



AGENDA
CHARTER TOWNSHIP OF MERIDIAN
PENSION BOARD – PUBLIC MEETING
May 13, 2024 AT 4:00 PM

1. CALL MEETING TO ORDER
2. ROLL CALL
3. PUBLIC COMMENT
4. APPROVAL OF AGENDA
5. APPROVAL OF MINUTES
 - A. November 6, 2023 DRAFT meeting minutes
6. PRESENTATIONS
 - A. David Reid, Vice President PNC Institutional Investment Advisor – Investment Report
 - B. Kevin Noelke, Consultant & Actuary Gabriel, Roeder, Smith & Company – Actuary Report
7. ACTION ITEMS
 - A. Election of Chair
8. DISCUSSION ITEM
9. COMMENTS FROM THE PUBLIC
10. OTHER MATTERS AND BOARD MEMBER COMMENTS
11. ADJOURNMENT

All comments limited to 3 minutes, unless prior approval for additional time for good cause is obtained from the Chair. Individuals with disabilities requiring auxiliary aids or services should contact the Meridian Township Pension Board by contacting: Interim Township Manager Tim Schmitt, 5151 Marsh Road, Okemos, MI 48864 or 517.853.4258 - Ten Day Notice is Required.

Meeting Location:
5151 Marsh Road, Okemos, MI 48864 Township Hall

Providing a safe and welcoming, sustainable, prime community.





CHARTER TOWNSHIP OF MERIDIAN
PENSION BOARD-MEETING MINUTES
Meridian Municipal Building
5151 Marsh Road, Okemos, MI 48864-1198
Monday, November 6, 2023 4:00 p.m.

Members Present: Chair Joyce VanCoevering, Tanya Pratt, Jim Houthoofd, Treasurer Phil Deschaine

Members Absent: None

Staff: Finance Director Dante Ianni and HR Director Abby Tithof

Others Present: David Reid, PNC Institutional Advisor and Kevin Noelke, Consultant & Actuary Gabriel, Roeder, Simth & Company

1. CALL MEETING TO ORDER

- Chair VanCoevering called the meeting to order at 4:00 p.m.

2. PUBLIC COMMENT

- None Present

3. APPROVAL OF AGENDA

- Chair VanCoevering called for motion to approve today's agenda. Treasurer Deschaine moved to approve and Board Member Pratt seconded. Approved unanimously.

4. APPROVAL OF MINUTES FROM FEBRUARY 6, 2023 MEETING

- Chair VanCoevering called for motion to approve February 6, 2022 minutes. Treasurer Deschaine moved to approve and Board Member Pratt seconded. Approved unanimously.

5. PRESENTATIONS

- David Reid, PNC Institutional Advisor and Kevin Noelke, Consultant & Actuary Gabriel, Roeder, Simth & Company provided reports to the board.

6. ACTION ITEMS

- Approval of PNC Investment Policy Statement. Treasurer Deschaine moved to approve and Board Member Houthoofd seconded to approve. Approved unanimously.
- Approval of Pensioners. Treasurer Deschaine moved to approve and Board Member Houthoofd seconded. Approved unanimously.
- Actuarial Methodology. Kevin Noelke from GRS recommended a modification to the actuarial methodology to make it more conservative and aligned with actual fund performance. Board Member Pratt moved, and Treasurer Deschaine

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seconded a motion to change from a 3 to a 5-year amortization with asset smoothing changed from 4 to 3 years. Approved unanimously.

7. DISCUSSION ITEM

- Availability for future meetings was discussed. The board requested semi-annual meetings on Mondays at 4 p.m. Finance Director Ianni told the board that he would plan to schedule the next meeting after the release of the actuarial report in the Spring and another meeting in the Fall.

8. COMMENTS FROM THE PUBLIC

- None

9. OTHER MATTERS AND BOARD MEMBER COMMENTS

- None

10. ADJOURNMENT

- Treasurer Deschaine motioned for the meeting to adjourn, which Board Member Pratt seconded at 5:14 p.m. Approved unanimously.

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MERIDIAN TOWNSHIP EMPLOYEE PENSION

May 13, 2024

Review for March 31, 2024

Presented by:

David A Reid, CIMA

Investment Advisor Sr, Vice President

PNC Institutional Asset Management

248-729-8352

david.reid@pnc.com

- I. Taking Stock of the Markets
- II. Investment Policy Statement
- III. Portfolio Review
- IV. Investment Performance
- V. Appendix



Taking Stock of the Markets

Investment Strategy

April 2024

Key Macro and Market Themes

The path forward is highly dependent on specific themes

As the probability of a near-term recession continues to fade, investors are faced with several key themes that should continue to impact markets throughout 2024.

Macroeconomics

1. Easing monetary policy
2. Sticky inflation
3. Labor market strength

Markets

1. Narrow earnings growth
2. Narrow market leadership
3. Range-bound interest rates

Scan the QR code using your smartphone's camera app to watch a video in which Dan Brady, PNC's Managing Director of Investment Strategy, discusses Key Macros and Market Themes



Investment Process and Asset Allocations

Each facet of analysis plays a critical role in our decision-making

In the “slower for longer” business cycle, we believe the reward/risk balance at elevated valuations supports diversified, high-quality portfolio within equities and fixed income allocations.

Investment Process Insights



Tight labor market extends the cycle

Leading economic indicators point to contracting manufacturing activity, whereas strong labor market is supporting personal consumption, which is the largest component of U.S. GDP.



Global earnings reacceleration is needed to bring down multiples

Earnings estimates for 2024 have been falling, yet the market rally over the past few months has driven valuations higher. Without an earnings reacceleration, valuations may become extended.



New global all-time highs as momentum remains positive

In our view, equity markets at all-time highs should be considered a positive as global equity market momentum remains a tailwind.

Asset Allocation Viewpoints



Global outlook dependent on earnings growth

We continue to favor quality, global allocations that can weather elevated inflation and high interest rates amid a slowing economy.



Core fixed income is attractive at this phase in the credit cycle

As interest rate volatility falls from extremely high levels, we believe core fixed income remains attractive relative to credit.



Broad opportunity set for long-term investors

Alternative investments offer various risk and return, correlation and liquidity profiles for differentiated alpha, potentially aiding risk-adjusted performance and dampening volatility.

Scan the QR code using your smartphone's camera app to watch a video in which Dan Brady, PNC's Managing Director of Investment Strategy, discusses investment process and asset allocations



Thinking Through Potential Scenarios

Where do we go from here?

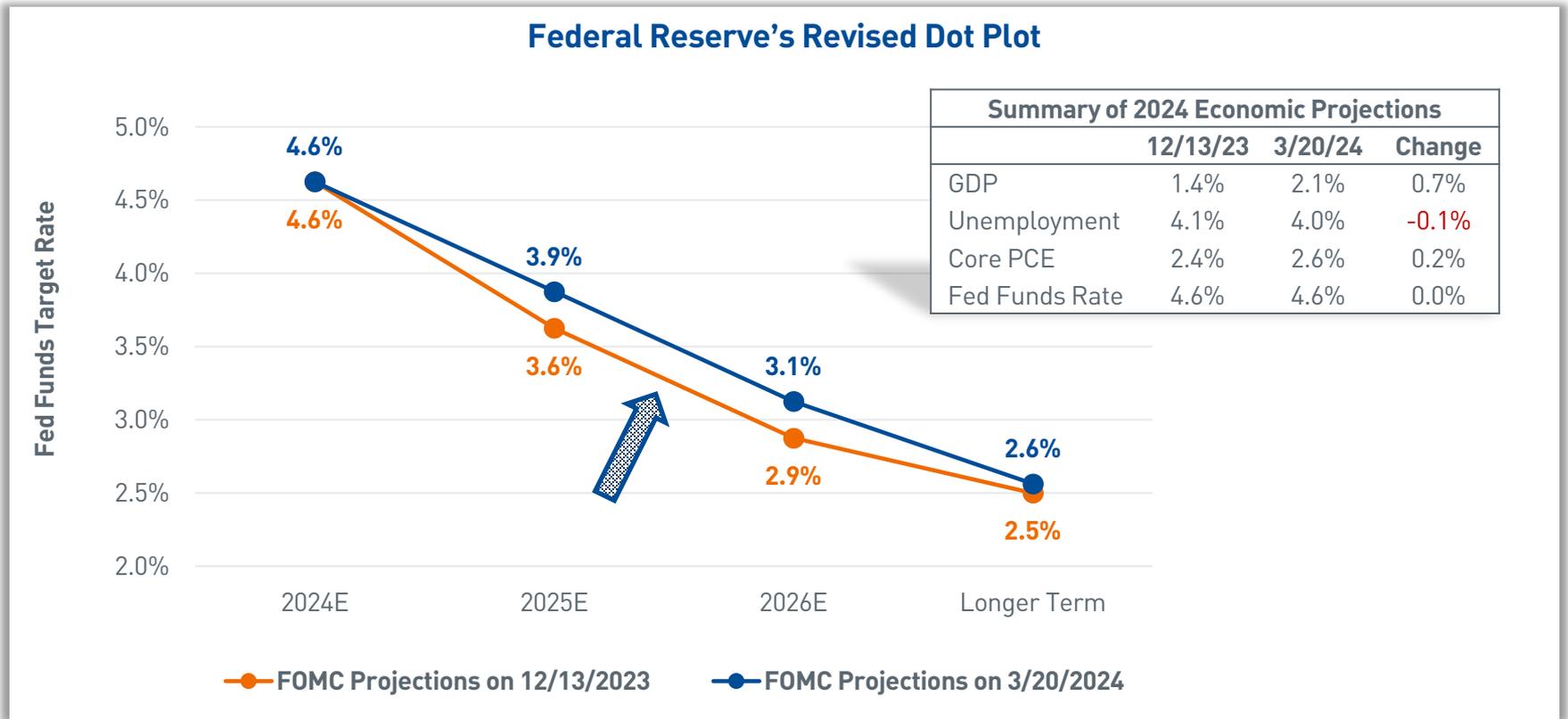
Factors	Base Case: Decelerating Growth	Bear Case: Economic Contraction	Bull Case: No Recession and Reacceleration
Inflation	Inflation decelerates at a manageable pace – not a straight line down – as global earnings growth contracts.	Stagflation of high inflation and low global employment sinks the economy into a recession.	Inflation falls rapidly, as a mid-cycle slowdown turns to a reacceleration of the business cycle.
Monetary Policy	Federal Reserve (Fed) policy shifts its focus to cut rates at an opportune time as economic growth slows mid-year.	Central banks ease financial conditions too soon, and inflation rebounds higher just as labor markets weaken, which limits the options of monetary policy to stimulate the economy.	Global central banks are able to ease monetary policy as lower inflation has been achieved without dipping into recession.
Geopolitics	Multiple global wars do not materially impact global markets; U.S. political landscape remains uncertain in a presidential election year.	Multiple global wars potentially lead to higher inflation, in addition to the probability of a longer-than-expected U.S. government shutdown in an election year.	Multiple global wars do not materially impact global markets, a U.S. government shutdown continues to be avoided as investors focus on the election.
Earnings Outlook	Net earnings revisions for 2024 decline modestly as decelerating inflation remains a headwind to corporate margins.	Net earnings revisions for 2024 decline meaningfully as an economic recession is not fully reflected in consensus estimates.	A mid-cycle reacceleration leads to positive earnings revisions.
2024 S&P 500 Earnings Growth Rate	4% to 7%	-5% to 0%	8% to 12%
Trough Forward P/E	16x - 18x	12x - 15x	19x - 21x
Path of Long-Term Interest Rates	Volatile and modestly higher	Materially lower	Volatile and moderately lower

Federal Reserve Delivers a Dovish Message

As widely expected, the Fed held rates steady at their march meeting

Updated “dot plot” continues to signal three rate cuts in 2024

Consensus expects the Fed will begin to cut interest rates in June, which is in line with PNC Economics’ view. Expectations for 2025 are slightly more restrictive compared to December’s outlook, however Fed officials still expect to ease policy.



As of 3/31/2024. Source: Bloomberg L.P.

Economic and Equity Markets Dashboard

Better-than-expected economic data continues to be a tailwind for markets



Easing financial conditions reduce recession risk in 2024 as labor market remains tight relative to history. Higher borrowing costs and elevated inflation remain a risk to the economic outlook.

March 2024 Economic Data Dashboard

3.4% U.S. REAL GDP 4Q 2024	3.9% UNEMPLOYMENT RATE	3.2% CPI ANNUAL CHANGE
4.20% 10-YEAR U.S. TREASURY YIELD	4.3% ANNUAL HOURLY WAGE GROWTH	1.5% U.S. RETAIL SALES GROWTH RATE
-42 BASISPOINTS 2YR/10YR YIELD CURVE INVERSION	275,000 MONTHLY PAYROLL REPORT ADDITIONS	\$3.54/GAL NATIONAL AVERAGE GASOLINE PRICE

Equity Market Highlights

	2024E	
	EPS GROWTH	NTM P/E
S&P 500®	10.6%	21.0x
Magnificent 7	23.9%	31.1x
Russell 2000®	16.4%	23.5x
MSCI World ex USA	4.6%	14.3x
MSCI EM IMI	18.8%	12.2x
S&P 500 EPS Strategists' Median Est.	\$235	
Bull Case	\$250	
Bear Case	\$221	

As of 3/31/2024. Source: Bloomberg L.P., FactSet®, FactSet® is a registered trademark of FactSet Research Systems, Inc., and its affiliates.

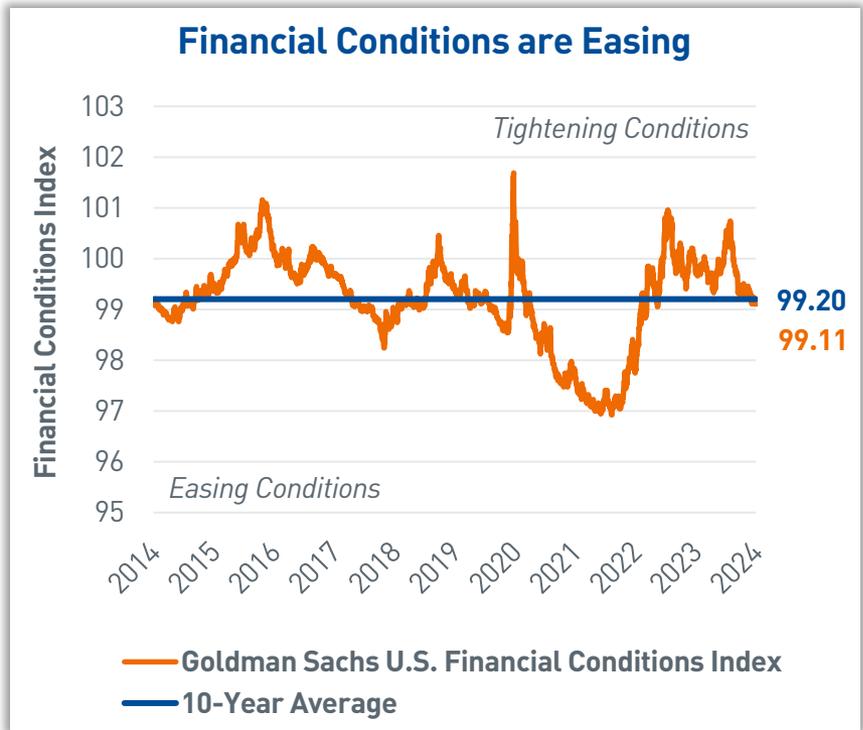
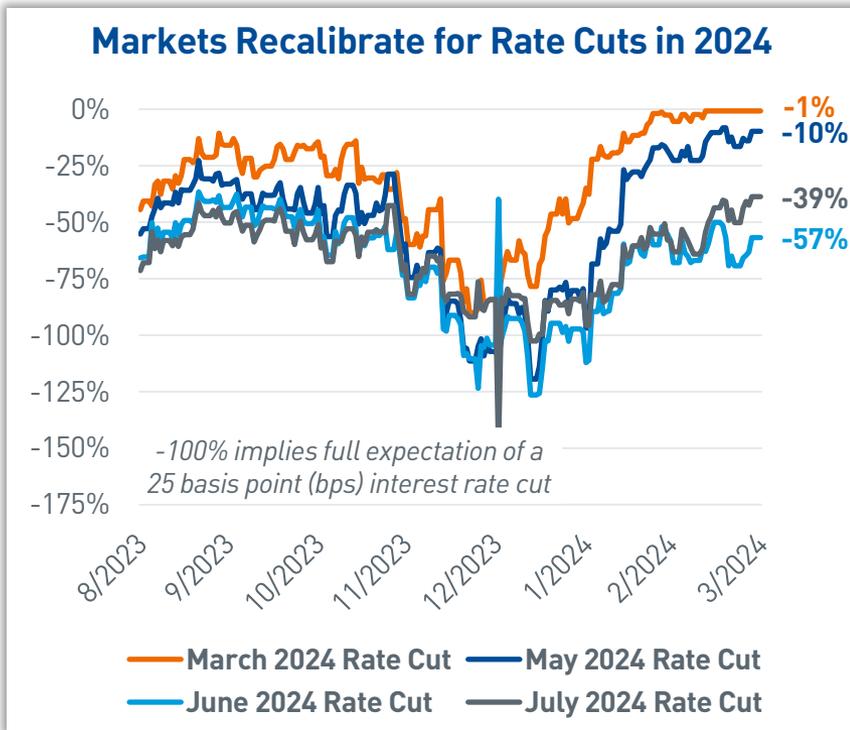
Fed Policy Remains a Key Market Driver

Consensus continues to expect the Fed to ease monetary policy in 2024

Rate cut expectations have moved to June, but financial conditions are already easing

With inflation on a bumpy course towards 2%, Fed officials have signaled plans for interest rate cuts later in 2024.

Financial conditions have already eased back to 2021 levels, before the Fed had even begun to raise interest rates.



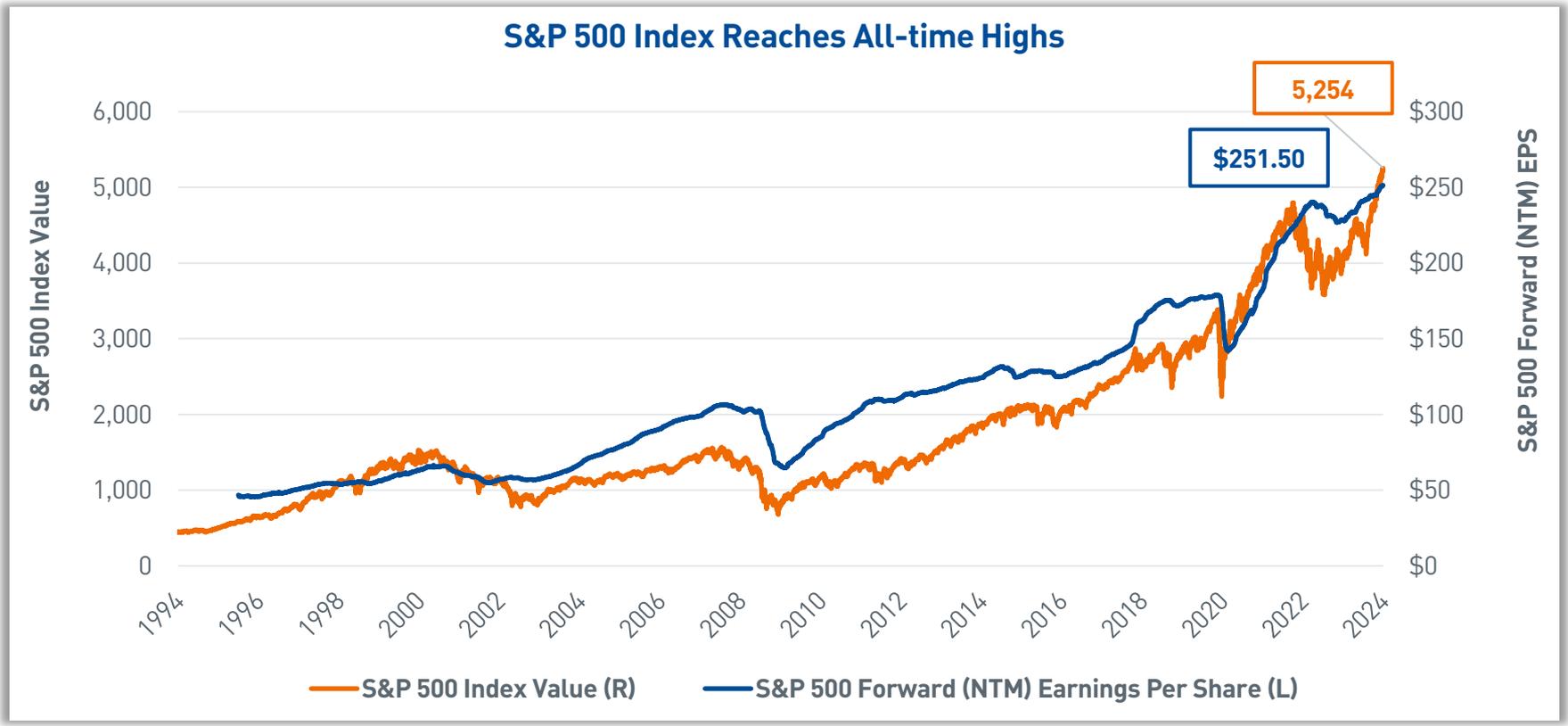
S&P 500 Index and Forward Earnings

Earnings drive stock prices in the long run



Consensus earnings estimates rise for the S&P 500 rise

Consensus earnings estimates are above the highs of 2022, indicating very optimistic views that the business cycle reaccelerates from here. We believe these estimates do not reflect a possible slow down and suggest valuations may be rich.



As of 3/31/2024. Source: FactSet®, FactSet® is a registered trademark of FactSet Research Systems, Inc., and its affiliates.

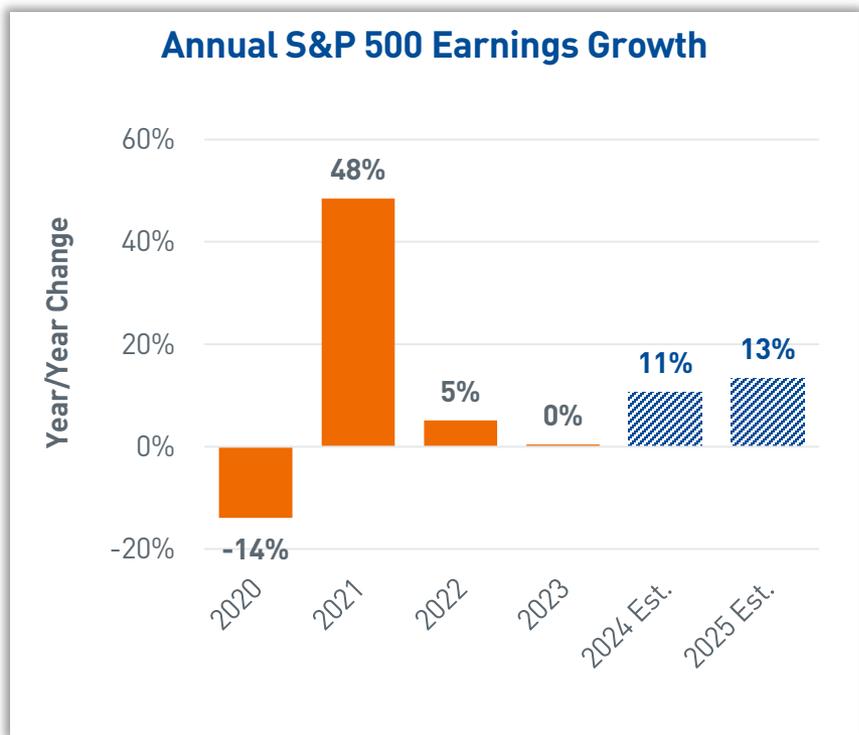
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S&P 500 Earnings Outlook

Positive revisions trend masks narrow market breadth

The S&P 500 reaches all-time highs as forward earnings estimates rise

Consensus earnings growth for the first quarter is 3.4%, however excluding the “Magnificent 7” stocks (Microsoft Corp., Alphabet Inc., Meta Platforms Inc., Amazon.com, Apple Inc., Tesla Inc., and NVIDIA Corp.), it falls to -2.6%. Consensus earnings estimates for 2024 remain optimistic in our view, leaving valuations rich.



Scan the QR code using your smartphone's camera app to watch a video in which Dan Brady, PNC's Managing Director of Investment Strategy, discusses the S&P 500 Earnings Outlook



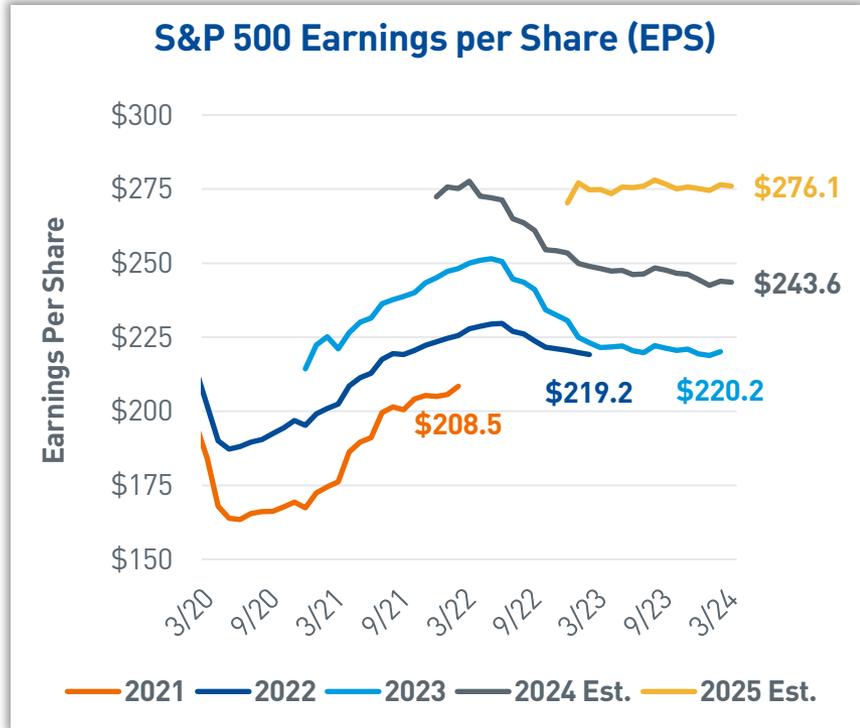
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S&P 500 Earnings and Valuations

Valuation scenario analysis and the equity risk premium

Rising risks to future multiple expansion

From their peak in summer 2022, S&P 500 forward earnings have now risen 4%. It can be helpful for investors to see different scenarios depicting what it would take for equity markets to climb higher or pull back, without being considered under- or overvalued.



NTM EPS	Hypothetical Scenario	Price to Earnings (P/E NTM)				
		18.0x	19.5x	21.0x	22.5x	24.0x
\$183	25% downside	3,280	3,554	3,828	4,102	4,376
\$219	10% downside	3,936	4,265	4,594	4,923	5,251
\$244	*NTM Consensus Est.	4,373	4,739	5,104	5,469	5,835
\$268	10% upside	4,811	5,213	5,614	6,016	6,418
\$305	25% upside	5,467	5,923	6,380	6,837	7,294

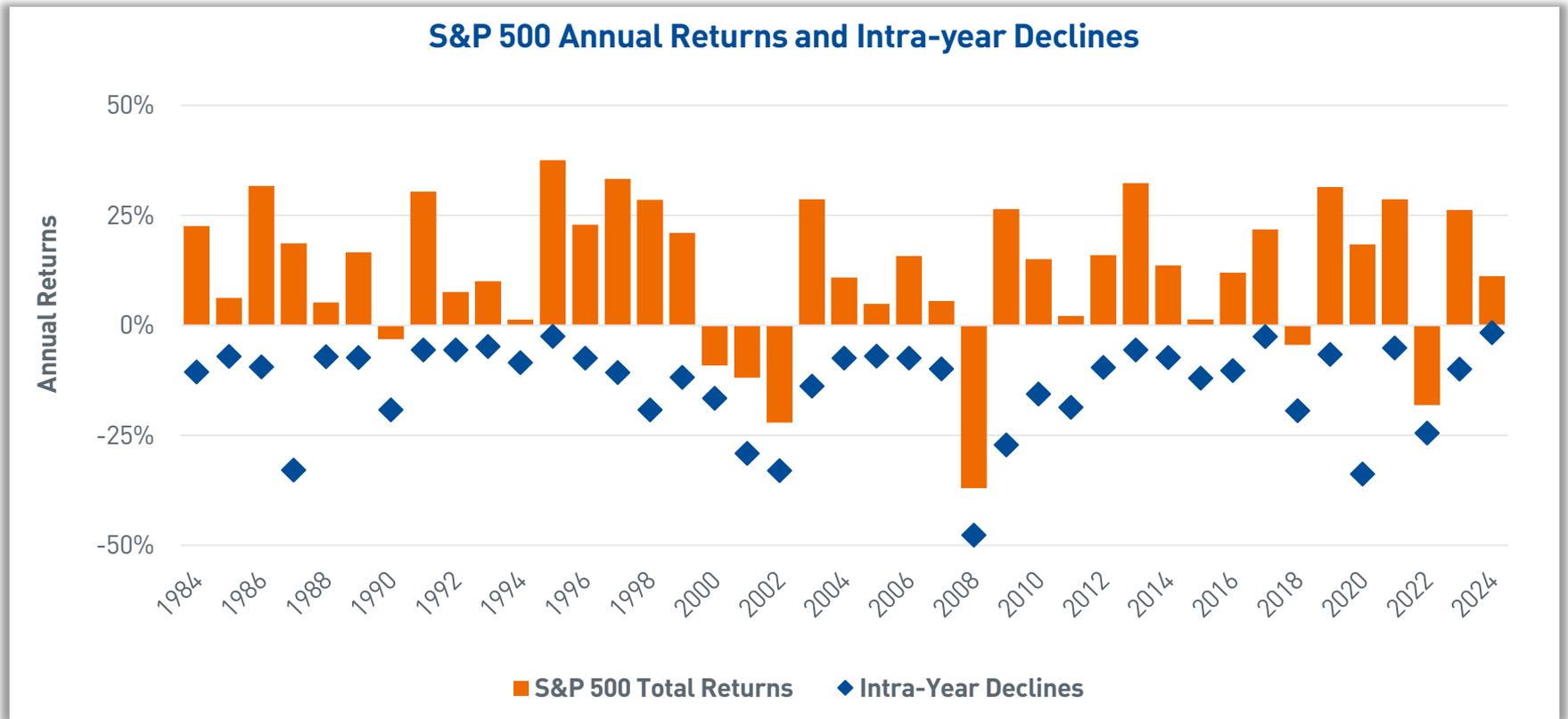
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S&P 500 Market Volatility

Heightened volatility remains dependent on the path of monetary policy

Pullbacks happen, even in positive returning years

Even in years of positive performance, intra-year pullbacks can be sizeable, so it is critical to analyze pullbacks in different phases of the cycle. Drawdowns are a poor guide for how a year ultimately turns out, so it is important to stay invested.



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Key Takeaways in Periods of Market Volatility

The most important point: stay invested

Consider the timeline	Pullbacks are a healthy, normal part of long-term investing.
Market volatility is the rule, not the exception	In periods of heightened volatility, it is critical to remain focused on the underlying fundamentals that drive markets in the long term.
Occasional pullbacks are normal	Even in years of positive performance, intra-year pullbacks can be sizeable, thus it is important to distinguish between pullbacks in different phases of the business cycle.
Stay diversified and invested	The interaction effect of multi-asset portfolios adds value in times of stress, so consider using volatility to your advantage.

Capital Market Assumptions: Methodology

Methodology & Key Assumptions

Results in this report incorporate PNC's Capital Market Assumptions (CMA) for calendar year 2024. These assumptions represent PNC Bank's 10-year projections of risk and return for the respective asset classes. These estimates are updated on an annual basis and take into account economic fundamentals, long-term historical trends, as well as other relevant factors.

Methodology

CMA returns reflect combining market-implied equilibrium returns with PNC's subjective views using a technique known as Black-Litterman¹. Black Litterman Methodology blends subjective and market-implied views using a Bayesian approach that takes account of cross-asset-class relationships to help determine an internally consistent set of final estimates. In general, the expected return on every asset class is adjusted so that it is as consistent as possible with both the market-implied equilibrium and our subjective views, even if we do not express a specific subjective view on that asset class. This methodology is an imperfect model of market behavior. Among the simplifications is the assumption that asset returns are adequately summarized by constant means, variances, and correlations. Empirical evidence generally indicates that these statistics are not sufficient to fully characterize asset returns.

The projected returns for hedge funds, private debt, private equity, and private real estate (property) include premiums for the fact that these classes are, in varying degrees, illiquid. The mean returns shown should be interpreted as arithmetic average returns. They are not compounded rates of return. The difference between these two concepts is approximately equal to one-half the asset's volatility squared.

Key Assumptions

Risk-free Rate — As of August 31, 2023, the yield on the 10-year UST is above 4%. This is slightly higher than what we expect over the next 10 years. Our approximation for the risk-free rate remains 3.0%, consistent with our 2023 analysis. We believe this is a reasonable expectation as the Fed normalizes the interest rate environment, likely starting in 2024. For reference, the 2022 analysis used a risk-free rate of 1.5%.

Inflation — We use an inflation expectation of 2.25% per year, based on our estimated Consumer Price Index (CPI)² level over the forecast period. This is consistent with, but slightly higher than, the Fed's long-run target level of 2%. While CPI has recently run at the highest level in 40 years, over the next 10 years, we believe levels will normalize around 2.25%. This is also consistent with market expectations based on inflation breakeven rates³, which are currently trending back toward 2%.

U.S. Dollar — We have assumed the Fed's nominal Trade-Weighted U.S. Dollar Index⁴ remains flat over the forecast horizon. Given the significant interest rate differentials around the globe, we expect the dollar to largely maintain its current position of relative strength against most other major currencies.

1 The Black-Litterman methodology was introduced by Fischer Black and Robert Litterman of Goldman Sachs in 1990. It avoids problems inherent in some other methods by incorporating market-implied equilibrium returns consistent with the risk structure of the asset classes. The model works by blending subjective and market-implied views using a Bayesian approach that takes account of cross-asset-class relationships to help determine an internally consistent set of final estimates. In general, the expected return on every asset class is adjusted so that it is as consistent as possible with both the market-implied equilibrium and our subjective views, even if we do not express a specific subjective view on that asset class. 2 The CPI measures changes in the price level of a weighted average market basket of consumer goods and services purchased by households. It is usually calculated and reported by the Bureau of Economic Analysis and Statistics of a country on a monthly and annual basis. 3 The inflation breakeven rate, defined by the U.S. Bureau of Labor Statistics is derived as a discount rate that equates the nominal return on a dollar of investment to the real return (not as an arithmetic difference between the nominal rate and the real rate). 4 The Trade-Weighted U.S. Dollar Index, also known as the broad index, is a measure of the value of the dollar relative to other world currencies. It is a trade-weighted index that improves on the older U.S. Dollar Index by using more currencies and updating the weights yearly rather than on an ad-hoc basis

Capital Market Projections have been furnished for illustrative purposes only and are not intended as investment advice. Past performance is not indicative of future returns. Indices are unmanaged, not available for direct investment, and not subject to management fees, transaction costs or other types of expenses that an account may incur. Source: PNC

Capital Market Assumptions: Key Assumptions

Methodology & Key Assumptions

Currency Impacts — International equities generally entail currency exposure, which potentially adds volatility for U.S.-based investors. However, compensation for this additional risk may not be adequate or reliable, and international equities have not historically offered consistent purchasing power protection. Over the short term, when the dollar is strengthening, U.S. equities and fixed income investments tend to outperform their international counterparts. Conversely, when the dollar is weakening, international investments tend to outperform. This is all from the perspective of a U.S.-based investor (defined as an investor whose local currency is the U.S. dollar, whether an individual or institution).

In an international equity portfolio with exposure to a basket of currencies, some will likely have positive returns in local currency terms, while others will be negative. In theory, this counter effect should result in currency exposures netting themselves out over time. In addition, currency returns do not exhibit strong positive correlations and, as such, tend to help diversify equity portfolios. Furthermore, there is ample empirical evidence that has been cited by the CFA Institute, among others, suggesting the standard deviation (i.e., volatility) of currency prices is only about half the standard deviation of stock prices. This suggests to us that an unhedged currency exposure may help reduce the volatility of an international equity portfolio over time. As currencies also tend to revert to a theoretical fair value/mean over time, currency-related volatility risk tends to fall, becoming a less critical component of equity risk. Thus, over the long term, our preference is to be unhedged.

Cash and Cash Equivalents — We use the 3-month Treasury bill (T-bill) as our proxy for cash, despite it being subject to inflation and interest rate risk. Although T-bills typically do not generate positive real returns (i.e., inflation-adjusted), they do offer liquidity, safety of principal and exemption from state and local taxes. T-bills tend to carry higher yields than what are available in cash accounts, such as money market funds or deposit accounts, but are comparable on a risk-adjusted basis.

Volatility — Our volatility assumptions are primarily driven by a historical blend of both turbulent and quiet market periods, defined within the Windham Portfolio Advisor technology platform as the 30% most statistically unusual observations, which are then classified as turbulent. Based on our analysis of historical market volatility over the past 20-plus years, we use a blend of 60% quiet periods, 40% turbulent periods to derive our assumed asset class volatilities. This methodology has been consistently implemented in our CMA process.

The volatility backdrop over the last five years has increased, even with declines in 2023 relative to 2022. As a result, we expect an increase in overall volatility for the forecasted 10-year horizon. Persistently higher volatility has developed into a “new normal,” brought on, in part, by technological enhancements to financial markets overall. However, the volatility backdrop is not significant enough, in our view, to shift our split between quiet and turbulent periods, given we are forecasting a 10-year horizon.

Capital Market Assumptions: 10-Year Forecast

2024-2033

Asset Class	Index	Projected		Asset Class	Index	Projected	
		Annual Return	Annual Volatility ⁵			Annual Return	Annual Volatility ⁵
U.S. EQUITY				FIXED INCOME			
US Large Cap – Growth	S&P 500 Growth	8.45%	17.30%	Municipal Short-term	Bloomberg Municipal Bond (1-3 Y)	3.70%	1.40%
US Large Cap – Core	S&P 500	8.30%	16.90%	Municipal	Bloomberg Municipal Bond	4.50%	4.95%
US Large Cap – Value	S&P 500 Value	8.15%	17.80%	Core Short-term	Bloomberg US Aggregate (1-3 Y)	3.70%	1.45%
US Mid Cap – Growth	S&P MidCap 400 Growth	8.95%	20.20%	Core	Bloomberg US Aggregate	4.50%	4.30%
US Mid Cap – Core	S&P MidCap 400	9.00%	20.80%	Taxable Intermediate	Bloomberg US Government/Corporate Intermediate	4.20%	3.40%
US Mid Cap – Value	S&P MidCap 400 Value	9.05%	22.30%	Taxable Long	Bloomberg US Government/Corporate Long	5.80%	11.10%
US Small Cap – Growth	Russell 2000 Growth	9.45%	23.90%	U.S. Leveraged Loans	Morningstar LSTA U.S. Leveraged Loan	4.90%	7.75%
US Small Cap – Core	Russell 2000	9.40%	22.00%	U.S. High Yield	Bloomberg US Corporate High Yield	6.30%	10.50%
US Small Cap – Value	Russell 2000 Value	9.00%	23.70%	Int'l Developed Markets	Bloomberg Global Aggregate Ex-US	5.50%	8.80%
Real Estate Investment Trusts	MSCI USA IMI Real Estate 25-50	9.80%	23.60%	Emerging Markets	Bloomberg Emerging Markets USD Aggregate	6.30%	9.60%
				Inflation-linked Bonds	Bloomberg US Treasury TIPS	4.90%	6.50%
INTERNATIONAL EQUITY				ALTERNATIVES			
Int'l Large/Mid – Growth	MSCI World ex USA Growth	8.90%	18.30%	Private Equity	Burgiss Global Private Equity ex-Venture Capital ⁶	10.65%	21.90%
Int'l Large/Mid – Core	MSCI World ex USA	8.80%	18.80%	Private Debt	Burgiss Global Private Debt ⁶	7.70%	15.00%
Int'l Large/Mid – Value	MSCI World ex USA Value	8.70%	20.20%	Private Real Estate	Burgiss Global Real Estate ⁶	8.30%	12.70%
Int'l Small – Growth	MSCI World ex USA Small Cap Growth	9.50%	21.40%	Infrastructure	S&P Global Infrastructure Index	8.50%	17.60%
Int'l Small – Core	MSCI World ex USA Small Cap	9.30%	21.40%	Commodities	Bloomberg Commodity Index	6.20%	17.50%
Int'l Small – Value	MSCI World ex USA Small Cap Value	9.10%	21.60%	Hedge Funds	HFRI Fund of Funds Composite Index	5.60%	7.00%
Emerging Markets	MSCI Emerging Markets IMI	9.80%	24.60%				

⁵ The volatilities for each asset class shown in this table represent our projections for annual volatilities. In performing the underlying analysis, we used historical monthly volatilities (as opposed to daily or weekly) spanning the last 20+ years as a key input. ⁶ The Private Equity, Private Debt, and Private Real Estate indices have been de-smoothed and the resulting index returns generally tracks the return patterns of the original index, but with greater volatility.

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Investment Policy Statement



PNC
INSTITUTIONAL
ASSET MANAGEMENT

Investment Policy Statement

Meridian Township Employee Pension



This Investment Policy Statement covers the Meridian Twp Emp Pension Portfolio, which is comprised of the following account(s):

MERIDIAN TWP EMP PENSION 20-75-067-XXX9678

I. Purpose

The purposes of this Investment Policy Statement (IPS) are (i) to document our understanding of the investment goals and guidelines for the portfolio, including the investment objective, risk tolerance, investment restrictions and asset allocation ranges, and (ii) to establish a basis upon which to evaluate the attainment of portfolio objectives.

II. Investor Profile

A. Investment Time Horizon:
The period of time during which the assets will be invested is expected to be 20 years.

B. Portfolio Risk Tolerance:
Investment theory and historical capital market return data suggest that, over long periods of time, there is a relationship between the level of risk assumed and the level of return that can be expected in a portfolio, although there can be no guarantee of returns. In general, higher risk (e.g. return volatility) is associated with higher return. Given this relationship between risk and return, a fundamental step in determining the investment policy is the determination of an appropriate risk tolerance profile. There are a number of factors that influence the risk profile for a portfolio, including: sustainability of income, liquidity, return objectives, time horizon and investment experience. Based on your and PNC's understanding of the relevant situation, you agree that the portfolio risk tolerance is best described as: Investments may fluctuate and suffer occasional losses, so that overall returns will keep pace with inflation.

C. Investment Objectives:
The overall investment objective for this portfolio is Growth.

III. Restrictions and Limitations

No restrictions exist for this portfolio.

IV. Strategic Asset Allocation

Asset Class	Proposed Allocation (%)	Minimum (%)	Maximum (%)
Equity	65.00	55.0	75.0
Equity - US Equity	48.00		
Equity - International Equity	13.00		
Equity - REITs	4.00		
Fixed Income	32.00	22.0	42.0
Fixed Income - US Investment Grade	32.00		
Cash	3.00	0.0	13.0
Cash	3.00		
Total	100.00		

V. Strategic Considerations

The Strategic Asset Allocation represents a customized investment framework with baseline allocation percentages for each major asset class. The allocation has been developed using both quantitative and qualitative input, data and processes and reflects your preferences. The assets of this portfolio shall be diversified among various classes of investments, unless PNC is directed otherwise.

The PNC baseline Strategic Asset Allocation is a long-term strategic asset allocation that considers equity, fixed income, alternative assets and cash according to your risk profile. PNC may make tactical changes from time to time in these baseline Strategic Asset Allocation Strategies. In addition, your account may vary from the baseline allocation due to changes in the value of assets in the account, market conditions and account specific events, such as instructions from you.

VI. Investment Authority

PNC's investment authority for the accounts in the portfolio is defined as follows:

Account Name	Account Number	Investment Authority
MERIDIAN TWP EMP PENSION	20-75-067-XXX9678	Full/Sole Discretion

Investment Policy Statement (cont.)

Meridian Township Employee Pension



VII. Performance Measurement

The portfolio's performance will be measured in accordance with industry standards and against appropriate benchmarks.

VIII. Additional Comments

No Additional Comments

IX. Signator's Role

As financial circumstances, goals, investment objectives and preferences change, it is important that you communicate those changes to us so that appropriate adjustments can be made in the portfolio.

The undersigned agree(s) that this Investment Policy Statement (IPS) applies to all of the accounts that constitute the Portfolio in the aggregate. PNC may manage each account to its own investment objective as long as all accounts in the aggregate comply with this IPS.

Each of PNC and the Signator is signing this IPS in the capacity defined by the governing instrument for each account listed in this IPS. This IPS is subject to the terms and conditions, including the standard of care and limitations of liability, of the documents, which constitute the governing instruments for the applicable account(s). This IPS has been accepted and approved by:

E-SIGNED by DANTE IANNI
on 09/28/2023 10:48:59 EDT
DANTE IANNI

PNC BANK, NATIONAL ASSOCIATION

E-SIGNED by DAVID A REID
By : on 09/28/2023 11:17:18 EDT
DAVID A REID, V.P.

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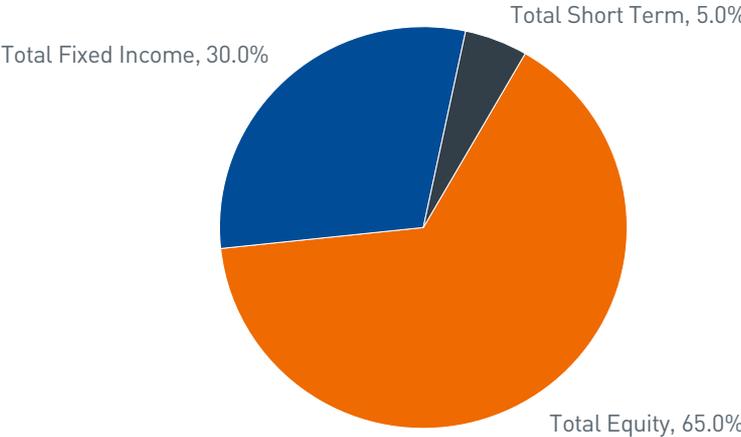
Investments: Not FDIC Insured. No Bank Guarantee. May Lose Value.

Portfolio Review

Asset Allocation

MERIDIAN TOWNSHIP EMPLOYEE PENSION

As of March 31, 2024



Description	Market Value (\$)	Portfolio Allocation	Policy Target	Policy Range
Total Equity	2,851,599	65.0%	65%	55-75%
<i>Large Cap Equity</i>	1,839,985	42.0%		
<i>Mid Cap Equity</i>	221,337	5.1%		
<i>Small Cap Equity</i>	132,956	3.0%		
<i>Global Equities</i>	88,994	2.0%		
<i>Total International</i>	480,613	11.0%		
<i>Other Equity</i>	87,715	2.0%		
Total Fixed Income	1,317,084	30.0%	32%	22-42%
Total Short Term	217,725	5.0%	3%	0-13%
Total Portfolio	4,386,407	100.0%	100.0%	

Portfolio Holdings

MERIDIAN TOWNSHIP EMPLOYEE PENSION

As of March 31, 2024

Description	Ticker	Units	Market Value (\$)	% of Market Value
Large Cap Core				
Fidelity 500 Index Fd-Ai	FXAIX	8,383	1,533,597	35.0%
iShares MSCI USA Min Vol Factor ETF	USMV	1,839	153,704	3.5%
Wisdomtree US Quality Dividend Gr ETF	DGRW	2,004	152,685	3.5%
Mid Cap Core				
iShares Core S&P Mid-Cap ETF	IJH	3,644	221,337	5.0%
Small Cap Core				
iShares Core S&P Small Cap ETF	IJR	1,203	132,956	3.0%
Global Equities				
Lazard Global Listed Infrastructure Portfolio Fund	GLIFX	5,683	88,994	2.0%
Total International				
Federated International Equity Fund Cl Is Fd #717	PEIRX	15,706	393,440	9.0%
iShares Edge Msci Intl Quality Factor Etf	IQLT	2,198	87,173	2.0%
Other Equity				
Fidelity Real Estate ETF	FREL	3,362	87,715	2.0%
Total Equity			2,851,599	65.0%

Portfolio Holdings (Continued)

MERIDIAN TOWNSHIP EMPLOYEE PENSION

As of March 31, 2024

Description	Ticker	Units	Market Value (\$)	% of Market Value
Fixed Income Taxable				
Aristotle Floating Rate Income Fund Cl I	PLFRX	11,510	110,151	2.5%
Baird Aggregate Bond Fund	BAGIX	11,365	110,586	2.5%
Baird Intermediate Bd Fund Inst	BIMIX	94,051	964,020	22.0%
Dodge & Cox Income Fund	DODIX	10,629	132,327	3.0%
Total Fixed Income			1,317,084	30.0%
Short Term				
Cash & Equivalent	-	217,725	217,725	5.0%
Total Short Term			217,725	5.0%
Total Portfolio			4,386,407	100.0%

Investment Performance



PNC
INSTITUTIONAL
ASSET MANAGEMENT

Total Portfolio Performance

MERIDIAN TOWNSHIP EMPLOYEE PENSION

As of March 31, 2024



Description	QTR	1 Year	3 Year	5 Year
Total Portfolio (Gross)	5.78%	16.61%	4.58%	8.17%
Total Portfolio (Net)	5.64%	15.96%	3.95%	7.60%
<i>Total Portfolio Benchmark*</i>	5.29%	16.59%	5.27%	8.48%
Total Equity	8.36%	22.88%	7.04%	11.21%
Total Fixed Income	0.09%	3.69%	-0.80%	1.43%

*See Appendix – Policy Benchmark Composition for description of benchmarks.

Total Portfolio (Gross) shows performance gross of advisory fees and separately managed account (SMA) fees. Total Portfolio (Net) shows performance net of advisory fees, transaction costs, and all manager fees. Performance reflects reinvestment of dividends, interest and capital gain distributions and rebalancing. Indices are unmanaged, are not available for direct investment, and are not subject to management fees, transaction costs or other types of expenses that an account may incur. Past performance is not guarantee of future results.

Manager Performance

MERIDIAN TOWNSHIP EMPLOYEE PENSION

As of March 31, 2024

Description	QTR	1 Year	3 Year	5 Year
Large Cap Core	10.23%	29.90%	11.49%	15.25%
Fidelity 500 Index Fd-Ai	10.55%	29.87%	10.33%	N/A
<i>S&P 500 TR</i>	10.56%	29.88%	N/A	N/A
Wisdomtree US Quality Dividend Gr ETF	8.77%	N/A	N/A	N/A
<i>NASDAQ US Broad Dividend Achievers Gross</i>	7.49%	N/A	N/A	N/A
iShares MSCI USA Min Vol Factor ETF	7.55%	N/A	N/A	N/A
<i>MSCI USA IMI Minimum Volatility Net USD</i>	6.94%	N/A	N/A	N/A
Mid Cap Core	9.57%	23.02%	6.94%	12.43%
iShares Core S&P Mid-Cap ETF	9.57%	23.02%	6.03%	N/A
<i>S&P Midcap 400 TR</i>	9.95%	23.33%	N/A	N/A
Small Cap Core	2.34%	16.22%	1.95%	N/A
iShares Core S&P Small Cap ETF	2.34%	16.22%	1.95%	N/A
<i>S&P Small Cap 600 TR</i>	2.46%	15.93%	N/A	N/A
Total International	5.49%	12.72%	-0.50%	6.49%
Federated International Equity Fund Cl Is Fd #71	5.47%	12.30%	-0.62%	6.41%
<i>MSCI ACWI Ex US Net</i>	4.69%	13.26%	1.94%	5.97%
iShares Edge Msci Intl Quality Factor Etf	5.58%	N/A	N/A	N/A
<i>MSCI EAFE Net</i>	5.78%	N/A	N/A	N/A
Other Equity	-1.09%	N/A	N/A	N/A
Fidelity Real Estate ETF	-1.09%	N/A	N/A	N/A
<i>NAREIT ALL Equity Reits</i>	-1.30%	N/A	N/A	N/A
Global Equities	3.34%	9.65%	N/A	N/A
Lazard Global Listed Infrastructure Portfolio Fund	3.34%	9.65%	N/A	N/A
<i>S&P Global Infrastructure Index Net</i>	1.12%	3.12%	N/A	N/A

Performance is shown gross of advisory fees and separately managed account (SMA) fees. The effect of advisory fees on the portfolio could be material. If these fees were reflected, returns would be lower. Indices are unmanaged, are not available for direct investment, and are not subject to management fees, transaction costs or other types of expenses that an account may incur. Past performance is not guarantee of future results.

Manager Performance (Continued)

MERIDIAN TOWNSHIP EMPLOYEE PENSION

As of March 31, 2024

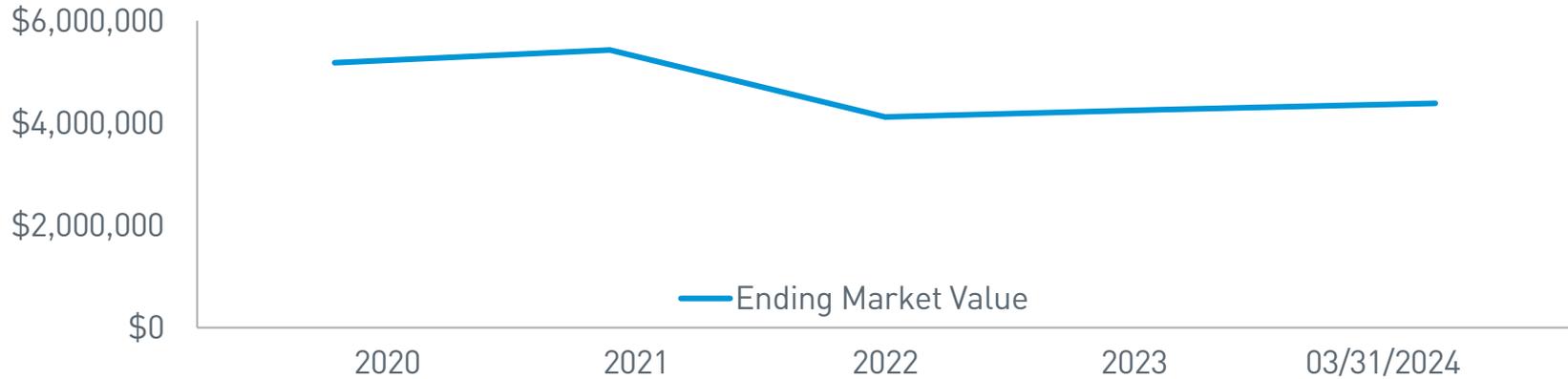
Description	QTR	1 Year	3 Year	5 Year
Fixed Taxable	0.09%	3.69%	-0.80%	1.43%
Dodge & Cox Income Fund	-0.32%	N/A	N/A	N/A
<i>Bloomberg US Aggregate</i>	-0.78%	N/A	N/A	N/A
Baird Intermediate Bd Fund Inst	0.18%	3.50%	N/A	N/A
<i>Bloomberg Int Govt/Cr</i>	-0.15%	2.69%	N/A	N/A
Baird Aggregate Bond Fund	-0.45%	N/A	N/A	N/A
<i>Bloomberg US Aggregate</i>	-0.78%	N/A	N/A	N/A
Aristotle Floating Rate Income Fund Cl I	2.59%	14.27%	6.62%	5.45%
<i>S&P/LSTA US Leveraged Loan</i>	2.46%	12.47%	6.08%	5.53%
Total Short Term	1.15%	5.03%	2.86%	2.05%
Cash & Equivalent	1.15%	5.03%	2.86%	2.05%
<i>Bloomberg US Treasury Bill 1-3 Month Blend</i>	1.32%	5.38%	2.66%	2.04%

Performance is shown gross of advisory fees and separately managed account (SMA) fees. The effect of advisory fees on the portfolio could be material. If these fees were reflected, returns would be lower. Indices are unmanaged, are not available for direct investment, and are not subject to management fees, transaction costs or other types of expenses that an account may incur. Past performance is not guarantee of future results.

Historical Cash Flow

MERIDIAN TOWNSHIP EMPLOYEE PENSION

As of March 31, 2024



Description	2020	2021	2022	2023	03/31/2024
Beginning Market Value	\$4,802,375	\$5,182,268	\$5,427,354	\$4,120,598	\$4,261,839
Net Contributions/Withdrawals	(\$243,285)	(\$367,887)	(\$481,252)	(\$470,666)	(\$116,676)
Income Received	\$70,648	\$81,090	\$91,421	\$103,753	\$16,850
Gain/Loss	\$552,529	\$531,883	(\$916,925)	\$508,154	\$224,395
Ending Market Value	\$5,182,268	\$5,427,354	\$4,120,598	\$4,261,839	\$4,386,407
Total Return	14.20%	12.32%	-15.63%	15.87%	5.78%
Benchmark Return	12.60%	14.74%	-14.09%	16.50%	5.29%

*See Appendix - Policy Benchmark Composition, for description of Benchmarks.

Total Portfolio (Gross) shows performance gross of advisory fees and separately managed account (SMA) fees. Performance reflects reinvestment of dividends, interest and capital gain distributions and rebalancing. Indices are unmanaged, are not available for direct investment, and are not subject to management fees, transaction costs or other types of expenses that an account may incur. Past performance is not guarantee of future results.



Thank you for your business.

How can we better serve your needs?

Appendix



Benchmark Composition

MERIDIAN TOWNSHIP EMPLOYEE PENSION

As of March 31, 2024

Total Portfolio

Policy Benchmark

April 2023	%
S&P 500 TR	40.00
MSCI EAFE Net	13.00
Russell 2000	8.00
NAREIT ALL Equity Reits	4.00
Bloomberg Int Govt/Cr	32.00
Bloomberg US Treasury Bill 1-3 Mon	3.00

December 2013	%
S&P 500 TR	40.00
MSCI EAFE Net	13.00
Russell 2000	8.00
NAREIT ALL Equity Reits	4.00
Bloomberg Int Govt/Cr	32.00
FTSE 90 Day T-Bill	3.00

November 2010	%
Bloomberg Int Govt/Cr	35.00
MSCI EAFE Net	14.00
Russell 2000	11.00
FTSE 90 Day T-Bill	10.00
S&P 500 TR	30.00

July 1994	%
Bloomberg US Aggregate	35.00
MSCI EAFE Net	14.00
Russell 2000	11.00
FTSE 90 Day T-Bill	10.00
S&P 500 TR	30.00

Indices are unmanaged, are not available for direct investment, and are not subject to management fees, transaction costs or other types of expenses that an account may incur. Indices performance results do not represent, and are not necessarily indicative of, the results that may be achieved in accounts investing in the corresponding investment strategy; actual account returns may vary significantly.

For definitions of Indices/Benchmarks used in this presentation, please refer to www.pnc.com/indexdefinitions.

I-Hub Online Solutions

Overview and Enhancements

PNC Institutional Asset Management invests in technology to help institutional investors. Our I-Hub solution includes:

ONLINE ACCOUNT ACCESS	REPORTING CAPABILITIES
<ul style="list-style-type: none">• Access from any device• Customized access for each user• Dedicated technical support• Messaging including sending documents securely• Document retrieval for statements, investment policy statement, fee invoices and more.	<ul style="list-style-type: none">• Customizable reporting of key account information• Benefit payment inquiry access and reporting• Paperless statements for authorized persons
OPERATIONAL CAPABILITIES	SECURITY FEATURES
<ul style="list-style-type: none">• Ability to initiate and manage cash processing• Ability to initiate and manage benefit payments• Ability to process mutual fund, equity, and fixed income trades• Ability to process wires for alternative investment capital calls	<ul style="list-style-type: none">• Unique login credential with strict password parameters• Dual authentication with each login requires additional one-time passcode be sent to email, phone (voice) or text• Customizable approval flows for your organization• Emails sent to authorized persons for withdrawals that exceed thresholds by withdrawal type
LATEST SYSTEM ENHANCEMENTS	
<ul style="list-style-type: none">• Requirement for One-Time Passcode (OTP) with each login to assist with preventing fraud. Expanded options to receive the OTP include voice call or text message.• Allowing a current authorized person to utilize I-Hub to request a new authorized signer be added. The new Authorized Signers form is executed within I-Hub using e-Sign.• Messaging enhancement to include the Investment Advisor in addition to the existing options of the Institutional Trust Officer and I-Hub Support.	

If you have questions, or would like an I-Hub demo, please reach out to your Institutional Trust Officer or contact

I-Hub Support at 1-877-636-9703 or pnc.i-hub.support@pnc.com

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Charter Township of Meridian
Employee Pension Plan
Annual Actuarial Valuation
December 31, 2023





February 21, 2024

Board of Trustees
Charter Township of Meridian
Employee Pension Plan
Okemos, Michigan

Dear Board Members:

The results of the December 31, 2023 annual actuarial valuation of the Charter Township of Meridian Employee Pension Plan are presented in this report. This report was prepared at the request of the Board and is intended for use by the Pension Plan and those designated or approved by the Board. This report may be provided to parties other than the Plan only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

The purpose of the valuation was to measure the Plan's funding progress and to determine the employer contribution for the fiscal year beginning January 1, 2024. This report should not be relied on for any purpose other than the purposes described herein. Determinations of financial results, associated with the benefits described in this report, for purposes other than those identified above may be significantly different. Information required by Statement No. 68 of the Governmental Accounting Standards Board (GASB) is provided in a separate report.

The computed contributions in this report were determined using the actuarial assumptions and methods adopted by the Board. All actuarial assumptions used in this report are reasonable for the purposes of this valuation. Additional information about the actuarial assumptions is included in Section C of this report. The combined effect of the assumptions, excluding prescribed assumptions or methods set by law, is expected to have no significant bias (i.e., not significantly optimistic or pessimistic).

This valuation assumed the continuing ability of the plan sponsor to make the contributions necessary to fund this plan. A determination regarding whether or not the plan sponsor is actually able to do so is outside our scope of expertise and was not performed. This report includes risk metrics on pages A-10 and A-11, but does not include a more robust assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment.

The findings in this report are based on data and other information through December 31, 2023. The valuation was based upon information furnished by the Township, concerning Pension Plan benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal reasonability and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the Township.

This report was prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the Charter Township of Meridian Employee Pension Plan as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

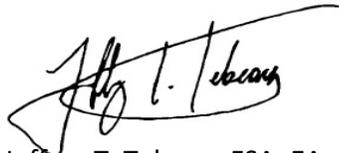
Brad Lee Armstrong, Jeffrey T. Tebeau and Kevin T. Noelke are Members of the American Academy of Actuaries. These actuaries meet the Academy's Qualification Standards to render the actuarial opinions contained herein. The signing actuaries are independent of the plan sponsor.

Gabriel, Roeder, Smith & Company will be pleased to review this valuation and report with the Board of Trustees and to answer any questions pertaining to the valuation.

Respectfully submitted,
Gabriel, Roeder, Smith & Company



Brad Lee Armstrong, ASA, EA, MAAA, FCA



Jeffrey T. Tebeau, FSA, EA, MAAA, FCA



Kevin T. Noelke, ASA, MAAA, FCA

BLA/JTT/KTN:sc



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SECTION A

VALUATION RESULTS AND COMMENTS

Funding Objective

The funding objective of the Pension Plan is to establish and receive contributions, expressed as level dollar amounts, which will remain approximately, level from year to year and will not have to be increased for future generations of citizens.

The annual actuarial valuation measures the relationship between Pension Plan obligations and assets and determines the contribution rates for the ensuing year. The Pension Plan is supported by member contributions, Township contributions, and investment income from Pension Plan assets.

The flow of activity constituting the valuation may be summarized as follows:

- A. Covered person information about:
 - Each person receiving pension payments
 - Each former participant with a vested pension not yet payable
 - Each former participant who is not vested and has not claimed a member contribution refund
 - Each active participant
- B. Financial Information (assets, revenues, and expenditures)
- C. Benefit Provisions (Plan Ordinance)
- D. Actuarial Assumptions about the volume and incidence of future activities
- E. Actuarial Cost Method (individual entry age) for allocating benefit costs to time periods
- F. Mathematical linking of the person information, financial information, benefit provisions, experience estimates and actuarial cost method
- G. Determination of:
 - Contribution rate for the plan year
 - Current funded condition

Items A, B and C are furnished by the pension office and constitute the current knowns about the Pension Plan. Since the majority of activities will occur in the future, estimates must be made about these future activities (Item D).

Computed contributions for the fiscal year beginning January 1, 2024 are shown on page A-2.

Computed Contribution

<u>Contributions for</u>	FY Beginning January 1, 2024		FY Beginning January 1, 2023
	<u>After</u>	<u>Before</u>	
<u>Assumption changes</u>			
Employer Normal Cost	\$ -	\$ -	\$ -
UAAL Payment *	-	3,042	-
Total Employer Contribution	\$ -	\$ 3,042	\$ -

Funded Status

<u>Actuarial Accrued Liabilities for</u>	December 31, 2023		December 31, 2022
	<u>After</u>	<u>Before</u>	
<u>Assumption changes</u>			
Active Members	\$ -	\$ -	\$ -
Vested Deferred Members	542,167	542,167	512,720
<u>Retirees and Beneficiaries</u>	<u>3,966,109</u>	<u>3,966,109</u>	<u>4,180,678</u>
Total	\$ 4,508,276	\$ 4,508,276	\$ 4,693,398
Funding Value of Assets	\$ 4,526,538	\$ 4,499,903	\$ 4,713,569
Unfunded Actuarial Accrued Liability	<u>(18,262)</u>	<u>8,373</u>	<u>(20,171)</u>
<i>Funded Ratio</i>	<i>100.41%</i>	<i>99.81%</i>	<i>100.43%</i>
	December 31, 2023	December 31, 2022	
<i>Rate of Return on Market Value of Assets</i>	<i>15.12%</i>	<i>(15.99)%</i>	
<i>Rate of Return on Funding Value of Assets</i>	<i>5.81%</i>	<i>6.89%</i>	

* Amortized as level dollar contributions using a 6.00% interest rate and layered amortization as shown on page A-3 for FY 2024. A single, 4-year amortization period was used for FY 2023.



Sources and Financing of Unfunded Actuarial Accrued Liability (UAAL)

Date Established	Initial Amount	Financing Period	Current Amount*	Remaining Financing Period 12/31/2023	Amortization Factor	Contribution #
<u>Initial Unfunded</u>						
12/31/2016	\$ 1,447,937	10 yrs.	\$ (21,381)	3 yrs.	2.752034	\$ (7,769)
<u>Changes from experience deviations</u>						
12/31/2023	\$ 29,754	5 yrs.	\$ 29,754	5 yrs.	4.336894	\$ 6,861
<u>Changes from actuarial assumptions, methods and/or asset valuation method</u>						
12/31/2023	\$ (26,635)	5 yrs.	\$ (26,635)	5 yrs.	4.336894	\$ (6,141)
Totals			\$ (18,262)			

* This amount is projected to the applicable fiscal year with interest less the intervening contributions expected from the prior valuation.

Not less than zero.

The Board adopted a layered amortization policy beginning with the December 31, 2023 valuation. The initial unfunded amount was established in the December 31, 2016 valuation and has 3 years of payments remaining as of December 31, 2023. All future unexpected changes in the UAAL will flow into separate 5-year bases.

Actuarial Balance Sheet

Present Resources and Expected Future Resources

		December 31, 2023
A. Actuarial Value of Plan assets		
1. Net assets from Plan financial statements	\$	4,261,753
2. Market value adjustment		<u>264,785</u>
3. Funding Value of Assets	\$	4,526,538
B. Actuarial Present Value of Expected Future Contributions		
1. For Normal Costs		-
2. For Unfunded Actuarial Accrued Liability		<u>(18,262)</u>
3. Total	\$	(18,262)
C. Actuarial Present Value of Expected Future Member Contributions		
	\$	<u>-</u>
D. Total Present and Expected Future Resources	\$	<u><u>4,508,276</u></u>

Actuarial Present Value of Expected Future Benefit Payments

		December 31, 2023
A. To Retirants and Beneficiaries	\$	3,966,109
B. To Vested Terminated Members		542,167
C. To Present Active Members		
1. Allocated to service rendered prior to valuation date		-
2. Allocated to service likely to be rendered after valuation date		<u>-</u>
3. Total	\$	-
D. Total Actuarial Present Value of Expected Future Benefit Payments	\$	<u><u>4,508,276</u></u>

Experience Gain (Loss) Year Ended December 31, 2023

(1) UAAL at start of year	\$	(20,171)
(2) Total Normal Cost from last valuation		-
(3) Contributions		-
(4) Interest on above at 6.00%		(1,210)
(5) Expected UAAL before changes		(21,381)
(6) Net effect of assumption, cost method and/or Asset Valuation Method changes		(26,635)
(7) Effect of benefit changes		-
(8) Expected UAAL after changes		(48,016)
(9) Actual UAAL		(18,262)
(10) Gain (loss): (7) - (8)	\$	(29,754)
(11) As % of AAL at start of year (\$4,693,398)		(0.63)%
<i>Gain (loss) on investments</i>		<i>(0.75%)</i>
<i>Gain (loss) on liabilities</i>		<i>0.12%</i>

UAAL represents Unfunded Actuarial Accrued Liability.
AAL represents Actuarial Accrued Liability.

Comments

Plan Experience: Actuarial experience was less favorable than expected for the fiscal year ending December 31, 2023 as indicated by the experience loss shown on page A-5 of \$29,754. The unfavorable experience was due to recognized investment losses of \$35,385 and slightly lower retiree mortality (less release of liability than expected). The Township's computed contribution for FY 2024 remained at \$0 and the funded status remained at 100.4% since the prior valuation.

There are unrecognized losses in the asset valuation method scheduled to be recognized over the next two years, which will increase the recommended contribution and decrease the funding status, unless offset by future experience gains. If the Market Value of Assets were used, the Township contribution would have been \$54,005 and the funded status would have been 94.5%.

Plan Amendments: There were no plan changes reported for this valuation.

Assumption/Method Changes: The Board adopted a 3-year asset smoothing period for recognizing investment gains and losses (previously a 4-year period) and a layered amortization policy beginning with the December 31, 2023 valuation.

The initial unfunded amount was established in the December 31, 2016 valuation and has 3 years of payments remaining as of December 31, 2023. All future unexpected changes in the UAAL will flow into separate 5-year bases. The combined effect of these changes increased the funded status from 99.8% to 100.4% and decreased the required contribution from \$3,042 to \$0.

Changes to ASOP 4: In December 2021, the Actuarial Standards Board (ASB) adopted a revision to Actuarial Standard of Practice (ASOP) No. 4, Measuring Pension Obligations and Determining Pension Plan Costs or Contributions. The revised ASOP No. 4 requires the calculation and disclosure of a liability referred to by the ASOP as the "Low-Default-Risk Obligation Measure" (LDRM). Please see page A-8 in this report for more detail regarding the LDRM calculation.

Conclusion: Plan experience and contribution requirements are expected to fluctuate from year to year. The expectation inherent in the funding of a Pension Plan is that year-to-year fluctuations will tend to cancel over periods of 5 to 10 years and result in realizing long-term assumptions. There are still expected to be mortality and investment experience gains and losses and expenses even though there are no active participants.

It is the actuary's opinion that the required contribution rates determined by this actuarial valuation are sufficient to meet the Pension Plan's funding objective for another year, presuming timely receipt of required contributions.



Comments

Public Act 202 of 2017: The Michigan State Treasurer has established uniform actuarial assumptions as required by Public Act 202 (PA 202) of 2017 for use with the annual Form 5572 (Retirement System Annual Report). The current assumptions meet the requirements of Public Act 202 for fiscal year 2023 reporting. An excerpt of this form with some of the required information is provided in the December 31, 2023, GASB Statement No. 68 report. Please note that the Treasurer may update the uniform assumptions for fiscal year 2024 reporting.

Low-Default-Risk Obligation Measure

Introduction

In December 2021, the Actuarial Standards Board (ASB) adopted a revision to Actuarial Standard of Practice (ASOP) No. 4, *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions*. The revised ASOP No. 4 requires the calculation and disclosure of a liability referred to by the ASOP as the “Low-Default-Risk Obligation Measure” (LDROM). The rationale that the ASB cited for the calculation and disclosure of the LDROM was included in the Transmittal Memorandum of ASOP No. 4 and is presented below (emphasis added):

“The ASB believes that the calculation and disclosure of this measure provides **appropriate, useful information for the intended user regarding the funded status of a pension plan**. The calculation and disclosure of this additional measure is **not intended to suggest that this is the “right” liability measure** for a pension plan. However, the ASB does believe that **this additional disclosure provides a more complete assessment of a plan’s funded status and provides additional information regarding the security of benefits that members have earned as of the measurement date.**”

Comparing the Accrued Liabilities and the LDROM

One of the fundamental financial objectives of the Pension Plan is to finance each member’s retirement benefits over the period from the member’s date of hire until the member’s projected date of retirement (entry age actuarial cost method) as a level percentage of payroll. To fulfill this objective, the discount rate that is used to value the accrued liabilities of the Pension Plan is set equal to the **expected return** on the Plan’s diversified portfolio of assets (referred to sometimes as the investment return assumption). For the Employee Pension Plan, the investment return assumption is 6.00%.

The LDROM is meant to approximately represent the lump sum cost to a plan to purchase low-default-risk fixed income securities whose resulting cash flows essentially replicate in timing and amount the benefits earned (or the costs accrued) as of the measurement date. The LDROM is very dependent upon market interest rates at the time of the LDROM measurement. The lower the market interest rates, the higher the LDROM, and vice versa. The LDROM results presented in this report are based on the entry age actuarial cost method and discount rates based upon the December 2023 Treasury Yield Curve Spot Rates (monthly average). The 1-, 5-, 10- and 30-year rates follow: 4.96%, 4.06%, 3.94% and 4.15%. This measure may not be appropriate for assessing the need for or amount of future contributions. This measure may not be appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan’s benefit obligation.

The difference between the two measures (Valuation and LDROM) is one illustration of the savings the sponsor anticipates by taking on risk in a diversified portfolio:

Valuation Accrued Liabilities	LDROM
\$4,508,276	\$5,110,313

Other Observations

General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Contributions and Funded Status

Given the Plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the Pension Plan earning 6.00% on the Market Value of Assets), it is expected that:

1. The employer normal cost is sufficient to cover the cost of benefits accruing each year;
2. The Unfunded Actuarial Accrued Liabilities (UAAL) will be fully amortized; and
3. The funded status of the Pension Plan will maintain a 100% funded ratio.

The computed contribution shown on page A-2 may be considered as a minimum contribution rate that complies with the Board's funding policy. The timely receipt of the actuarially determined contributions is critical to support the financial health of the plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

Limitations of Funded Status Measurements

Unless otherwise indicated, a funded status measurement presented in this report is based upon the Actuarial Accrued Liability (AAL) and the Funding Value of Assets (FVA). Unless otherwise indicated, with regard to any funded status measurements presented in this report:

1. The measurement is inappropriate for assessing the sufficiency of Pension Plan assets to cover the estimated cost of settling the Pension Plan's benefit obligations; for example, transferring the liability to an unrelated third party in a market value type transaction.
2. The measurement is dependent upon the Actuarial Cost Method which, in combination with the Pension Plan's amortization policy, affects the timing and amounts of future contributions. The amounts of future contributions will most certainly differ from those assumed in this report due to future actual experience differing from assumed experience based upon the actuarial assumptions. A funded status measurement in this report of 100% is not synonymous with no required future contributions. Even though the funded status is over 100%, the Pension Plan would still require future normal cost contributions (i.e., contributions to cover the cost of active membership accruing an additional year of service credit).
3. The measurement would produce different results if the Market Value of Assets were used instead of the Funding Value of Assets.

Risk Measures — Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions due to changing conditions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contribution requirements based on the System's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. **Investment Risk** – actual investment returns may differ from the expected returns;
2. **Asset/Liability Mismatch** – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. **Contribution Risk** – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
4. **Salary and Payroll Risk** – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. **Longevity Risk** – members may live longer or shorter than expected and receive pensions for a period of time other than assumed; and
6. **Other Demographic Risks** – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

Risk Measures

(\$ in Thousands)

Actuarial Valuation Date (12/31)	(1) Actuarial Value of Assets	(2) Actuarial Accrued Liability (AAL)	(3) Unfunded AAL (UAAL) (2) - (1)	(4) Payroll	(5) Funded Ratio (1) / (2)	(6) Retiree Liabilities (RetLiab)	(7) RetLiab / AAL (6)/(2)	(8) AAL / Payroll (2) / (4)	(9) Non-Invest. Cash Flow (NICF)	(10) NICF / Assets (9)/(1)	(11) Market Rate of Return	(12) 5-Year Trailing Average
2019	\$ 4,482	\$ 5,170	\$ 688	\$ 106	86.7%	\$ 4,058	78.5%	4,864.1%	\$ (249)	(5.6)%	21.8%	6.9%
2020*	4,731	5,138	408	113	92.1%	3,816	74.3%	4,566.5%	(225)	(4.8)%	12.9%	9.4%
2021	4,872	4,929	57	-	98.8%	4,426	89.8%	N/A	(332)	(6.8)%	11.5%	10.9%
2022	4,714	4,693	(20)	-	100.4%	4,181	89.1%	N/A	(477)	(10.1)%	(16.0)%	4.1%
2023*	4,527	4,508	(18)	-	100.4%	3,966	88.0%	N/A	(448)	(9.9)%	15.1%	8.2%

* Revised actuarial assumptions, methods and/or asset valuation method.

(5). The funded ratio is the most widely known measure of a plan's financial strength, but the trend in the funded ratio is much more important than the absolute ratio. The funded ratio should trend to 100%. As it approaches 100%, it is important to re-evaluate the level of investment risk in the portfolio and potentially to re-evaluate the assumed rate of return.

(6) and (7). The ratio of retiree liabilities to total accrued liabilities gives an indication of the maturity of the system. As the ratio increases, cash flow needs increase, and the liquidity needs of the portfolio change. For a closed system, this ratio will hit 100% when the last active participant retires.

(8). The ratio of unfunded liability to payroll gives an indication of the plan sponsor's ability to actually pay off the unfunded liability. A ratio above approximately 300% or 400% may indicate difficulty in discharging the unfunded liability within a reasonable time frame.

(9) and (10). Positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means benefits and expenses exceed contributions, and existing funds may be used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

(11) and (12). Investment return is probably the largest single risk that most systems face. The year-by-year return and the five-year geometric average both give an indication of the reasonableness of the system's assumed return. Of course, past performance is not a guarantee of future results. Market rate shown is based on an actuarial estimation method and will differ modestly from figures reported by the investment consultant.



SECTION B

SUMMARY OF BENEFIT PROVISIONS EVALUATED AND VALUATION DATA SUBMITTED BY THE PENSION PLAN

Summary of Benefit Provisions Evaluated (December 31, 2023)

Normal Retirement

Eligibility – Age 65.

Annual Amount – Retirement benefits varied by department prior to May 1, 2000. For an active participant who retires on or after May 1, 2000: 1.5% of Final Average Compensation (FAC) times credited service.

Effective January 1, 2009: 1.8% of Final Average Compensation (FAC) times credited service for an active, non-union employee hired prior to February 1, 1980.

Type of Final Average Compensation – Highest 5 consecutive years out of the last 10 years immediately preceding retirement.

Normal Form of Payment – 10-year certain and life annuity. Joint and Survivor options (50, 66 $\frac{2}{3}$, 75, or 100%) are also available.



Asset Information Submitted for Valuation

Reported Assets

Cash & Equivalents	\$ 121,375
Accrued Interest and Dividends	4,894
Common Stocks	1,050,790
Stock Mutual Funds	1,813,644
Fixed Income Mutual Funds	1,256,707
Equity Mutual Funds	14,343
Total Market Value	\$ 4,261,753

Revenues and Expenditures

Market Value - December 31, 2022 **\$4,120,408**

Revenues	
Member contributions	0
Employer contributions	0
Investment income	612,167
Expenditures	
Benefit payments	447,665
Refunds of member contributions	0
Administrative expenses	0
Investment expenses	23,157

Market Value - December 31, 2023 **\$4,261,753**

Development of Funding Value of Assets

Valuation Date December 31:	2022	2023	2024	2025
A. Funding Value Beginning of Year	\$4,871,767	\$4,713,569		
B. Market Value End of Year	4,120,408	4,261,753		
C. Market Value Beginning of Year	5,427,354	4,120,408		
D. Non-Investment Net Cash Flow (EE+ER cont.)-(Ret. Ben.+Refunds)	(477,437)	(447,665)		
E. Investment Return				
E1. Market Total: B-C-D	(829,509)	589,010		
E2. Assumed Rate	6.00%	6.00%		
E3. Amount for Immediate Recognition	277,983	269,384		
E4. Amount for Phased-In Recognition	(1,107,492)	319,626		
F. Phased-In Recognition of Investment Return				
F1. Current Year: E4 ÷ 3 (E4 ÷ 4 prior to 2023)	(276,873)	106,542		
F2. First Prior Year	75,877	(276,873)	\$ 106,542	
F3. Second Prior Year	85,704	75,877	(276,873)	\$ 106,542
F4. Third Prior Year	156,548	85,704	75,877	(276,873)
F5. Total Recognized Investment Gain	41,256	(8,750)	(94,454)	(170,331)
G. Funding Value of Assets End of Year	4,713,569	4,526,538		
H. Difference Between Market & Funding Values	(593,161)	(264,785)	(170,331)	0
I. Recognized Rate of Return - Funding Value	6.89%	5.81%		
J. Recognized Rate of Return - Market Value	(15.99)%	15.12%		
K. Ratio of Funding Value to Market Value	114.40%	106.21%		

The Funding Value of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased in over a closed three-year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will be greater than market value. The Funding Value of Assets is unbiased with respect to Market Value. At any time, it may be either greater or less than Market Value. If actual and assumed rates of retirement income are exactly equal for three consecutive years, the Funding Value will become equal to Market Value.

Retirees and Beneficiaries Comparative Schedule as of December 31, 2023

Valuation Date December 31	No.	Annual Pensions	Average Annual Pension	Discounted Value of Pensions	
				Total	Average
2014	44	\$ 431,600	\$ 9,809	\$ 3,963,207	\$ 90,073
2015 *	44	424,173	9,640	4,216,945	95,840
2016	45	419,668	9,326	4,115,020	91,445
2017	44	412,149	9,367	4,021,702	91,402
2018	46	423,134	9,199	4,030,006	87,609
2019	48	434,252	9,047	4,057,922	84,540
2020 *	44	416,296	9,461	3,815,848	86,724
2021	42	476,460	11,344	4,425,829	105,377
2022	41	457,024	11,147	4,180,678	101,968
2023 *	39	443,323	11,367	3,966,109	101,695

* After changes in actuarial assumptions, methods or asset valuation method.

Retiree and Beneficiary Data December 31, 2023 Tabulated by Type of Pensions Being Paid

Type of Pensions Being Paid	No.	Pensions
Straight Life Pension	12	\$ 168,602
5 or 10-Year Certain and Life	3	15,045
100% Joint and Survivor	8	86,325
66 ⅔% Joint and Survivor	2	40,111
50% Joint and Survivor	7	87,180
Survivor Beneficiaries	<u>7</u>	<u>46,060</u>
Total Pensions Being Paid	39	\$ 443,323



Retired Participants and Survivors Data December 31, 2023 Tabulated by Attained Age and Type of Retirement

Attained Age	Clerical		Director		Supervisory & Non-Supervisory		Non-Contractual		Public Works		Police Officers Labor Council*		Police Non-Supervisory		Fire		Totals			
	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions		
65														1	\$ 12,775	1	\$ 12,775			
66	1	\$ 808														1	808			
69							1	\$ 2,098					1	\$ 4,528		2	6,626			
70			1	\$ 88,566	1	\$ 1,857							1	9,309		3	99,732			
71										1	\$ 12,121					1	12,121			
72					2	4,772										2	4,772			
73							2	16,219	1	\$ 2,908						3	19,127			
74										1	8,904			1	997	2	9,901			
75										1	19,368					1	19,368			
76					1	21,232										1	21,232			
77					1	4,830			1	1,719					1	20,779	3	27,328		
78							1	9,276			1	16,145			1	20,340	3	45,761		
80					1	8,837									2	32,983	3	41,820		
81										1	7,276				1	11,911	2	19,187		
82							1	8,321					1	14,598		2	22,919			
83					1	18,210										1	18,210			
84														1	10,826	1	10,826			
85					1	14,324										1	14,324			
86							1	10,822								1	10,822			
88					1	1,513										1	1,513			
89					1	820			1	5,989		1	8,473			3	15,282			
94											1	8,869				1	8,869			
Totals	1	\$ 808	1	\$ 88,566	10	\$ 76,395	7	\$ 52,725	2	\$ 4,627	7	\$ 81,156	3	\$ 28,435	8	\$ 110,611	39	\$ 443,323		

* Includes Police Chief.



Deferred Vested Data December 31, 2023 Tabulated by Attained Age and Type of Retirement

Attained Age	Clerical		Supervisory & Non-Supervisory		Non-Contractual		Police Officers Labor Council		Police Non-Supervisory		Totals	
	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions
62	1	\$ 198			1	\$ 751					2	\$ 949
63	1	1,730									1	1,730
65	1	2,892									1	2,892
66			1	\$ 4,895							1	4,895
67							1	\$ 2,752			1	2,752
68	1	85									1	85
72									1	\$ 271	1	271
73					1	7,331					1	7,331
74	1	942									1	942
76									1	5,277	1	5,277
80									1	1,550	1	1,550
82			1	1,042							1	1,042
85					1	1,205					1	1,205
Totals	5	\$ 5,847	2	\$ 5,937	3	\$ 9,287	1	\$ 2,752	3	\$ 7,098	14	\$ 30,921

Active Members in Valuation Comparative Schedule

Valuation Date	No.	Valuation		Averages		
		Payroll	Pay	% Incr.	Age	Service
12/31/2014	1	\$ 97,050	\$ 97,050	11.2 %	61.6 yrs.	34.0 yrs.
12/31/2015	1	99,161	99,161	2.2	62.6	35.0
12/31/2016	1	100,153	100,153	1.0	63.6	36.0
12/31/2017	1	102,156	102,156	2.0	64.6	37.0
12/31/2018	1	104,560	104,560	2.4	65.6	38.0
12/31/2019	1	106,283	106,283	1.6	66.6	39.0
12/31/2020	1	112,521	112,521	5.9	67.6	40.0
12/31/2021	0	0	N/A	N/A	N/A	N/A
12/31/2022	0	0	N/A	N/A	N/A	N/A
12/31/2023	0	0	N/A	N/A	N/A	N/A

SECTION C

ACTUARIAL COST METHODS, ACTUARIAL ASSUMPTIONS AND DEFINITIONS OF TECHNICAL TERMS

Actuarial Cost Methods

Age and Service and Casualty Benefits. Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using an individual **entry-age actuarial cost method** having the following characteristics:

- (i) The annual normal costs for each individual active member (if any), payable from the date of employment to the date of retirement, are sufficient to accumulate the value of the member's benefit at the time of retirement; and
- (ii) Each annual normal cost (if any) is a constant percentage of the member's year-by-year projected covered pay.

Financing of Unfunded Actuarial Accrued Liability. The Board adopted a layered amortization policy beginning with the December 31, 2023 valuation. The initial unfunded amount was established in the December 31, 2016 valuation and has 3 years of payments remaining as of December 31, 2023. All future unexpected changes in the UAAL will flow into separate 5-year bases. The UAAL payment reflects payments expected to be made between the valuation date and the fiscal year for which the contributions in this report have been calculated.

Funding Value of Assets. The valuation assets used for funding purposes are derived as follows: prior year valuation assets are increased by contribution and expected investment income and reduced by refunds, benefit payments and expenses. To this amount is added one-third of the difference between expected and actual investment income for each of the previous three years.

Actuarial Assumptions are established by the Board after consulting with the actuary. Non-economic assumptions are generally selected on the basis of the Plan's historical activity, modified for expected future differences. The reasonableness of the economic assumptions is based upon capital market expectations provided by various investment consultants and other sources such as the Social Security Trustees report. All actuarial assumptions are based on future expectations, not market measures.

Actuarial Assumptions Used for the Valuation

The contribution requirements and actuarial present values of a Pension Plan are calculated by applying actuarial assumptions to the benefit provisions and people information of the Plan, using the actuarial methods described on page C-1. All actuarial assumptions in this report are estimates of future experience.

The principal areas of risk which require actuarial assumptions about future experiences are:

- (i) Long-term rates of investment return to be generated by the assets of the Plan;
- (ii) Patterns of pay increases to members;
- (iii) Rates of mortality among members, retirees and beneficiaries;
- (iv) Rates of withdrawal of active members (not applicable in this report);
- (v) Rates of disability among active members (not applicable in this report); and
- (vi) The age patterns of actual retirements.

The monetary effect of each assumption is calculated for as long as a present covered person survives - - a period of time which can be as long as a century.

Actual experience of the Plan will not coincide exactly with assumed experience. Each valuation provides a complete recalculation of assumed future experience and considers all past differences between assumed and actual experience. The result is a continual series of adjustments (usually small) to the computed contribution rate.

From time-to-time one or more of the assumptions are modified to reflect experience trends (but not random or temporary year-to-year fluctuations).

Actuarial Assumptions Used for the Valuation

Investment Return Rate (net of expenses). 6.00% a year, compounded annually. Although not explicitly used in the valuation, the economic assumptions are consistent with a price inflation assumption of 2.50% per year.

This assumption is used to equate the value of payments due at different points in time. Approximate investment returns, for the purpose of comparisons with assumed returns, have been as follows:

	Year Ended December 31					Compound 5-Yr Avg
	2023	2022	2021	2020	2019	
Valuation Assets	5.81%	6.89%	10.37%	10.84%	8.58%	8.48%
Market Value of Assets	15.12%	(15.99)%	11.51%	12.90%	21.77%	8.19%

These rates of return should not be used for measurement of an investment advisor's performance or for comparisons with other plans.

Wage Inflation. 4.50% per year.

The Mortality Table used was the fully generational PUB-2010 Amount-Weighted General Mortality Tables for males and females with MP-2019 mortality improvement scales. Sample healthy values follow:

PUB-2010 Fully Generational Mortality Tables					
Sample Ages in 2023	Value of \$1 Monthly for Life		Future Life Expectancy (Years)		
	Men	Women	Men	Women	
	50	\$172.31	\$177.75	35.81	
55	163.08	169.77	30.91	33.77	
60	151.81	159.69	26.18	28.89	
65	138.24	147.01	21.65	24.13	
70	122.01	131.49	17.36	19.56	
75	103.39	113.19	13.39	15.28	
80	83.39	92.90	9.88	11.42	

This assumption is used to measure the probability of each benefit payment being made after retirement. The margin for future mortality improvement is included in the MP-2019 mortality improvement scales.

Rates of Separation from Active Membership. None.



Actuarial Assumptions Used for the Valuation

Rates of Disability. None.

Pay Increases. Pay Increases are assumed to occur at the beginning of the year.

Decrement Timing. Decrements of all types are assumed to occur mid-year.

Eligibility Testing. Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.

Benefit Service. Exact fractional service is used to determine the amount of benefit payable.

Normal Form of Benefit. The assumed normal form of benefit is a 10-year certain with straight life form. No additional cost resulting from participants electing to receive benefits in a form other than the normal form was assumed.

Liability Adjustments. Missed benefit payments for deferred vested members who are eligible but have not yet commenced payments were added to the accrued liabilities (due to the Plan making retro payments).

Incidence of Contributions. Contributions are assumed to be received halfway through the fiscal year based upon the dollar contribution shown in this report.

Future Active Membership. The plan is closed to new hires and is therefore assumed to have no new entrants.



Definitions of Technical Terms

Accrued Service. Service credited under the Plan that was rendered before the date of the actuarial valuation.

Actuarial Accrued Liability. The difference between the actuarial present value of future benefit payments and the actuarial present value of future normal costs. Also referred to as "accrued liability" or "past service liability."

Actuarial Assumptions. Estimates of expected future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of the underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future benefit payments" between future normal costs and actuarial accrued liabilities. Sometimes referred to as the "actuarial valuation cost method."

Actuarial Equivalent. A single amount or series of amounts of equal actuarial present value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.

Actuarial Present Value. The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest, and by probabilities of payment. Also referred to as "present value."

Amortization. Paying off an interest-discounted amount with periodic payments of interest and principal - as opposed to paying it off with lump sum payment.

Experience Gain (Loss). The difference between actual actuarial costs and assumed actuarial costs -- during the period between two valuation dates.

Normal Cost. The actuarial cost allocated to the current year by the actuarial cost method. Sometimes referred to as "current service cost."

Pension Benefit Obligation. A standardized disclosure measure of the present value of pension benefits, adjusted for the effects of projected salary increases, estimated to be payable in the future as a result of employee service to date.

Unfunded Actuarial Accrued Liability. The difference between actuarial accrued liability and the actuarial value of Plan assets. Sometimes referred to as "unfunded past service liability," "unfunded accrued liability" or "unfunded supplemental present value."



SECTION D

ADDITIONAL DISCLOSURES

GASB Statements No. 67 and No. 68 are the accounting standards which replaced GASB Statements No. 25 and No. 27. GASB Statement No. 67 is first effective for fiscal year 2014 and GASB Statement No. 68 is first effective for fiscal year 2015. A separate GASB Statements No. 68 report will be issued outside of this report. This section contains historical GASB Statements No. 25 and No. 27 reporting information for prior fiscal years and illustrative information for fiscal year 2015 and after.

Supplementary Information

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation date	December 31, 2023
Actuarial cost method	Individual Entry-Age
Amortization method	Level dollar, closed
Remaining amortization period	5 years (Layered)
Asset valuation method	4-year smoothed market
Actuarial assumption:	
Investment rate of return	6.00%
Projected salary increases	N/A
Cost-of-living adjustments	none

Membership of the plan consisted of the following at December 31, 2023, the date of the latest actuarial valuation:

Retirees and beneficiaries receiving benefits	39
Terminated plan members entitled to but not yet receiving benefits	14
Active plan members	<u>0</u>
Total	53



Supplementary Information

Schedule of Funding Progress

Actuarial Valuation Date December 31,	Funding Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b - a) / c)
2014	\$3,601,955	\$5,295,008	\$ 1,693,053	68.0 %	\$ 97,050	1,745 %
2015 *	3,799,623	5,602,120	1,802,497	67.8	99,161	1,818
2016	4,052,441	5,500,378	1,447,937	73.7	100,153	1,446
2017	4,326,129	5,332,550	1,006,421	81.1	102,156	985
2018	4,366,971	5,254,450	887,479	83.1	104,560	849
2019	4,482,005	5,169,705	687,700	86.7	106,283	647
2020 *	4,730,695	5,138,314	407,619	92.1	112,521	362
2021	4,871,767	4,928,517	56,750	98.8	0	N/A
2022	4,713,569	4,693,398	(20,171)	100.4	0	N/A
2023 *	4,526,538	4,508,276	(18,262)	100.4	0	N/A

* After changes in actuarial assumptions, methods or asset valuation method.

Schedule of Employer Contributions

FY Ended December 31	Computed Dollar Contribution	Actual Annual Contributions	Percent Contributed
2015	\$ 403,377	\$ 250,000	62 %
2016 *	430,449	400,000	93
2017	206,057	400,000	194
2018	151,469	300,000	198
2019	146,745	200,000	136
2020	127,718	200,000	157
2021 *	89,043	128,800	145
2022	13,085	-	0
2023	-	-	N/A
2024 *	-	-	-

* After changes in actuarial assumptions, methods or asset valuation method.

