedules, beginning on page 116, show demographic and economic information. This information is designed to assist in understanding the environment in which HPRS operates. The demographic and economic information and the operating information presented include --

- Principal Participating Employer
- Benefit Recipients by Type of Benefit
- Average Benefit Payments

Changes in Fiduciary Net Position – Pension
Years Ended December 31

Additions	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Employer contributions	$33,039,696	$28,972,464	$30,089,578	$32,855,342	$33,107,047	$26,014,314	$26,109,836	$25,383,684	$22,895,242	$22,325,421
Member contributions	16,212,050	17,361,370	15,896,368	17,334,068	15,618,020	14,451,649	14,504,919	14,101,170	12,711,676	10,637,385
Transfers from other systems	2,719,652	804,605	638,854	826,595	781,873	410,250	619,110	773,206	947,265	586,929
Investment income, net	120,311,768	(96,172,186)	136,798,307	121,225,640	129,709,247	(37,806,872)	101,528,022	48,099,287	(4,465,153)	44,848,656
Total additions	$172,283,166	$(49,033,747)	$183,423,107	$172,241,645	$179,216,187	$3,069,341	$142,761,887	$88,357,347	$32,089,030	$78,398,391
Deductions										
Benefits paid to participants	84,415,775	84,861,348	85,884,437	78,593,402	73,484,448	71,581,420	75,395,901	67,439,444	65,828,374	63,329,792
Member contribution refunds	543,483	3,785,126	3,597,674	2,552,672	1,556,151	716,739	1,074,973	1,730,725	857,626	2,177,476
Administrative expenses	1,970,255	1,331,254	970,978	1,509,348	1,649,904	1,435,864	1,436,879	1,352,567	1,084,161	1,031,473
Transfers to other systems	272,102	161,821	45,739	54,203	147,156	210,895	140,562	416,679	160,888	165,945
Total deductions	$87,201,615	$90.139.549	$90,498,828	$82,709,625	$76,837,659	$73,944,918	$78,048,315	$70,939,415	$67,931,049	$66,704,686
Change in pension net position	**$85,081,551**	**($139,173,296)**	**$92,924,279**	**$89,532,020**	**$102,378,528**	**($70,875,577)**	**$64,713,572**	**$17,417,932**	**($35,842,019)**	**$11,693,705**

Changes in Fiduciary Net Position – OPEB
Years Ended December 31

Additions	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Employer contributions	$-	$3,890,000	$-	$-	$-	$4,623,201	$4,640,177	$4,511,127	$4,068,887	$4,325,434
Investment income, net	15,649,726	(12,854,216)	17,793,515	16,140,521	18,006,553	(5,366,447)	14,424,489	6,877,607	(647,230)	6,790,553
Health care premiums	2,473,472	2,415,723	4,203,731	4,101755	4,006,980	4,062,903	3,885,594	2,918,533	2,397,253	1,756,117
Retiree Drug Subsidy	1,111	433,632	3,687,575	1,742,357	1,665,632	1,808,082	1,418,110	1,082,402	1,140,016	647,225
Prescription Drug Rebates	494,477	1,200,110	2,128,443	1,578,830	1,318,027	1,352,977	719,538	351,087	428,517	886,661
Medicare D Refunds	-	-	-	-	-	-	-	-	-	-
Total additions	18,618,786	($4,914,751)	$27,813,264	$23,563,463	$24,997,192	$6,480,716	$25,087,908	$15,740,756	$7,387443	$14,405,990
Deductions										
Health care expenses	10,462,275	9,900,250	16,181,131	15,725,987	15,609,344	15,762,478	15,456,987	14,594,984	13,759,103	14,055,881
Administrative expenses	256,274	177,934	126,296	200,961	229,044	203,812	204,143	193,401	157,150	156,176
Total deductions	$10,718,549	$10,078,183	$16,307,427	$15,926,948	$15,838,388	$15,966,290	$15,661,130	$14,788,385	$13,916,253	$14,212,057
Change in OPEB net position	**$7,900,237**	**($14,992,935)**	**$11,505,837**	**$7,636,515**	**$9,158,804**	**($9,485,574)**	**$9,426,778**	**$952,371**	**($6,528,810)**	**$193,933**

Benefit Deductions from Net Position by Type - Pension
Years Ended December 31

Type of Benefit*	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Age & Service	$70,039,941	$71,169,040	$72,802,319	$65,795,145	$61,332,945	$59,778,507	$63,909,049	$55,912,247	$54,637,611	$52,593,663
Reduced	2,053,518	2,032,710	2,018,154	2,314,430	2,006,286	1,998,325	1,987,800	2,180,522	2,192,201	2,186,653
Disability	6,133,962	5,663,550	5,478,399	5,344,149	5,144,803	4,824,425	4,710,650	4,496,025	4,381,011	4,270,957
Survivor	6,048,354	5,826,048	5,405,565	5,024,678	4,920,414	4,870,163	4,688,402	4,765,650	4,307,551	4,208,519
Death Benefits	140,000	170,000	180,000	115,000	80,000	110,000	100,000	85,000	110,000	70,000
Total Pension Benefits	**$84,415,775**	**$84,861,348**	**$85,884,437**	**$78,593,402**	**$73,484,448**	**$71,581,420**	**$75,395,901**	**$67,439,444**	**$65,628,374**	**$63,329,792**

*Previous versions of this schedule included an “Early” category, which has now been combined with “Age & Service”, since the criterion for eligibility is the same.

Benefit Deductions from Net Position by Type - OPEB
Years Ended December 31

Type of Benefit	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Medical	$5,384,462	$5,602,223	$6,785,358	$7,094,642	$7,906,107	$8,153,320	$8,091,247	$7,331,598	$7,087,732	$7,623,999
Wellness	76,512	38,007	57,214	20,549	42,447	27,951	53,566	31,455	68,263	48,728
Prescription drugs	2,118,493	1,530,598	8,451,258	7,782,415	6,789,285	6,718,222	6,488,074	6,115,493	5,245,815	4,722,044
Medicare-B reimbursement	-	-	-	-	-	-	-	311,820	601,860	874,164
Dental	713,888	715,924	714,782	656,141	713,553	690,084	642,998	621,659	593,016	619,286
Vision	272,755	211,255	172,519	172,240	157,952	172,901	181,102	182,959	162,417	167,660
Medicare HRA	1,821,202	1,801,686	-	-	-	-	-	-	-	-
HRA Admin Expenses	71,899	-	-	-	-	-	-	-	-	-
Medicare CatRx	3,064	557	-	-	-	-	-	-	-	-
Total	$10,462,275	$9,900,250	$16,181,131	$15,725,987	$15,609,344	$15,762,478	$15,456,987	$14,594,984	$13,759,103	$14,055,881
Member premiums/adjustments	(2,969,060)	(7,939,465)	(10,019,749)	(7,422,942)	(6,990,639)	(7,223,961)	(6,023,241)	(4,352,023)	(3,965,786)	(3,290,003)
Net paid by HPRS	**$7,493,215**	**$1,960,785**	**$6,161,382**	**$8,303,045**	**$8,618,705**	**$8,538,517**	**$9,433,746**	**$10,242,961**	**$9,793,317**	**$10,765,878**

Principal Participating Employer
2014-2023

Year	Participating Government*	Covered Employees	Year	Participating Government*	Covered Employees
2023	Ohio State Highway Patrol	1,399	2018	Ohio State Highway Patrol	1,668
2022	Ohio State Highway Patrol	1,380	2017	Ohio State Highway Patrol	1,650
2021	Ohio State Highway Patrol	1,454	2016	Ohio State Highway Patrol	1,670
2020	Ohio State Highway Patrol	1,542	2015	Ohio State Highway Patrol	1,621
2019	Ohio State Highway Patrol	1,614	2014	Ohio State Highway Patrol	1,622

*HPRS is a single-employer pension system; 100% of members are employed by the Ohio State Highway Patrol.

Benefit Recipients by Type of Benefit
December 31, 2023

Monthly Benefit	Number of Benefit Recipients	Type of Benefit 1	2	3	4	5	Retirement Option Unmodified	1	2	3	4	5	6	7
Deferred	33	-	-	-	-	-	-	-	-	-	-	-	-	-
$1 - 250	25	-	-	-	24	1	25	-	-	-	-	-	-	-
251-500	7	-	-	-	1	6	7	-	-	-	-	-	-	-
501 - 750	11	-	-	-	-	11	11	-	-	-	-	-	-	-
751 - 1000	25	-	-	-	12	13	25	-	-	-	-	-	-	-
1001 – 1250	46	-	2	1	29	14	46	-	-	-	-	-	-	-
1251 – 1500	56	-	1	1	44	10	56	-	-	-	-	-	-	-
1501 – 1750	98	3	11	1	73	10	97	1	-	-	-	-	-	-
1751 – 2000	99	10	9	6	66	8	97	-	2	-	-	-	-	-
2001 – 2250	60	16	15	4	24	1	58	1	1	-	-	-	-	-
2251 – 2500	53	16	6	10	18	3	50	1	-	2	-	-	-	-
2501 – 2750	65	23	9	20	12	1	60	-	1	4	-	-	-	-
2751 – 3000	75	43	12	13	7	-	67	1	2	5	-	-	-	-
3001 - 3250	161	120	2	37	2	-	140	-	12	9	-	-	-	-
3251 – 3500	198	175	-	23	-	-	168	1	14	15	-	-	-	-
Over 3,500	1,139	1,087	4	45	3	-	965	10	65	98	-	-	-	1
Total	**2,151**	**1,493**	**71**	**161**	**315**	**78**	**1,872**	**15**	**97**	**133**	**-**	**-**	**-**	**1**

Type of Benefit Recipient (Includes current members in DROP)*
1 – Age & Service
2 – Reduced
3 – Disability
4 – Survivor
5 – Alternate Payee (Division of Property Order)

* Previous versions of this schedule included an “Early” category, which has now been combined with “Age & Service”, since the criterion for eligibility is the same.

Retirement Option
Under the unmodified plan, a surviving spouse receives a 50% continuance (minimum, $900 monthly)
Under the following options, a surviving spouse qualifies for the above-noted 50% continuance; however, the member’s lifetime benefit is reduced:
Option 1 – Beneficiary receives 0 to <25% of member’s reduced monthly benefit
Option 2 – Beneficiary receives 25 to <50% of member’s reduced monthly benefit
Option 3 – Beneficiary receives 50% or more of member’s reduced monthly benefit
Option 4 – Beneficiary receives 100% of member’s remaining reduced monthly benefit for 5 years after benefit begins
Option 5 – Beneficiary receives 100% of member’s remaining reduced monthly benefit for >5 to 10 years after benefit begins
Option 6 – Beneficiary receives 100% of member’s remaining reduced monthly benefit for >10 to 15 years after benefit begins
Option 7 – Beneficiary receives 100% of member’s remaining reduced monthly benefit for >15 years after benefit begins

Average Benefit Payments
2014-2023

Retirement During		Years of Credited Service 20 to <25	25 to <30	30+	Overall
2023	Average Monthly Benefit	3,073	4,065	3,933	3,807
	Average Final Average Salary	5,315	6,815	7,417	6,750
	Number of Retirees	14	36	8	58
2022	Average Monthly Benefit	$3,328	$4,024	$4,243	$3,931
	Average Final Average Salary	$6,069	$6,768	$6,630	$6,584
	Number of Retirees	16	40	19	75
2021	Average Monthly Benefit	$3,194	$3,983	$4,507	$3,930
	Average Final Average Salary	$5,962	$6,548	$6,950	$6,511
	Number of Retirees	18	43	19	80
2020	Average Monthly Benefit	$3,083	$3,959	$3,993	$3,772
	Average Final Average Salary	$5,586	$6,438	$5,931	$6,220
	Number of Retirees	13	43	4	60
2019	Average Monthly Benefit	$2,841	$3,711	$4,369	$3,694
	Average Final Average Salary	$5,085	$6,010	$5,959	$5,959
	Number of Retirees	7	32	8	47
2018	Average Monthly Benefit	$2,761	$3,731	$3,831	$3,517
	Average Final Average Salary	$5,186	$6,064	$5,697	$5,807
	Number of Retirees	12	32	7	51
2017	Average Monthly Benefit	$3,115	$3,640	$4,219	$3,584
	Average Final Average Salary	$5,611	$5,795	$5,986	$5,775
	Number of Retirees	13	53	5	71
2016	Average Monthly Benefit	$2,511	$3,846	$4013	$3,505
	Average Final Average Salary	$5,020	$6,091	$5,678	$5,796
	Number of Retirees	13	35	2	50
2015	Average Monthly Benefit	$2,882	$3,648	$3,980	$3,478
	Average Final Average Salary	$5,287	$5,828	$5,821	$5,684
	Number of Retirees	13	31	5	49
2014	Average Monthly Benefit	$3,181	$4,063	$6,669	$4,002
	Average Final Average Salary	$5,093	$5,982	$7,824	$5,903
	Number of Retirees	6	37	1	44

The table above does not include active DROP participants.
The average monthly benefit is based on the benefit paid at termination from employment, not entry into DROP.

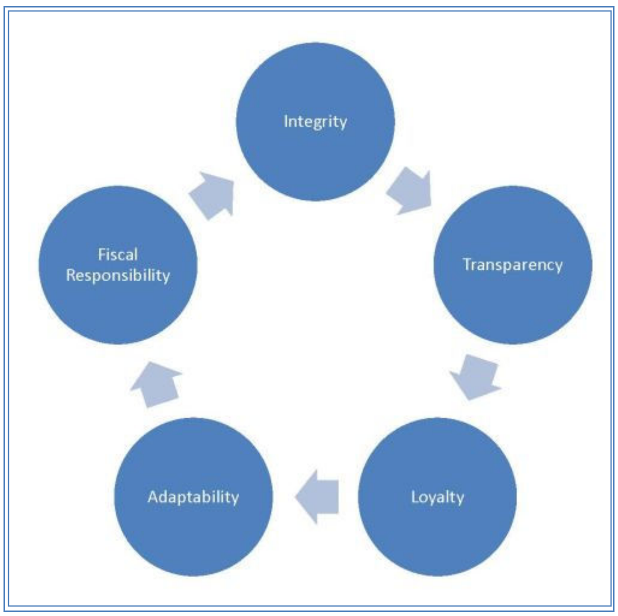
HPRS Mission Statement

Provide stable pension services that are fiscally responsible, prudently administered, and delivered with understanding and responsiveness to all members and beneficiaries.

HPRS Vision Statement

Maintain a financially sound pension system that is a leader in the oversight of our investments and liabilities, providing for the long-term financial wellbeing of our retirement system.

HPRS Values



Highway Patrol Retirement System
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Telephone 614.431.0781
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E-mail: hprsportal@ohprs.org
www.ohprs.org

Office Hours: 8:00 a.m. to 4:30 p.m.

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OHIO AUDITOR OF STATE
KEITH FABER

OHIO STATE HIGHWAY PATROL RETIREMENT SYSTEM

DELAWARE COUNTY

AUDITOR OF STATE OF OHIO CERTIFICATION

This is a true and correct copy of the report, which is required to be filed pursuant to Section 117.26, Revised Code, and which is filed in the Office of the Ohio Auditor of State in Columbus, Ohio.

Certified for Release 7/23/2024

65 East State Street, Columbus, Ohio 43215
Phone: 614-466-4514 or 800-282-0370