

**MVRMA**

**Miami Valley Risk Management Association**

**ANNUAL COMPREHENSIVE  
FINANCIAL REPORT  
YEAR ENDED DECEMBER 31, 2023**

**Serving the Cities of Southwest Ohio since 1988**

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**Miami Valley Risk Management Association**

**ANNUAL COMPREHENSIVE FINANCIAL REPORT**  
**YEAR ENDED DECEMBER 31, 2023**

June 21, 2024

Prepared by: MVRMA Staff

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June 21, 2024

President John Crowell & the Board of Trustees  
Miami Valley Risk Management Association

Re: **MVRMA Annual Comprehensive Financial Report for the Period Ended  
December 31, 2023**

Dear MVRMA President and Members of the MVRMA Board of Trustees:

The Annual Comprehensive Financial Report of the Miami Valley Risk Management Association (MVRMA) for the year ended December 31, 2023, is hereby submitted for your review.

The purpose of this report is to provide complete and reliable information as a basis for making management decisions, as a means for determining compliance with legal requirements, as a means for determining funding adequacy including funding for losses and loss adjustment expense reserves and as a means for demonstrating responsible stewardship over the assets contributed by MVRMA's member cities.

MVRMA staff, in concert with consultants from the Shared Resource Center, prepared all statements, schedules and other presentations in this report except the actuarial report included in the Actuarial section. Management assumes full responsibility for the completeness and reliability of the information contained in this report, based upon a comprehensive framework of internal control that it has established for this purpose. Because the cost of internal control should not exceed anticipated benefits, the objective is to provide reasonable, rather than absolute, assurance that the financial statements are free of any material misstatements.

Julian & Grube, Inc., Certified Public Accountants, have issued an unmodified (“clean”) opinion on MVRMA’s financial statements for the year ended December 31, 2023. The independent auditors’ report is included in the front of the Financial Section, which immediately follows the Introductory Section of this report.

Management’s Discussion and Analysis (MD&A) immediately follows the independent auditors’ report and provides a narrative introduction, overview, and analysis of the basic financial statements. The MD&A complements this letter of transmittal and should be read in conjunction with it.

Following the Financial Section are the Statistical and Actuarial sections. The Statistical Section includes financial trends information, revenue capacity information, demographic and economic information and operating information for the last ten years. The Actuarial Section includes the independent actuary's opinion on the unpaid loss and loss adjustment expense reserves, including incurred but not reported (IBNR) claims and related exhibits.

### **Profile of the Reporting Entity**

MVRMA is a consortium of municipalities located in southwest Ohio which formed an Association under Section 2744.081 of the Ohio Revised Code (ORC) to act collectively in addressing its members' risk management and risk financing needs. It was incorporated on December 1, 1988, with six (6) charter members: the City of Beavercreek, City of Kettering, City of Miamisburg, City of Vandalia, City of West Carrollton and City of Wilmington. As of December 30, 2022, MVRMA had twenty (21) members, with the City of Troy joining in 1989, City of Montgomery in 1990, City of Springdale in 1991, City of Blue Ash and City of Wyoming in 1992, City of the Village of Indian Hill and City of Sidney in 1993, City of Madeira in 1994, City of Tipp City in 1996, City of Mason in 1997, City of Piqua in 2002, with the City of Englewood, City of Bellbrook and City of Centerville joining in 2004 and the City of Fairfield joining in 2019. The Association provides a combination of self-insurance, excess insurance, and reinsurance for its members' property/casualty exposures; administers a claims/litigation management program; provides extensive safety/loss control consulting and training; and acts as a clearing house for risk-related information and financial reporting services for its members.

MVRMA management, under the direction of the Board of Trustees' Finance Committee, annually prepares a budget to provide for operating expenses and loss funding for the upcoming year. Funds available for the payment of claims are segregated by loss year, and claims are paid from the funds collected for the corresponding year of occurrence. Each year's loss funding contribution is determined by an actuarial study conducted by an independent actuary. Should any year's operating expenses or losses exceed that particular year's contributions, the Board of Trustees may transfer funds from the Association's Shock Loss Fund or call for supplementary payments from members, including withdrawn or expelled members, for the years of their membership.

### **Economic Condition and Outlook**

MVRMA is only indirectly affected by the state of the local economy; however, the Association's members are more directly impacted. Members are situated along or near the "I-75 and I-71 Corridors" in the southwest quadrant of the state of Ohio and are within, or influenced by, the economies in the Cincinnati and Dayton regions. This region has a first-class transit infrastructure providing access to major markets from the Midwest to the east coast. Trucks have access to not only I-75/I-71, but also I-70, I-74, I-275 and I-675. Two major airports, Cincinnati/Northern Kentucky International Airport and Dayton International Airport, can provide transport by air to 55% of the country's population in only 90 minutes. Additionally, this region is served by the CSX rail line which has access to all major cities and ports in the Midwest and along the east coast. Cargo shipping is also possible along the Ohio River, which borders the state to the south. Port Cincinnati sees 11.7 million tons of general and bulk cargo pass through annually.

### Dayton Area

The Dayton Daily News indicated that despite a recovered job market, people are still dealing with high prices and high inflation. They reported the following:

- According to the July 2023 projections from the U.S. Bureau of Labor Statistics, the Dayton area gained back all of the jobs lost, plus more. Employment levels have not been this high in 15 years.
- By strategy the area has moved further away from overreliance on the automotive industry. As a result, the bulk of new investment in the Dayton region comes from SEMCORP Advanced Materials Group and Honda which is building a batter materials manufacturing plant in Sidney.
- A huge resource in the market is with Wright-Patterson Air Force Base. A new \$9.5 million National Advanced Air Mobility Center of Excellences is under construction at the Springfield-Beckley Municipal Airport which will support flight test and development of electric vertical take-off and landing aircraft and provide testing capacity to the Air Force Research Laboratory at Wright-Patterson Air Force Base.
- The Region also expects to benefit from the \$20 billion Intel semiconductor plant being built in Licking County.

The unemployment rate for the Dayton MSA was 3.1 % for 2023 which a decrease of .4% from 2022.

### Cincinnati Area

Manufacturing has long been a bedrock industry in the Cincinnati region, as evidenced by strong regional exports records rooted in jet engines and consumer goods. Additionally, manufacturing growth in the Cincinnati region has more than doubled the national average during the last five years; Cincinnati Regional Chamber pointed out the following regarding Cincinnati's economic outlook:

- The Cincinnati region ranks highly in manufacturing jobs for a region of its size with over 120,000 jobs. This is higher than approximately 91,000 manufacturing jobs expected for a typical region of 2.3 million residents.
- The hotel occupancy rates have consistently increased among peer cities and within the Cincinnati region. The occupancy rate in 2022 was 59.9 and through June of 2023, rate was even higher at 60.3%.
- Office vacancy rates have yet to fully recover from the pandemic. The Cincinnati region is divided on the number of office submarkets, some of which have recovered from vacancy levels more than others. The Mason/Montgomery area for example has the highest vacancy rate in the region at 42% vacant. On the other side, the West Chester region has recovered at only 11.3% vacancy.
- While housing value growth has been steady over the past twelve years, Cincinnati saw a larger than average increase of just over 4% in the twelve months ending in May 2023.

This was the third largest increase among the peer metros, and came a time when many metros saw home values fall.

The unemployment rate for the Cincinnati area was 2.9% for 2023 which is a decrease of 0.2% from 2022.

### **Insurance/Reinsurance Market Outlook Insurance/Reinsurance Market Outlook**

As we approach the July 1, 2024, property renewal, we are delighted to inform you that the global property insurance market is showing signs of stability for the first time in years. This positive change, a testament to the industry's resilience, marks our hopeful exit from one of the most challenging insurance markets ever seen. Since 2019, property insurers have experienced historical losses while facing record inflation, supply chain issues, and rising construction costs. These factors led to rate increases, reduced coverage/limits, and higher retentions, among other significant changes. However, 2023 finally relieved insurers and was the first profitable year for insurers in years, signaling a positive shift in the market. This is a promising development for MVRMA and its stakeholders, instilling a sense of optimism for the future.

Although the market is stabilizing, insurers are still adapting and changing their appetite to prevent future losses. For example, MVRMA's property program was marketed mid-term this past fall. The results showed competitive upfront pricing but came with multiple exclusions and impactful changes to MVRMA's existing terms and conditions. Competing markets demanded moving to a per occurrence per location percentage wind/hail deductible, MVRMA's largest exposure.

Liability reinsurers and insurers continue to withdraw their willingness to insure public entities. This is primarily due to concerns over law enforcement liability, social inflation, and litigation financing, which have resulted in more frequent and severe losses. Cyber Liability capacity, like property capacity, is reaching a state of stability.

### **Long-term Financial Planning**

Having found what it considers a successful formula for long-term financial planning, MVRMA continues to expand on previously developed programs while being mindful of any new opportunities:

- MVRMA's Shock Loss Fund, which was established as an internal funding mechanism to replace costly stop loss insurance, has surpassed its moving target of being equivalent to the current year's annual loss funding amount. The loss funding amount contributed in 2023 was \$2,425,000 while the Shock Loss Fund balance as of 12/31/23 was \$2,758,307.
- By participating in the insurance captive Government Entities Mutual (GEM), MVRMA has been able to further distance itself from the commercial market. GEM provides reinsurance for liability claims in excess of the pool's \$500,000 self-insured retention. GEM's limit of coverage was \$6.5 million in 2023.
- MVRMA's investment portfolio is a mix between government and corporate bonds. Government bonds include US Treasury securities and federal agencies, and up to 50% in

high-grade corporate bonds, with a minimum of A ratings or better from primary rating agencies. MVRMA continues to retain the investment advisory services from SJS Investment Services for portfolio management, performance reporting and trade execution. The pool's investment policy emphasizes protection of principal while maintaining the necessary liquidity to meet operating needs. The current investment yield lags the market rates but is primarily due to the rapid increase in interest rates. With bonds maturing on a regular basis, the expected yield on the portfolio should increase quickly to meet or exceed appropriate benchmarks.

- The pool has a policy of returning unused loss funds to its members when a loss year is closed. A partial loss year was closed in 2023. MVRMA has refunded over \$25 million to its members since the Association's formation in 1988.

### **Relevant Financial Policies**

The Amended Agreement and Bylaws of MVRMA establish the basic fiscal requirements of the Association including requiring Board approval of the preliminary budget by September 30 each year and the final budget by December 31, identifying the underwriting information used to establish each member's pool contribution factor, defining when supplementary payments shall be required and when and how surplus funds may be distributed to the membership.

MVRMA adopted its Cash and Investment Policy in 1991 to indicate a conscious, formal effort to develop, implement and monitor the investment of all MVRMA funds. It was last amended in June 2020 and is reviewed annually.

### **Major MVRMA Initiatives During 2023**

Among the Association's achievements during the fiscal period ending December 31, 2023, were the following:

- Most of the goals from the 2023-2027 Strategic Plan were completed in 2023;
- Nearly 842 participants attended 30 MVRMA-sponsored training courses throughout the year;
- Completed reviews of members' practices pursuant to the pool's Risk Management Best Practices programs.

### **Awards**

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to MVRMA for its annual comprehensive financial report for the fiscal year ended December 31, 2022. This was the 30<sup>th</sup> consecutive year MVRMA has achieved this prestigious award. 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.

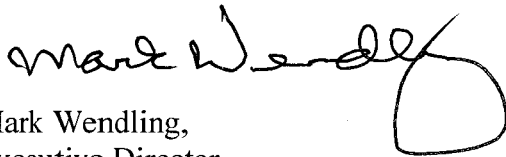
A Certificate of Achievement is valid for a period of one year only. We believe that our annual comprehensive financial report for the year ended December 31, 2023 continues to meet the Certificate of Achievement Program's requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

Certificate of Achievement Program's requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

**Acknowledgements**

Management would like to express appreciation to the Board of Trustees for their dedication to excellence in financial reporting, the principles of risk management, loss control and public entity pooling.

Respectfully submitted,

A handwritten signature in black ink that reads "Mark Wendling". The signature is written in a cursive style with a large, rounded loop at the end of the word "Wendling".

Mark Wendling,  
Executive Director

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION  
MEMBERS OF THE BOARD OF TRUSTEES  
As of December 31, 2023**

<b><u>Member City</u></b>	<b><u>Trustee</u></b>	<b><u>Alternate</u></b>
Beavercreek	Bill Kucera	Christine Ingle
Bellbrook	Rob Schomer	Melissa Jones
Blue Ash	Sherry Poppe	Matt Sanders
Centerville	Tyler Roark	Mariah Vogelgesang
Englewood	Eric A. Smith	Barbara McCormick
Fairfield	Laura Murphy	Chris Hacker
Indian Hill	Dina Minneci	Jessica Chaney
Kettering	Nancy Gregory	Estelle Gibson
Madeira	Michael Norton-Smith	Lori Thompson
Mason	Jennifer Heft	Mary Mueller
Miamisburg	Keith Johnson	Emily Christian
Montgomery	John Crowell	Brian Riblet
Piqua	Catherine Bogan	Paul Oberdorfer
Sidney	Renee Dulaney	Whitney Flora
Springdale	Brian Uhl	Stephanie Morgan
Tipp City	John Green	Timothy Eggleston
Troy	Patrick Titterington	Sue Knight
Vandalia	Dan Wendt	Melissa Pruszynski
West Carrollton	Julie Duffy	Vacant
Wilmington	Laura Loggains	Vacant
Wyoming	Rusty Herzog	Rachel Leininger

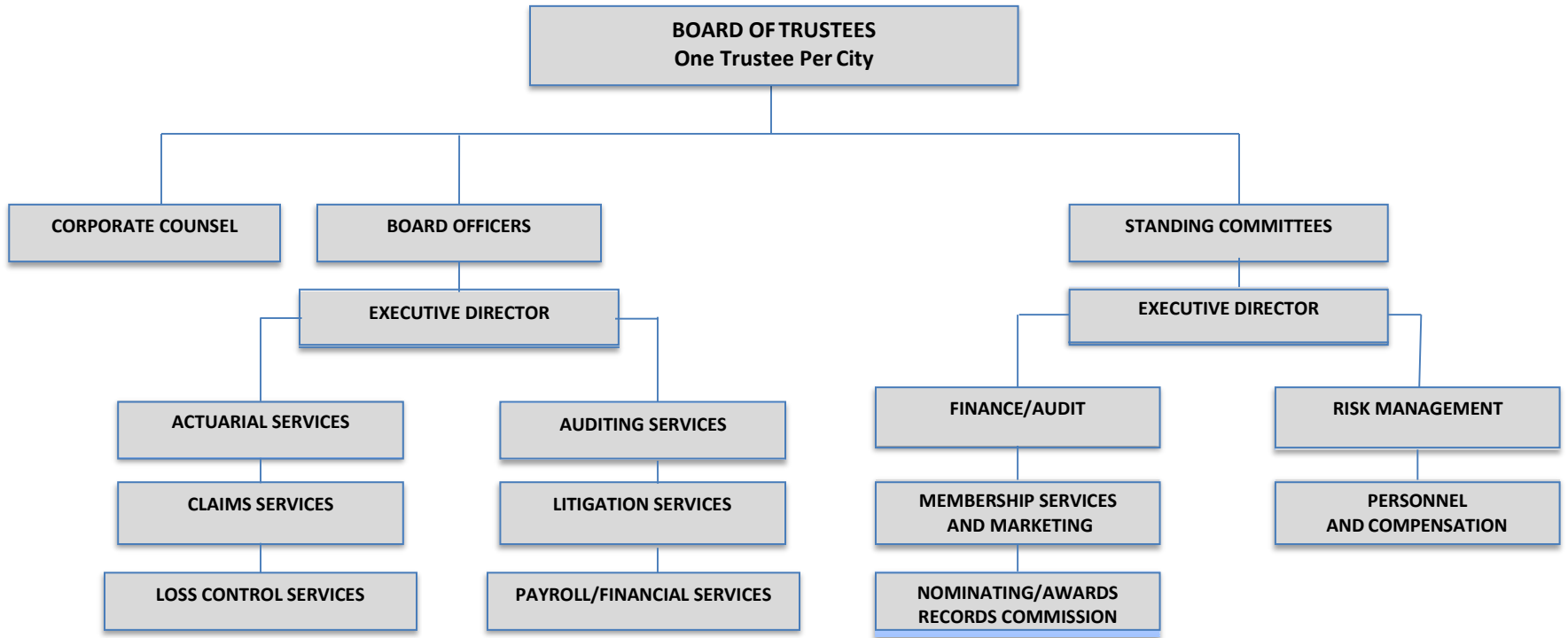
**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION  
OFFICERS OF THE BOARD OF TRUSTEES  
As of December 31, 2023**

<b><u>Board Office</u></b>	<b><u>Office Holder</u></b>	<b><u>Member City</u></b>
President	Emily Christian	City of Miamisburg
Vice-President	John Crowell	City of Montgomery
Treasurer	Nancy Gregory	City of Kettering
Secretary	Sandra Caudill	MVRMA



# MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

## ORGANIZATIONAL CHART



2023 MEMBER CITIES					
BEAVERCREEK	ENGLEWOOD	MADEIRA	PIQUA	TROY	WYOMING
BELLBROOK	FAIRFIELD	MASON	SIDNEY	VANDALIA	
BLUE ASH	INDIAN HILL	MIAMISBURG	SPRINGDALE	W. CARROLLTON	
CENTERVILLE	KETTERING	MONTGOMERY	TIPP CITY TROY	WILMINGTON	



Government Finance Officers Association

Certificate of  
Achievement  
for Excellence  
in Financial  
Reporting

Presented to

**Miami Valley Risk Management Association  
Ohio**

For its Annual Comprehensive  
Financial Report  
For the Fiscal Year Ended

December 31, 2022

*Christopher P. Morill*

Executive Director/CEO

## Independent Auditor's Report

Miami Valley Risk Management Association  
Montgomery County  
3085 Woodman Drive, Suite 200  
Kettering, Ohio 45420

To the Members of the Board of Trustees:

### Report on the Audit of the Financial Statements

#### *Opinion*

We have audited the accompanying financial statements of the Miami Valley Risk Management Association (MVRMA), Montgomery County, Ohio, (a not-for-profit corporation), as of and for the year ended December 31, 2023, and the related notes to the financial statements, which collectively comprise the MVRMA's basic financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the MVRMA, as of December 31, 2023, and the changes in financial position, and its cash flows thereof 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 and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the "Auditor's Responsibilities for the Audit of the Financial Statements" section of our report. We are required to be independent of the MVRMA 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 MVRMA'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 opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards 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 generally accepted auditing standards 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 MVRMA'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 MVRMA's ability to continue as a going concern for a reasonable period of time.

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

***Required Supplementary Information***

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

***Other Information***

Management is responsible for the other information included in the annual financial report. The other information comprises the introductory, statistical and actuarial 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 21, 2024 on our consideration of the MVRMA'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 MVRMA's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the MVRMA's internal control over financial reporting and compliance.

*Julian & Grube, Inc.*

Julian & Grube, Inc.  
June 21, 2024

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**

Management's Discussion and Analysis  
For The Year Ended December 31, 2023

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The management of the Miami Valley Risk Management Association (MVRMA or Association) provides the following introduction, overview, and analysis of MVRMA's financial statements for the year ended December 31, 2023. This discussion and analysis is designed to assist the reader in focusing on significant financial issues and activities and to identify any significant changes in financial position. We encourage the reader to consider the information presented here in conjunction with the basic financial statements taken as a whole.

MVRMA is a consortium of municipalities located in southwest Ohio, which formed an Association under Section 2744.081 of the Ohio Revised Code (ORC) to act collectively in addressing its members' risk management and risk financing needs. It became operational in December 1988 with six charter members and now has twenty-one members.

**Basic Financial Statements and Presentation**

The financial statements presented by the Association are the Statement of Net Position, Statement of Revenues, Expenses, and Changes in Net Position, and the Statement of Cash Flows. As required by accounting principles generally accepted in the United States of America (GAAP), the Association is accounted for as one enterprise fund.

The tables presented in this Management's Discussion and Analysis provide a summary of the Association's financial position and results of operations for 2023 and 2022, respectively.

**The Statement of Net Position**

This statement reports all the Association's assets and liabilities as of December 31, 2023, categorized as current and non-current assets and liabilities. Assets consist mainly of cash and investments. Liabilities consist mainly of claims reserves and members' dividends payable. Reporting for GASB 68 has created two new categories: deferred outflows of resources and deferred inflows of resources. The balance of total assets and deferred outflows less total liabilities and deferred inflows is reported as "net position."

The following table presents a condensed summary information of the Association's net position as of December 31, 2023 compared to December 31, 2022.

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**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**Management's Discussion and Analysis  
For The Year Ended December 31, 2023**Condensed Statement of Net Position**

	<u>2023</u>	<u>2022</u>
<b>CURRENT ASSETS</b>		
Cash and cash equivalents	\$1,308,940	\$948,568
Accounts receivable	254,837	450,513
Prepaid expenses	1,198,980	820,901
Investments	3,848,807	2,221,260
<b>NONCURRENT ASSETS</b>		
Investments	11,482,310	13,018,980
Net pension asset	778	1,915
Net OPEB asset	0	61,484
Capital assets less depreciation	7,751	8,978
Total assets	<u>18,102,403</u>	<u>17,532,599</u>
<b>DEFERRED OUTFLOWS OF RESOURCES</b>		
Deferred outflows of resources related to pension	188,309	67,931
Deferred outflows of resources related to OPEB	37,665	5,215
Total deferred outflows of resources	<u>225,974</u>	<u>73,146</u>
<b>CURRENT LIABILITIES</b>		
Unpaid claim losses and loss adjustment expenses	1,347,002	1,166,242
Members' dividends payable	5,569,324	4,738,520
Accounts payable and accrued liabilities	21,285	12,888
Total current liabilities	<u>6,937,611</u>	<u>5,917,650</u>
<b>NONCURRENT LIABILITIES</b>		
Unpaid claim losses and loss adjustment expenses	2,114,641	1,954,020
Net pension liability	442,214	143,818
Net OPEB liability	11,356	0
Total noncurrent liabilities	<u>2,568,211</u>	<u>2,097,838</u>
Total Liabilities	<u>9,505,822</u>	<u>8,015,488</u>
<b>DEFERRED INFLOWS OF RESOURCES</b>		
Deferred inflows of resources related to pension	35,697	241,004
Deferred inflows of resources related to OPEB	6,170	70,578
Total deferred inflows of resources	<u>41,867</u>	<u>311,582</u>
<b>TOTAL NET POSITION</b>		
Invested in capital assets	7,751	8,978
Restricted for pension and OPEB	778	0
Unrestricted	8,772,159	9,269,697
Total net position	<u>\$8,780,688</u>	<u>\$9,278,675</u>

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**

Management's Discussion and Analysis  
For The Year Ended December 31, 2023

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The net pension liability (NPL) is reported pursuant to GASB Statement 68, "Accounting and Financial Reporting for Pensions—an Amendment of GASB Statement 27." In 2018, the Association adopted GASB Statement 75, "Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions," which significantly revises accounting for costs and liabilities related to other postemployment benefits (OPEB). For reasons discussed below, many end users of this financial statement will gain a clearer understanding of the Association's actual financial condition by adding deferred inflows related to pension and OPEB, the net pension liability and the net OPEB liability to the reported net position and subtracting deferred outflows related to pension and OPEB.

Governmental Accounting Standards Board standards are national and apply to all government financial reports prepared in accordance with generally accepted accounting principles. Prior accounting for pensions (GASB 27) and postemployment benefits (GASB 45) focused on a funding approach. This approach limited pension and OPEB costs to contributions annually required by law, which may or may not be sufficient to fully fund each plan's *net pension liability* or *net OPEB liability*. GASB 68 and GASB 75 take an earnings approach to pension and OPEB accounting; however, the nature of Ohio's statewide pension/OPEB plans and state law governing those systems requires additional explanation in order to properly understand the information presented in these statements.

GASB 68 and GASB 75 require the net pension liability and the net OPEB liability to equal the Association's proportionate share of each plan's collective:

1. Present value of estimated future pension/OPEB benefits attributable to active and inactive employees' past service.
2. Minus plan assets available to pay these benefits.

GASB notes that pension and OPEB obligations, whether funded or unfunded, are part of the "employment exchange" – that is, the employee is trading his or her labor in exchange for wages, benefits, and the promise of a future pension and other postemployment benefits. GASB noted that the unfunded portion of this promise is a present obligation of the government, part of a bargained-for benefit to the employee, and should accordingly be reported by the government as a liability since they received the benefit of the exchange. However, the Association is not responsible for certain key factors affecting the balance of these liabilities. In Ohio, the employee shares the obligation of funding pension benefits with the employer. Both employer and employee contribution rates are capped by State statute. A change in these caps requires action of both Houses of the General Assembly and approval of the Governor. Benefit provisions are also determined by State statute. The Ohio Revised Code permits, but does not require, the retirement systems to provide healthcare to eligible benefit recipients. The retirement systems may allocate a portion of the employer contributions to provide for these OPEB benefits.

The employee enters the employment exchange with the knowledge that the employer's promise is limited not by contract but by law. The employer enters the exchange also knowing that there is a specific, legal limit to its contribution to the retirement system. In Ohio, there is no legal means to enforce the unfunded liability of the pension/OPEB plan *as against the public employer*. State law operates to mitigate/lessen the moral obligation of the public employer to the employee,



**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**

Management's Discussion and Analysis  
For The Year Ended December 31, 2023

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because all parties enter the employment exchange with notice as to the law. The retirement system is responsible for the administration of the pension and OPEB plans.

Most long-term liabilities have set repayment schedules or, in the case of compensated absences (i.e., sick and vacation leave), are satisfied through paid time-off or termination payments. There is no repayment schedule for the net pension liability or the net OPEB liability. As explained above, changes in benefits, contribution rates, and return on investments affect the balance of these liabilities but are outside the control of the local government. If contributions, investment returns, and other changes are insufficient to keep up with required payments, State statute does not assign/identify the responsible party for the unfunded portion. Due to the unique nature of how the net pension liability and the net OPEB liability are satisfied, these liabilities are separately identified within the long-term liability section of the statement of net position.

In accordance with GASB 68 and GASB 75, the Association's statements prepared on an accrual basis of accounting include an annual pension expense and an annual OPEB expense for their proportionate share of each plan's *change* in net pension liability and net OPEB liability, respectively, not accounted for as deferred inflows/outflows.

Unpaid claim losses and loss adjustment expenses is a liability for net unpaid losses, including incurred but not reported losses, and loss adjustment expenses. This amount is determined annually with the assistance of an outside actuary. This liability is separated into current and noncurrent portions based upon a combination of an analysis of outstanding claims and historical experience. In 2023, the unpaid claims liability increased by \$341,381 or about 11%, primarily due to increases in the estimates of ultimate losses for prior years.

**% Claims Reserves by Line of Business  
As of December 31**

<b><u>Line of Business</u></b>	<b><u>2023</u></b>	<b><u>2022</u></b>
Auto Liability	8%	10%
General Liability	71%	73%
Property	21%	17%

The liability for members' dividends payable reflects the funds being held in MVRMA's General Reserve Fund (GRF). The General Reserve Fund accounts for surplus funds returned, but not yet paid, to members from closed loss years. Once surplus funds are returned to the members, these funds are deposited in the GRF to the account of each individual member. Members may withdraw their GRF funds within 30 days after the closure of a loss year, or in January of each year, or for the payment of any MVRMA invoice at any time throughout the year. The members' dividends payable liability increased in 2023 due to the partial closure of a loss year in December 2023 from which members had not requested to be withdrawn from their GRF accounts.

Net position is divided into three categories, net investment in capital assets, restricted, and unrestricted. Total net position decreased by \$497,987, or 5.4%, during 2023 due to members' dividends of more than \$1.4 million. The net investment in capital assets, which represents the net book value of capital assets, decreased from \$8,978 to \$7,751 during 2023 due to depreciation

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**

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expense in excess of new capital purchases during the year. Of the remaining net position, \$778 was restricted for pension and OPEB, while \$8,772,159 was unrestricted for future use by the Association.

**The Statement of Revenues, Expenses and Changes in Net Position**

This statement reflects the operating and non-operating revenue and expenses for the fiscal year and how the Association's net position changed during the year. As noted previously, MVRMA's net position decreased by 5.4% in 2023.

**Condensed Statement of Revenues, Expenses, and Changes in Net Position**

	<u>2023</u>	<u>2022</u>
Operating Revenue	<u>\$6,461,791</u>	<u>\$6,367,353</u>
Operating Expenses:		
Incurred claims and claims adjustment expenses	2,526,129	827,856
Reinsurance premiums	2,750,180	2,362,508
General and administrative expenses	<u>925,260</u>	<u>631,270</u>
Total Operating Expenses	<u>6,201,569</u>	<u>3,821,634</u>
Operating Income (Loss)	260,222	2,545,719
Nonoperating Revenue (Expense):		
Interest income and gains (losses) on investments	713,923	(859,721)
Members' dividends	<u>(1,472,132)</u>	<u>(11,012)</u>
Changes in Net Position	(497,987)	1,674,986
Net position, beginning of year	<u>9,278,675</u>	<u>7,603,689</u>
Net position, end of year	<u>\$8,780,688</u>	<u>\$9,278,675</u>

Operating revenue consists primarily of members' contributions. The major categories of operating expenses are claims and claims adjustment expenses, reinsurance premiums, general and administrative expenses, and dividends to members. Non-operating revenue and expense is primarily related to investment activity.

Members' contributions made up 97% and 95% of the Association's operating revenues in 2023 and 2022, respectively.

## MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.

Management's Discussion and Analysis  
For The Year Ended December 31, 2023

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Members' contributions are determined by an underwriting formula that takes into account claim losses over a rolling four-year period and six risk exposure factors: population, number of police officers, number of other employees, titled vehicles, insurable property values, and net operating expenses.

Changes in net position can vary widely from year to year. This variation is chiefly due to fluctuations in incurred claims expense and members' dividends. Although the incurred claims expense is subject to variability, it is moderated somewhat by the insuring of losses above the pool's self-insured retentions of \$500,000 per occurrence for liability claims and \$250,000 for property claims. Members' dividends expense is incurred when the Board of Trustees closes a loss year and refunds the residual assets in the loss year to the members. These amounts can be significant and do not necessarily occur each year as evidenced by the decrease in net position in 2023 resulting from members' dividends.

### **The Statement of Cash Flows**

The Statement of Cash Flows allows readers of the financial statements to assess the Association's ability to generate sufficient cash flow to meet its obligations in a timely manner. Cash and equivalents increased by \$360,372 in 2023 primarily due to cash provided by investing activities.

	<u>2023</u>	<u>2022</u>
Cash flows from operating activities	(\$329,810)	(\$861,905)
Cash flows used in capital and related financing activities	(2,776)	(7,000)
Cash flows from (used in) investing activities	<u>692,958</u>	<u>(685,136)</u>
Net change in cash and cash equivalents	360,372	(1,554,041)
Cash and Cash Equivalents - Beginning of year	<u>948,568</u>	<u>2,502,609</u>
Cash and Cash Equivalents - End of year	<u><u>\$1,308,940</u></u>	<u><u>\$948,568</u></u>

### **2024 Projects and Future Plans**

For 2024, the Association's liability limit of coverage remains \$12 million per occurrence. The first layer of liability reinsurance coverage, purchased from Government Entities Mutual, a protected cell reinsurance captive domiciled in the District of Columbia, provides limits of \$6.5 million excess of the Association's self-insured retention of \$500,000. The next layer of reinsurance with General Reinsurance Corporation is \$5 million excess of \$7 million.

Property insurance for the period 7/1/23-7/1/24 was again placed with the Alliant Property Insurance Program (APIP). MVRMA's premium rate effective 7/1/23 increased by about 29% following increases of 15% in 2022, 40% in 2021, 22% in 2020, and 17% in 2019. These increases

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**

Management's Discussion and Analysis  
For The Year Ended December 31, 2023

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are largely attributable to disruptions in the commercial property market due to a continuing pattern of severe and costly weather events, the most recent of which was Hurricane Ian in 2023. As MVRMA prepares for its 7/1/24 property renewal, it is anticipating another significant rate increase and considering alternative structures to the program to mitigate such increases.

**Contacting MVRMA**

This financial report is designed to provide members, creditors, and investors with a general overview of MVRMA's finances and to show MVRMA's accountability for the monies it receives. If you have any questions about this report or need additional information, contact the Executive Director in writing at 3085 Woodman Drive, Suite 200, Kettering, OH 45420 or calling (937) 438-8878.

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**  
**STATEMENT OF NET POSITION**

**ASSETS**

**CURRENT ASSETS:**

Cash and cash equivalents	\$1,308,940
Accounts receivable:	
Claims deductibles	21,406
Reinsurance	134,011
Interest and Other	99,420
Prepaid items	1,198,980
Investments	3,848,807
Total current assets	<u>6,611,564</u>

**NONCURRENT ASSETS:**

Investments	11,482,310
Net pension asset	778
Capital Assets:	
Equipment	23,147
Office furniture	9,839
Total capital assets	<u>32,986</u>
Accumulated depreciation	<u>(25,235)</u>
Capital assets - net	<u>7,751</u>
Total noncurrent assets	<u>11,490,839</u>
Total Assets	<u>18,102,403</u>

**DEFERRED OUTFLOWS OF RESOURCES**

Deferred outflows of resources related to pension	188,309
Deferred outflows of resources related to OPEB	37,665
Total Deferred Outflows	<u>225,974</u>

**LIABILITIES**

**CURRENT LIABILITIES:**

Unpaid claims losses and loss adjustment expenses	1,347,002
Members' dividends payable	5,569,324
Accounts payable and accrued liabilities	21,285
Total current liabilities	<u>6,937,611</u>

**NONCURRENT LIABILITIES:**

Unpaid claims losses and loss adjustment expenses	2,114,641
Net pension liability	442,214
Net OPEB liability	11,356
Total noncurrent liabilities	<u>2,568,211</u>
Total Liabilities	<u>9,505,822</u>

**DEFERRED INFLOWS OF RESOURCES**

Deferred inflows of resources related to pension	35,697
Deferred inflows of resources related to OPEB	6,170
Total Deferred Inflows	<u>41,867</u>

**NET POSITION**

Investment in capital assets	7,751
Restricted for pension	778
Unrestricted	8,772,159
Total net position	<u>\$8,780,688</u>

See notes to the basic financial statements

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**  
**STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION**  
**FOR THE YEAR ENDED DECEMBER 31, 2023**

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OPERATING REVENUES:	
Members' contributions	\$6,272,187
Claim deductibles	131,995
Other	57,609
	<hr/>
Total operating revenues	6,461,791
	<hr/>
OPERATING EXPENSES:	
Claim expenses:	
Incurred claims and claim adjustment expenses	2,526,129
Reinsurance/insurance premiums	2,750,180
	<hr/>
Total claim expenses	5,276,309
	<hr/>
General and administrative expenses:	
Professional fees	360,174
Salaries and benefits	369,518
Depreciation	4,003
Rent	35,451
Other	156,114
	<hr/>
Total general and administrative fees	925,260
	<hr/>
Total operating expenses	6,201,569
	<hr/>
OPERATING INCOME (LOSS)	260,222
	<hr/>
NON-OPERATING REVENUE (EXPENSE):	
Interest income	318,964
Gain/(loss) on investments	394,959
Members' Dividends	(1,472,132)
	<hr/>
Total Non-operating Revenue (Expense)	(758,209)
	<hr/>
CHANGE IN NET POSITION	(497,987)
	<hr/>
NET POSITION	
Beginning of year	9,278,675
	<hr/>
End of year	\$8,780,688
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See notes to the basic financial statements

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**  
**STATEMENT OF CASH FLOWS**  
**FOR THE YEAR ENDED DECEMBER 31, 2023**

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**CASH FLOWS FROM OPERATING ACTIVITIES:**

Cash received for member contributions	\$6,272,187
Cash received for deductible reimbursements	195,137
Cash received from insurance proceeds	352,211
Cash received from subrogation recoveries	395,394
Cash received from other sources	79,701
Cash payments for claims	(2,779,333)
Cash payments for general reserve fund payouts	(730,899)
Cash payments for reinsurance premiums	(3,125,830)
Cash payments for professional fees	(361,239)
Cash payments for employment expenses	(413,383)
Cash payments for rent	(35,509)
Cash payments for other expenses	<u>(178,247)</u>

Net cash provided by (used in) operating activities (329,810)

**CASH FLOWS FROM CAPITAL AND RELATED FINANCING  
ACTIVITIES:**

Purchase of capital assets	<u>(2,776)</u>
Net cash provided by (used in) capital and related financing activities	<u>(2,776)</u>

**CASH FLOWS FROM INVESTING ACTIVITIES:**

Investment purchases	(3,453,423)
Investment sales/maturities	3,756,141
Interest and dividends on investments	<u>390,240</u>

Net cash provided by (used in) investing activities 692,958

**NET CHANGE IN CASH AND CASH EQUIVALENTS** 360,372

**CASH AND CASH EQUIVALENTS:**

Beginning of Year	<u>948,568</u>
End of Year	<u><u>\$1,308,940</u></u>

See notes to the basic financial statements

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**  
**STATEMENT OF CASH FLOWS (Continued)**  
**FOR THE YEAR ENDED DECEMBER 31, 2023**

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**RECONCILIATION OF OPERATING INCOME (LOSS) TO NET CASH PROVIDED BY (USED IN) OPERATING ACTIVITIES**

Operating Income (Loss)	\$260,222
Adjustments to reconcile change in net position to net cash provided by (used in) operating activities:	
Depreciation	4,003
Member dividends declared	(1,472,132)
(Increase) / decrease in assets:	
Claims deductibles receivable	63,142
Reinsurance receivable	153,020
Other receivables	(826)
Prepaid items	(378,079)
Net pension asset	1,137
Net OPEB Asset	61,484
(Increase) / decrease in deferred outflows:	
Deferred outflows of resources related to pension	(120,378)
Deferred outflows of resources related to OPEB	(32,450)
Increase / (decrease) in liabilities:	
Unpaid claims losses and loss adjustment expenses	341,381
Accounts payable, accrued liabilities, members' credits and members' dividends	749,629
Net pension liability	298,396
Net OPEB liability	11,356
Increase / (decrease) in deferred inflows:	
Deferred inflows of resources related to pension	(205,307)
Deferred inflows of resources related to OPEB	(64,408)
Net cash provided by (used in) operating activities	<u><u>(\$329,810)</u></u>

**NON-CASH INVESTING ACTIVITIES:**

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- Miami Valley Risk Management Association, Inc. had an increase in the fair value of investments in the amount \$90,877 during 2023.

See notes to the basic financial statements



## MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.

NOTES TO THE BASIC FINANCIAL STATEMENTS  
FOR THE YEAR ENDED DECEMBER 31, 2023

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### NOTE 1 – ORGANIZATION AND SIGNIFICANT ACCOUNTING POLICIES

Miami Valley Risk Management Association, Inc. (the “Association”) is an Ohio not-for-profit Corporation organized for the public purpose of enabling its member political subdivisions to obtain insurance coverage. It provides methods for paying claims, and provides a formalized, jointly administered self-insurance pool. In addition to the self-insurance pool, the Association provides risk management services, loss prevention programs, and other educational programs and materials. The members of the Association include the following cities within the State of Ohio: Beavercreek, Bellbrook, Blue Ash, Centerville, Englewood, Fairfield, Kettering, Madeira, Mason, Miamisburg, Montgomery, Piqua, Sidney, Springdale, Tipp City, Troy, Vandalia, Indian Hill, West Carrollton, Wilmington and Wyoming.

***Basis of Accounting*** – The Association follows the accrual basis of accounting as required for enterprise funds and is not legally required to adopt a budget. All transactions are accounted for in a single enterprise fund in accordance with Governmental Accounting Standards Board (GASB) Statement No. 62, *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*.

***Member and Supplemental Contributions*** – The Association has classified its revenues as either operating or non-operating. Non-operating revenue primarily is the result of earning investment income and related gains and losses on investments. Member and supplemental contributions are recognized on the accrual basis and are recorded as revenue in the period earned. Member contributions are calculated and collected annually to produce a sum of money within the self-insurance pool adequate to fund administrative expenses and claims of the Association and to create adequate reserves for claims and unallocated loss adjustment expenses.

Under the terms of membership, should annual member contributions not be sufficient to fund ultimate losses, establish adequate reserves and cover administrative expenses, the Board of Trustees may require supplemental contributions. Supplemental contributions may be assessed during the entire life of the Association and any later period when claims or expenses, which are attributable to any membership year during which the event or claim occurred, need to be paid. Upon approval of the Board of Trustees, transfers from the Shock Loss Fund (“SLF”) (see note 6) may occur, in lieu of supplemental contributions. There were no supplemental contributions in 2023.

***Cash and cash equivalents*** consist of deposits with financial institutions having an original maturity of 90 days or less.

***Claims deductibles*** represent the first \$2,500 of any claim paid by the Association which is reimbursed by Association members.

***Investments*** are stated at fair value. Realized gains and losses are determined on the identified cost basis.

## MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.

### NOTES TO THE BASIC FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 2023

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The Association's investment policy authorizes the Association to invest in the following:

- 1.) United States treasury bills, notes, bonds, or any other obligation or security issued by the United States treasury, or any other obligation guaranteed as to principal and interest by the United States;
- 2.) Bonds, notes, debentures, or any other obligations or securities issued by any federal agency or instrumentality, including government sponsored enterprises. All federal agency securities shall be direct issuances of federal government agencies or instrumentalities;
- 3.) Deposits in eligible financial institutions;
- 4.) Bonds, notes, or other obligations of the State of Ohio and its political subdivisions;
- 5.) Investment grade corporate bonds (industrial, utility, or financial). Corporate bonds purchased shall be rated not lower than A2 by Moody's or A by S&P at the date of purchase;
- 6.) The State Treasury Asset Reserve of Ohio (STAR Ohio) or such successor investment pools operated or managed by the Treasurer of the State of Ohio; and
- 7.) No-load money market mutual funds consisting exclusively of obligations described in 1 or 2 above.

**Capital assets** – Capital assets are carried at cost. Donated capital assets are recorded at their acquisition values as of the date received. Depreciation is provided on the straight-line basis at rates which are expected to amortize the costs of the assets over their estimated useful lives. The capitalization threshold is \$500. All major classes of depreciable assets have a useful life of three years or greater.

**Unpaid Claim Losses and Unallocated Loss Adjustment Expenses** – Provisions for unpaid claims and claims adjustment expenses are based on information reported by members and are calculated by the Association's actuary. These amounts represent an estimate of reported, unpaid claims, plus a provision for claims incurred but not reported. The Association's management believes the estimate of the liability for unpaid claims is reasonable and supported by valid actuarial calculations; however, actual incurred losses and loss adjustment expenses may not conform to the assumptions inherent in the determination of the liability. Accordingly, the ultimate settlement of losses and related loss adjustment expenses may vary from the estimated amounts included in the accompanying financial statements. Should the provision for unpaid claims not be sufficient, supplemental contributions as discussed above may be assessed subject to Board approval.

**Member Credits** – The bylaws of the Association provide that surplus operating funds may be used to credit future annual contributions at the discretion of the Board of Trustees. For the year ended December 31, 2023, member contributions are presented net of a credit of \$0.

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**

NOTES TO THE BASIC FINANCIAL STATEMENTS  
FOR THE YEAR ENDED DECEMBER 31, 2023

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***Member Dividends*** – Dividends to members generally consist of refunds of the residual cash from closed loss years and refunds from the Shock Loss Fund. No loss years were closed in 2023; however, a dividend of \$1,400,000 was declared from the 2016 Loss Year in December 2023. That loss year will remain open until the final claim is resolved, at which time the remaining balance in the fund will be refunded to the members. Refunds are made to members from the Shock Loss Fund (see Note 6) to the extent the member’s Shock Loss Fund balance exceeds its required balance by greater than forty percent. Such refunds were \$72,132 in 2023.

***Net Position*** – Net position represents the excess of revenues over expenses since inception. It is displayed in three components as follows:

Investment in capital assets consists of capital assets, net of accumulated depreciation.

Restricted consists of net position that is legally restricted by outside parties or by law through constitutional provisions or enabling legislation.

Unrestricted consists of net position that does not meet the definition of “restricted” or “investment in capital assets.”

Under certain conditions, the Association may distribute, as member dividends, all or part of the net position to those members who constituted the self-insurance pool during the years when such surplus member funds were earned, provided that such members must also be members of the Association in the year in which said distribution is made.

In the event of termination of the Association, all members of the Association, past and present, are obligated for any necessary supplemental contributions attributable to the years during which they were members. After all claims and related expenses have been properly paid or reserves established for the payment of any such claims, any surplus member funds shall be distributed to members in proportion to their interest in such surplus member funds.

***Pensions/Other Postemployments Benefits (OPEB)*** – For purposes of measuring the net pension/OPEB liability/asset, deferred outflows of resources and deferred inflows of resources related to pensions/OPEB, and pension/OPEB expense, information about the fiduciary net position of the pension/OPEB plans and additions to and deductions from their fiduciary net position have been determined on the same basis as they are reported by the pension/OPEB plan. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. The pension/OPEB plans report investments at fair value.

***Income taxes*** – The Internal Revenue Service has ruled that premiums and investment income with respect to premium receipts are excluded from taxable income of the Association under Section 115 of the Internal Revenue Code of 1986. Therefore, the Association is not subject to tax.

***Operating Revenues and Expenses*** – Operating revenues are those revenues that are generated directly from primary activities. For the Association, these revenues are primarily member

## MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.

### NOTES TO THE BASIC FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 2023

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contributions and claims deductibles received from members. Operating expenses are the necessary costs incurred to provide the services that are the primary activity. All revenue and expenses not meeting these definitions are reported as non-operating.

**Use of Estimates** – The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America (GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

**Fair Value Measurements** – The Association categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

**Prepaid Items** – Prepaid Items represent expenses which have been paid, but not yet incurred under GAAP. These items are reported as an asset on the statement of net position.

**Deferred Inflows of Resources and Deferred Outflows of Resources** – In addition to assets, the Statement of net position will report a separate section for deferred outflows of resources. Deferred outflows of resources represent a consumption of net assets that applies to a future period and will not be recognized as an outflow of resources (expense) until then. For the Association, see notes 8 and 9 for deferred outflows of resources related to the Associations net pension liability/asset and net OPEB liability/asset, respectively.

In addition to liabilities, the statement of net position will report a separate section for deferred inflows of resources. Deferred inflows of resources represent an acquisition of net assets that applies to a future period and will not be recognized as an inflow of resources (revenue) until that time. For the Association, see notes 8 and 9 for deferred inflows of resources related to the Associations net pension liability/asset and net OPEB liability/asset, respectively.

## NOTE 2 – DEPOSITS AND INVESTMENTS

### *Deposits as of December 31, 2023*

**Custodial Credit Risk** – Custodial credit risk with respect to bank deposits is the potential for loss of the Association’s deposits in the event of the failure of a depository financial institution. Protection of the Association’s cash and deposits is provided by the Federal Deposit Insurance Corporation.

At December 31, 2023, the carrying amount of the Association’s deposits was \$1,308,940. The bank balance was \$1,712,591, and of this amount, \$1,670,509 was insured by federal depository

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**

NOTES TO THE BASIC FINANCIAL STATEMENTS  
FOR THE YEAR ENDED DECEMBER 31, 2023

insurance. Based on the criteria described in GASB Statement No. 40, “Deposit and Investment Risk Disclosures”, \$42,082 of the Association’s bank balance was exposed to custodial risk.

***Investments as of December 31, 2023***

At December 31, 2023, the Association had the following investments:

<u>Investment</u>	<u>Measurement Value</u>	<u>Investment Maturities</u>			
		<u>Less than 6 months</u>	<u>6 mo. to 1 year</u>	<u>1 to 3 years</u>	<u>Greater than 3 years</u>
US Treasury	\$498,531	\$299,250	\$199,281		
FHLB	\$3,569,206	\$496,118		\$2,874,950	\$198,138
FFCB	\$1,660,781			\$949,492	\$711,289
FHLMC	\$1,796,924		\$299,451	\$651,202	\$846,271
FNMA	\$384,422			384,422	
Corporate Bonds	\$6,671,253	\$893,556	1,661,151	\$3,508,463	\$608,083
Government Entities					
Mutual, Inc. (see Note 6)	\$750,000				\$750,000
<b>Total</b>	<b>\$15,331,117</b>	<b>\$1,688,924</b>	<b>\$2,159,883</b>	<b>\$8,368,529</b>	<b>\$3,113,781</b>

The Association’s investments in federal agency securities (FHLB, FFCB, FHLMC & FNMA) and corporate bonds are valued using quoted prices in markets that are not considered to be active, dealer quotations or alternative pricing sources for familiar assets or liabilities for which all significant inputs are observable, either directly or indirectly (Level 2 inputs).

*Interest Rate Risk* – Interest rate risk is the risk that the value of investments will decrease as a result of an increase in interest rates. To limit interest rate risk, the Association’s investment policy limits security purchases to those that mature within seven years of the settlement date.

*Credit Risk* – Credit risk for holders of debt securities is the risk that the debtor will not be able to make its scheduled payments. The Association’s investments in the Federal Home Loan Mortgage Corporation, Federal Home Loan Bank, Federal National Mortgage Association and Federal Farm Credit Bank are rated Aaa by Moody’s and/or AA+ by Standard & Poor’s. The Association’s investment in GEM is not rated. The Association’s investment policy requires corporate bonds, when purchased, to be rated not lower than A2 by Moody’s or A by Standard & Poor’s. As of 12/31/23, all corporate bonds held by the Association met or exceeded these benchmarks.

*Custodial Credit Risk* – For an investment, custodial credit risk is the risk that an investor might be unable to recover the value of an investment in the possession of an outside third party should the counterparty to the investment transaction fail. The Association’s investment in Government Entities Mutual is subject to custodial credit risk. The Association’s investments in debt securities

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NOTES TO THE BASIC FINANCIAL STATEMENTS  
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of FHLB, FNMA, FHLMC, FFCB and the various corporate issuers are either registered in the Association’s name or held in pledge accounts of the custodial financial institutions and the underlying records of the custodial financial institutions support the Association’s claim to the investments; therefore, these investments are considered to be held in the Association’s name and are not subject to custodial credit risk. The Association’s investment policy does not specifically address credit risk beyond restricting the Association to invest only in securities authorized.

*Concentration of Credit Risk* – The Association’s investment policy states “no more than 25% of the total investment portfolio shall be invested with any one eligible financial institution as a time deposit at the time a deposit is made, exclusive of United States Treasury securities, all Federal Agency securities, and STAR Ohio.” Five percent or more of the Association’s investments were in the following at December 31, 2023:

<u>Investment</u>	<u>% as of 12/31/23</u>
Federal Home Loan Bank	23.4%
Federal Farm Credit Bank	10.9%
Federal Home Loan Mortgage Corporation	11.8%

**NOTE 3 – CAPITAL ASSETS**

Capital assets activity for the year ended December 31, 2023, was as follows:

	<u>Balance</u> <u>01/01/23</u>	<u>Additions</u>	<u>Transfers/ Disposals</u>	<u>Balance</u> <u>12/31/23</u>
<b>Capital Assets Being Depreciated:</b>				
Equipment	20,371	2,776		\$23,147
Office Furniture	9,839			\$9,839
Total Property and Equipment	<u>30,210</u>	<u>2,776</u>	<u>0</u>	<u>32,986</u>
<b>Less: Accumulated Depreciation</b>				
Equipment	(11,505)	(3,894)		(\$15,399)
Office Furniture	(9,727)	(109)		(\$9,836)
Total Accumulated Depreciation	<u>(21,232)</u>	<u>(4,003)</u>	<u>0</u>	<u>(25,235)</u>
Total Capital Assets Being Depreciated, net	<u>\$8,978</u>	<u>(\$1,227)</u>	<u>\$0</u>	<u>\$7,751</u>

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**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**

NOTES TO THE BASIC FINANCIAL STATEMENTS  
FOR THE YEAR ENDED DECEMBER 31, 2023

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**NOTE 4 – NONCURRENT LIABILITIES**

Noncurrent liability activity for the year ended December 31, 2023 was as follows:

	<u>Beginning</u> Balance	<u>Additions</u>	<u>Reductions</u>	<u>Ending</u> Balance
Unpaid Claims losses and LAE:				
Due Within One Year	\$1,166,242	\$180,760		\$1,347,002
Due in Greater than One Year	\$1,954,020	\$160,621		\$2,114,641
Net Pension Liability	\$143,818	\$298,396		\$442,214
Net OPEB Liability	\$0	\$11,356		\$11,356

**NOTE 5 – SELF-INSURED RETENTION**

The Association retains responsibility for the payment of claims within specified self-insured retention limits prior to the application of coverage provided by excess insurance and reinsurance contracts. The Association's per-occurrence retention limit for liability claims was \$500,000 and property claims had an all-risk per-occurrence retention limit of \$250,000 in 2023. Boiler and machinery had a per occurrence retention limit from \$25,000 to \$500,000 depending upon boiler size. For every occurrence, the member was charged a deductible equal to the amount of the claim or \$2,500, whichever was less.

**NOTE 6 – INSURANCE AND REINSURANCE CONTRACTS**

The Association maintains insurance and reinsurance contracts with insurance carriers who provide various limits of coverage over the Association's self-insured retention limits. Under the Association's bylaws, the Board of Trustees annually determines the types of insurance/reinsurance to purchase as well as appropriate limits. For the loss year ended December 31, 2023, the Association purchased the following types of insurance/reinsurance in excess of the Association's self-insured retention:

<b><u>Excess Insurance / Reinsurance</u></b>	<b><u>Limits of Coverage</u></b>
General liability (including law enforcement) per occurrence	\$11,500,000
Automobile liability per occurrence	\$11,500,000
Public official liability:	
Per occurrence	\$11,500,000
Per member annual aggregate	\$11,500,000
Employment practices liability:	
Per occurrence	\$11,500,000
Per member annual aggregate	\$11,500,000
Property (excluding flood and earthquake) per occurrence	\$500,000,000
Flood and earthquake property coverage – per occurrence and annual aggregate	\$25,000,000

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In 2023, MVRMA reinsured its liability program with Government Entities Mutual (a protected cell reinsurance captive domiciled in the District of Columbia) for \$6.5 million excess of MVRMA's \$500,000 self-insured retention and with General Reinsurance Corporation for \$5 million excess of \$7 million.

In 1996, the Association established a Shock Loss Fund (SLF) to replace the aggregate stop-loss policy. The Association's members contribute to the SLF based on a moving target equal to the annual contributions to the annual loss fund. The Association's members annually fund approximately 15 percent of the moving target until the balance of the SLF is equivalent to the members' current year's annual loss fund. Once a member has at least the current year's regular loss fund contribution on account in the Association's SLF, it is not required to contribute additionally to the SLF. Any member whose balance falls below its targeted amount is required to contribute the amount needed to reach its targeted amount, or 15 percent of the current annual loss year contribution, whichever is less.

In the event that a series of losses or a single loss should exceed the amount of coverage provided by the self-insurance fund and insurance/reinsurance and any amount of supplemental payments for which members are obligated, then the payment of any uncovered loss is the obligation of the individual member or members against which the claims were made. In the unlikely event that all or any of the insurance companies are unable to meet their obligations under the excess insurance and reinsurance contracts, the Association and its members would be responsible for such defaulted amounts in accordance with the applicable policy terms and conditions.

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**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**

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**NOTE 7 – UNPAID CLAIMS LIABILITY**

As discussed in Note 1, the Association establishes an unpaid claims liability which includes both reported and unreported insured events and estimates of future payment of losses and related claims adjustment expenses. The changes in the aggregate liabilities for the Association are as follows:

	December 31 2023	December 31 2022
Unpaid claims and claim adjustment expenses - Beginning of Year	<u>\$3,120,260</u>	<u>\$4,447,056</u>
Incurred claims and claim adjustment expenses:		
Provision for insured events of the current year	2,349,216	2,106,026
Change in provision for insured events of prior years	(41,062)	(1,828,337)
Total incurred claims and claim adjustment expenses	<u>2,308,154</u>	<u>277,689</u>
Payments:		
Claims and claim adjustment expenses attributable to insured events of the current year	961,137	466,870
Claims and claim adjustment expenses attributable to insured events of prior years	1,005,634	1,137,615
Aggregate Adjustment		
Total Payments	<u>1,966,771</u>	<u>1,604,485</u>
Unpaid claims and claim adjustment expenses - End of Year	<u><u>\$3,461,643</u></u>	<u><u>\$3,120,260</u></u>

**NOTE 8 - DEFINED BENEFIT PENSION PLANS**

The Statewide retirement systems provide both pension benefits and other postemployment benefits (OPEB).

***Net Pension Liability/Asset and Net OPEB Liability***

The net pension liability/asset and the net OPEB liability reported on the statement of net position represents a liability or asset to employees for pensions and OPEB, respectively.

Pensions and OPEB are a component of exchange transactions – between an employer and its employees – of salaries and benefits for employee services. Pensions and OPEB are provided to an employee – on a deferred-payment basis – as part of the total compensation package offered by an employer for employee services each financial period. The

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obligation to sacrifice resources for pensions is a present obligation because it was created as a result of employment exchanges that already have occurred.

The net pension liability/asset and the net OPEB liability represent the Association's proportionate share of each pension/OPEB plan's collective actuarial present value of projected benefit payments attributable to past periods of service, net of each pension/OPEB plan's fiduciary net position. The net pension/OPEB liability/asset calculation is dependent on critical long-term variables, including estimated average life expectancies, earnings on investments, cost-of-living adjustments and others. While these estimates use the best information available, unknowable future events require adjusting this estimate annually.

The Ohio Revised Code limits the Association's obligation for this liability to annually required payments. The Association cannot control benefit terms or the manner in which pensions/OPEB are financed; however, the Association does receive the benefit of employees' services in exchange for compensation including pension and OPEB.

GASB 68/75 assumes the liability/asset is solely the obligation of the employer, because (1) they benefit from employee services; and (2) State statute requires funding to come from these employers. All pension contributions to date have come solely from these employers (which also includes pension costs paid in the form of withholdings from employees). The retirement systems may allocate a portion of the employer contributions to provide for these OPEB benefits. In addition, health care plan enrollees pay a portion of the health care costs in the form of a monthly premium. State statute requires the retirement systems to amortize unfunded pension liabilities within 30 years. If the pension amortization period exceeds 30 years, each retirement system's board must propose corrective action to the State legislature. Any resulting legislative change to benefits or funding could significantly affect the net pension/OPEB liability. Resulting adjustments to the net pension/OPEB liability would be effective when the changes are legally enforceable. The Ohio Revised Code permits, but does not require, the retirement systems to provide health care to eligible benefit recipients.

The proportionate share of each plan's unfunded benefits is presented as a long-term net pension/OPEB liability/asset on the accrual basis of accounting. Any liability for the contractually-required pension/OPEB contribution outstanding at the end of the year is included accounts payable and accrued liability on both the accrual and modified accrual bases of accounting.

The remainder of this note includes the pension disclosures. See Note 9 for the OPEB disclosures.

***Plan Description - Ohio Public Employees Retirement System (OPERS)***

Plan Description - Association employees participate in the Ohio Public Employees Retirement System (OPERS). OPERS is a cost-sharing, multiple employer public employee retirement system which administers three separate pension plans. The

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traditional pension plan is a cost-sharing, multiple-employer defined benefit pension plan. The member-directed plan is a defined contribution plan and the combined plan is a combination cost-sharing, multiple-employer defined benefit/defined contribution pension plan. Participating employers are divided into state, local, law enforcement and public safety divisions. While members in the state and local divisions may participate in all three plans, law enforcement and public safety divisions exist only within the traditional plan.

OPERS provides retirement, disability, survivor and death benefits, and annual cost of living adjustments to members of the traditional and combined plans. Authority to establish and amend benefits is provided by Chapter 145 of the Ohio Revised Code. OPERS issues a stand-alone financial report that includes financial statements, required supplementary information and detailed information about OPERS' fiduciary net position that may be obtained by visiting <https://www.opers.org/financial/reports.shtml>, by writing to the Ohio Public Employees Retirement System, 277 East Town Street, Columbus, Ohio 43215-4642, or by calling 800-222-7377.

Senate Bill (SB) 343 was enacted into law with an effective date of January 7, 2013. In the legislation, members in the traditional and combined plans were categorized into three groups with varying provisions of the law applicable to each group.

The following table provides age and service requirements for retirement and the retirement formula applied to final average salary (FAS) for the three member groups under the traditional and combined plans as per the reduced benefits adopted by SB 343 (see OPERS Annual Comprehensive Financial Report referenced above for additional information, including requirements for reduced and unreduced benefits):

<b>Group A</b> Eligible to retire prior to January 7, 2013 or five years after January 7, 2013	<b>Group B</b> 20 years of service credit prior to January 7, 2013 or eligible to retire ten years after January 7, 2013	<b>Group C</b> Members not in other Groups and members hired on or after January 7, 2013
<b>State and Local</b>	<b>State and Local</b>	<b>State and Local</b>
<b>Age and Service Requirements:</b> Age 60 with 60 months of service credit or Age 55 with 25 years of service credit	<b>Age and Service Requirements:</b> Age 60 with 60 months of service credit or Age 55 with 25 years of service credit	<b>Age and Service Requirements:</b> Age 57 with 25 years of service credit or Age 62 with 5 years of service credit
<b>Traditional Plan Formula:</b> 2.2% of FAS multiplied by years of service for the first 30 years and 2.5% for service years in excess of 30	<b>Traditional Plan Formula:</b> 2.2% of FAS multiplied by years of service for the first 30 years and 2.5% for service years in excess of 30	<b>Traditional Plan Formula:</b> 2.2% of FAS multiplied by years of service for the first 35 years and 2.5% for service years in excess of 35
<b>Combined Plan Formula:</b> 1% of FAS multiplied by years of service for the first 30 years and 1.25% for service years in excess of 30	<b>Combined Plan Formula:</b> 1% of FAS multiplied by years of service for the first 30 years and 1.25% for service years in excess of 30	<b>Combined Plan Formula:</b> 1% of FAS multiplied by years of service for the first 35 years and 1.25% for service years in excess of 35

Final average Salary (FAS) represents the average of the three highest years of earnings over a member's career for Groups A and B. Group C is based on the average of the five highest years of earnings over a member's career.

Members who retire before meeting the age and years of service credit requirement for

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**NOTES TO THE BASIC FINANCIAL STATEMENTS  
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unreduced benefits receive a percentage reduction in the benefit amount. The amount of a member's pension benefit vests upon receipt of the initial benefit payment. The options for Public Safety and Law Enforcement permit early retirement under qualifying circumstances as early as age 48 with a reduced benefit.

When a traditional plan benefit recipient has received benefits for 12 months, the member is eligible for an annual cost of living adjustment (COLA). This COLA is calculated on the base retirement benefit at the date of retirement and is not compounded. Members retiring under the combined plan receive a cost-of-living adjustment on the defined benefit portion of their pension benefit. For those who retired prior to January 7, 2013, the cost-of-living adjustment is 3.00%. For those retiring on or after January 7, 2013, beginning in calendar year 2019, the adjustment is based on the average percentage increase in the Consumer Price Index, capped at 3.00%.

Defined contribution plan benefits are established in the plan documents, which may be amended by the Board. Member-directed plan and combined plan members who have met the retirement eligibility requirements may apply for retirement benefits. The amount available for defined contribution benefits in the combined plan consists of the member's contributions plus or minus the investment gains or losses resulting from the member's investment selections. Combined plan members wishing to receive benefits must meet the requirements for both the defined benefit and defined contribution plans. Member-directed participants must have attained the age of 55, have money on deposit in the defined contribution plan and have terminated public service to apply for retirement benefits. The amount available for defined contribution benefits in the member-directed plan consists of the members' contributions, vested employer contributions and investment gains or losses resulting from the members' investment selections. Employer contributions and associated investment earnings vest over a five-year period, at a rate of 20.00% each year. At retirement, members may select one of several distribution options for payment of the vested balance in their individual OPERS accounts. Options include the annuitization of the benefit (which includes joint and survivor options and will continue to be administered by OPERS), partial lump-sum payments (subject to limitations), a rollover of the vested account balance to another financial institution, receipt of entire account balance, net of taxes withheld, or a combination of these options. When members choose to annuitize their defined contribution benefit, the annuitized portion of the benefit is reclassified to a defined benefit.

Funding Policy - The Ohio Revised Code (ORC) provides statutory authority for member and employer contributions as follows:

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NOTES TO THE BASIC FINANCIAL STATEMENTS  
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	<u>State and Local</u>
	<u>Traditional</u>
<b>2023 Statutory Maximum Contribution Rates</b>	
Employer	14.0 %
Employee *	10.0 %
<b>2023 Actual Contribution Rates</b>	
Employer:	
Pension **	14.0 %
Post-employment Health Care Benefits **	<u>0.0</u>
Total Employer	<u>14.0 %</u>
Employee	<u>10.0 %</u>

\* Member contributions within the combined plan are not used to fund the defined benefit retirement allowance.

\*\* These pension and employer health care rates are for the traditional and combined plans. The employer contributions rate for the member-directed plan is allocated 4 percent for health care with the remainder going to pension; however, effective July 1, 2022, a portion of the health care rate is funded with reserves.

Employer contribution rates are actuarially determined and are expressed as a percentage of covered payroll.

The Association's contractually required contribution for the Traditional Pension Plan and the Member-Directed Plan was \$40,260 for 2023. Of this amount, \$807 is reported as accounts payable and accrued liabilities.

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

The net pension liability and net pension asset for OPERS was measured as of December 31, 2022, and the total pension liability or asset used to calculate the net pension liability or asset was determined by an actuarial valuation as of that date. The Association's proportion of the net pension liability or asset was based on the Association's share of contributions to the pension plan relative to the contributions of all participating entities.

Following is information related to the proportionate share and pension expense:

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	OPERS - Traditional	OPERS Member- Directed	Total
Proportion of the net pension liability/asset prior measurement date	0.00165300%	0.01054700%	
Proportion of the net pension liability/asset current measurement date	<u>0.00149700%</u>	<u>0.00995100%</u>	
Change in proportionate share	<u>-0.00015600%</u>	<u>-0.00059600%</u>	
Proportionate share of the net pension liability	\$ 442,214	\$ -	\$ 442,214
Proportionate share of the net pension asset	-	(778)	(778)
Pension expense	14,183	(75)	14,108

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

	OPERS - Traditional	OPERS Member- Directed	Total
<b>Deferred outflows of resources</b>			
Differences between expected and actual experience	\$ 14,689	\$ 2,230	\$ 16,919
Net difference between projected and actual earnings on pension plan investments	126,043	364	126,407
Changes of assumptions	4,672	51	4,723
Contributions subsequent to the measurement date	33,296	6,964	40,260
Total deferred outflows of resources	<u>\$ 178,700</u>	<u>\$ 9,609</u>	<u>\$ 188,309</u>

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MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.

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	OPERS - Traditional	OPERS - Member- Directed	Total
<b>Deferred inflows of resources</b>			
Changes in employer's proportionate percentage/ difference between employer contributions	\$ 35,697	\$ -	\$ 35,697
Total deferred inflows of resources	<u>\$ 35,697</u>	<u>\$ -</u>	<u>\$ 35,697</u>

\$40,260 reported as deferred outflows of resources related to pension resulting from Association contributions subsequent to the measurement date will be recognized as a reduction of/increase to the net pension liability/asset in the year ending December 31, 2024.

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

	OPERS - Traditional	OPERS - Member- Directed	Total
Year Ending December 31:			
2024	\$ (13,201)	\$ 370	\$ (12,831)
2025	24,064	396	24,460
2026	37,102	411	37,513
2027	61,742	461	62,203
2028	-	261	261
Thereafter	-	746	746
Total	<u>\$ 109,707</u>	<u>\$ 2,645</u>	<u>\$ 112,352</u>

**Actuarial Assumptions - OPERS**

Actuarial valuations of an ongoing plan involve estimates of the values of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and cost trends. Actuarially determined amounts are subject to continual review or modification as actual results are compared with past expectations and new estimates are made about the future.

Projections of benefits for financial-reporting purposes are based on the substantive plan (the plan as understood by the employers and plan members) and include the types of benefits provided at the time of each valuation. The total pension liability was determined by an actuarial valuation as of December 31, 2022, using the following actuarial assumptions applied to all periods included in the measurement in accordance with the

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requirements of GASB 67.

Key methods and assumptions used in the latest actuarial valuation, reflecting experience study results, prepared as of December 31, 2022, compared to the December 31, 2021 actuarial valuation, are presented below.

Wage inflation	
Current measurement date	2.75%
Prior measurement date	2.75%
Future salary increases, including inflation	
Current measurement date	2.75% to 10.75% including wage inflation
Prior measurement date	2.75% to 10.75% including wage inflation
COLA or ad hoc COLA	
Current measurement date	Pre 1/7/2013 retirees: 3.00%, simple Post 1/7/2013 retirees: 3.00%, simple through 2023, then 2.05% simple
Prior measurement date	Pre 1/7/2013 retirees: 3.00%, simple Post 1/7/2013 retirees: 3.00%, simple through 2022, then 2.05% simple
Investment rate of return	
Current measurement date	6.90%
Prior measurement date	6.90%
Actuarial cost method	Individual entry age

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 PubNS-2010 Disabled Retiree 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 scales (males and females) to all of these tables.

The most recent experience study was completed for the five-year period ended December 31, 2020.

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 of 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 all 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



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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.

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 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 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 real rates of return were provided by the Board's investment consultant.

For each major asset class that is included in the Defined Benefit portfolio's target asset allocation as of December 31, 2022, these best estimates are summarized in the following table:

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 %	

**Discount Rate** - The discount rate used to measure the total pension liability/asset was 6.90%, post-experience study results, for the Traditional Pension Plan, the Combined Plan and Member-Directed Plan. The discount rate used to measure total pension liability prior to December 31, 2022 was 6.90%. 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.

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***Sensitivity of the Association’s Proportionate Share of the Net Pension Liability/Asset to Changes in the Discount Rate*** - The following table presents the proportionate share of the net pension liability/asset calculated using the current period discount rate assumption of 6.90%, as well as what the proportionate share of the net pension liability/asset would be if it were calculated using a discount rate that is one-percentage-point lower (5.90%) or one-percentage-point higher (7.90%) than the current rate:

	1% Decrease	Discount Rate	1% Increase
Association's proportionate share of the net pension liability (asset):			
Traditional Pension Plan	\$ 662,423	\$ 442,214	\$ 259,041
Member-Directed Plan	(498)	(778)	(995)

**NOTE 9 - DEFINED BENEFIT OPEB PLANS**

***Net OPEB Liability***

See Note 8 for a description of the net OPEB liability.

***Plan Description - Ohio Public Employees Retirement System (OPERS)***

Plan Description - The Ohio Public Employees Retirement System (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.

OPERS maintains a cost-sharing, multiple-employer defined benefit post-employment health care trust. The 115 Health Care Trust (115 Trust or Health Care Trust) was established in 2014, under Section 115 of the Internal Revenue Code (IRC). The purpose of the 115 Trust is to fund health care for the Traditional Pension, Combined and Member-Directed plans. Medicare-enrolled retirees in the Traditional Pension and Combined plans may have an allowance deposited into a health reimbursement arrangement (HRA) account to be used toward the health care program of their choice selected with the assistance of an OPERS vendor. Non-Medicare retirees have converted to an arrangement similar to the Medicare-enrolled retirees and are no longer participating in OPERS provided self-insured group plans.

With one exception, OPERS-provided health care coverage is neither guaranteed nor statutorily required. Ohio law currently requires Medicare Part A equivalent coverage or Medicare Part A premium reimbursement for eligible retirees and their eligible dependents.

OPERS offers a health reimbursement arrangement (HRA) allowance to traditional pension plan and combined plan benefit recipients meeting certain age and service credit requirements. The HRA is an account funded by OPERS that provides tax free reimbursement for qualified medical expenses such as monthly post-tax insurance

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**

NOTES TO THE BASIC FINANCIAL STATEMENTS  
FOR THE YEAR ENDED DECEMBER 31, 2023

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premiums, deductibles, co-insurance, and co-pays incurred by eligible benefit recipients and their dependents.

OPERS members enrolled in the Traditional Pension Plan or Combined Plan retiring with an effective date of January 1, 2022, or after must meet the following health care eligibility requirements to receive an HRA allowance:

**Medicare Retirees** Medicare-eligible with a minimum of 20 years of qualifying service credit

**Non-Medicare Retirees** Non-Medicare retirees qualify based on the following age-and-service criteria:

*Group A* 30 years of qualifying service credit at any age;

*Group B* 32 years of qualifying service credit at any age or 31 years of qualifying service credit and minimum age 52;

*Group C* 32 years of qualifying service credit and minimum age 55; or,

A retiree from groups A, B or C who qualifies for an unreduced pension, but a portion of their service credit is not health care qualifying service, can still qualify for health care at age 60 if they have at least 20 years of qualifying health care service credit

Retirees who don't meet the requirement for coverage as a non-Medicare participant can become eligible for coverage at age 65 if they have at least 20 years of qualifying service.

Members with a retirement date prior to January 1, 2022 who were eligible to participate in the OPERS health care program will continue to be eligible after January 1, 2022.

Eligible retirees may receive a monthly HRA allowance for reimbursement of health care coverage premiums and other qualified medical expenses. Monthly allowances, based on years of service and the age at which the retiree first enrolled in OPERS coverage, are provided to eligible retirees, and are deposited into their HRA account.

Retirees will have access to the OPERS Connector, which is a relationship with a vendor selected by OPERS to assist retirees participating in the health care program. The OPERS Connector may assist retirees in selecting and enrolling in the appropriate health care plan.

When members become Medicare-eligible, recipients enrolled in OPERS health care programs must enroll in Medicare Part A (hospitalization) and Medicare Part B (medical).

OPERS reimburses retirees who are not eligible for premium-free Medicare Part A (hospitalization) for their Part A premiums as well as any applicable surcharges (late-enrollment fees). Retirees within this group must enroll in Medicare Part A and select

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**

**NOTES TO THE BASIC FINANCIAL STATEMENTS  
FOR THE YEAR ENDED DECEMBER 31, 2023**

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medical coverage, and may select prescription coverage, through the OPERS Connector. OPERS also will reimburse 50.00% of the Medicare Part A premium and any applicable surcharges for eligible spouses. Proof of enrollment in Medicare Part A and confirmation that the retiree is not receiving reimbursement or payment from another source must be submitted. The premium reimbursement is added to the monthly pension benefit.

The health care 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 separation, member directed plan participants may be eligible for reimbursement of qualified medical expenses from their vested RMA balance.

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 Board in Chapter 145 of the Ohio Revised Code.

Disclosures for the health care plan are presented separately in the OPERS 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, Ohio 43215-4642, or by calling (614) 222-5601 or 800-222-7377.

Funding Policy - The Ohio Revised Code provides the statutory authority allowing public employers to fund postemployment health care through their contributions to OPERS. When funding is approved by OPERS Board of Trustees, a portion of each employer's contribution to OPERS is set aside to fund OPERS health care plans. Beginning in 2018, OPERS no longer allocated a portion of its employer contributions to health care for the traditional plan.

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 14.00% of earnable salary and public safety and law enforcement employers contributed at 18.10%. These are the maximum employer contribution rates permitted by the Ohio Revised Code. Active member contributions do not fund health care.

Each year, the OPERS Board determines the portion of the employer contribution rate that will be set aside to fund health care plans. For 2023, OPERS did not allocate any employer contribution to health care for members in the Traditional Pension Plan and beginning July 1, 2022, there was a 2.00% allocation to health care for the Combined Plan. 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 into the RMA for participants in the member-directed plan for 2023 was 4.00%; however, effective July 1, 2022, a portion of the health care rate was funded with reserves.

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**

NOTES TO THE BASIC FINANCIAL STATEMENTS  
FOR THE YEAR ENDED DECEMBER 31, 2023

Employer contribution rates are actuarially determined and are expressed as a percentage of covered payroll. The Association's contractually required contribution was \$2,786 for 2023. Of this amount, \$56 is reported as accounts payable and accrued liabilities.

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

The net OPEB liability and total OPEB liability for OPERS were determined by an actuarial valuation as of December 31, 2021, rolled forward to the measurement date of December 31, 2022, by incorporating the expected value of health care cost accruals, the actual health care payment, and interest accruals during the year. The Association's proportion of the net OPEB liability was based on the Association's share of contributions to the retirement plan relative to the contributions of all participating entities.

Following is information related to the proportionate share and OPEB expense:

	<u>OPERS</u>
Proportion of the net OPEB liability/asset prior measurement date	0.00196300%
Proportion of the net OPEB liability current measurement date	<u>0.00180100%</u>
Change in proportionate share	<u>-0.00016200%</u>
Proportionate share of the net OPEB liability	\$ 11,356
OPEB expense	(21,232)

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MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.

NOTES TO THE BASIC FINANCIAL STATEMENTS  
FOR THE YEAR ENDED DECEMBER 31, 2023

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

	<u>OPERS</u>
<b>Deferred outflows of resources</b>	
Net difference between projected and actual earnings on OPEB plan investments	\$ 22,554
Changes of assumptions	11,091
Changes in employer's proportionate percentage/ difference between employer contributions	1,234
Contributions subsequent to the measurement date	2,786
Total deferred outflows of resources	<u>\$ 37,665</u>

	<u>OPERS</u>
<b>Deferred inflows of resources</b>	
Differences between expected and actual experience	\$ 2,832
Changes of assumptions	912
Changes in employer's proportionate percentage/ difference between employer contributions	2,426
Total deferred inflows of resources	<u>\$ 6,170</u>

\$2,786 reported as deferred outflows of resources related to OPEB resulting from Association contributions subsequent to the measurement date will be recognized as a reduction of/increase to the net OPEB liability in the year ending December 31, 2024.

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**

NOTES TO THE BASIC FINANCIAL STATEMENTS  
FOR THE YEAR ENDED DECEMBER 31, 2023

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

	<u>OPERS</u>
Year Ending December 31:	
2024	\$ 2,067
2025	8,716
2026	7,033
2027	<u>10,893</u>
Total	<u>\$ 28,709</u>

***Actuarial Assumptions - OPERS***

Actuarial valuations of an ongoing plan involve estimates of the values of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality, and cost trends. Actuarially determined amounts are subject to continual review or modification as actual results are compared with past expectations and new estimates are made about the future.

Projections of health care costs for financial reporting purposes are based on the substantive plan (the plan as understood by the employers and plan members) and include the types of coverage provided at the time of each valuation and the historical pattern of sharing of costs between OPERS and plan members. 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.

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**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**

NOTES TO THE BASIC FINANCIAL STATEMENTS  
FOR THE YEAR ENDED DECEMBER 31, 2023

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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:

Wage Inflation	
Current measurement date	2.75%
Prior Measurement date	2.75%
Projected Salary Increases, including inflation	
Current measurement date	2.75 to 10.75%
	including wage inflation
Prior Measurement date	2.75 to 10.75%
	including wage inflation
Single Discount Rate:	
Current measurement date	5.22%
Prior Measurement date	6.00%
Investment Rate of Return	
Current measurement date	6.00%
Prior Measurement date	6.00%
Municipal Bond Rate	
Current measurement date	4.05%
Prior Measurement date	1.84%
Health Care Cost Trend Rate	
Current measurement date	5.50% initial, 3.50% ultimate in 2036
Prior Measurement date	5.50% initial, 3.50% ultimate in 2034
Actuarial Cost Method	Individual Entry Age Normal

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 PubNS-2010 Disabled Retiree 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 scales (males and females) to all of these tables.

The most recent experience study was completed for the five-year period ended December 31, 2020.



**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**

NOTES TO THE BASIC FINANCIAL STATEMENTS  
FOR THE YEAR ENDED DECEMBER 31, 2023

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.

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 benefit pension plans. Health care is a discretionary benefit. 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 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 real rates of return were provided by the Board's investment consultant.

For each major asset class that is included in the Health Care's portfolio's target asset allocation as of December 31, 2022, these best estimates are summarized in the following table:

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 Investment Trusts (REITs)	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 %	

**Discount Rate** - 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

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**

NOTES TO THE BASIC FINANCIAL STATEMENTS  
FOR THE YEAR ENDED DECEMBER 31, 2023

(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) a 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 the actuarial assumed 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 the year 2054. As a result, the actuarial assumed 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.

***Sensitivity of the Association’s Proportionate Share of the Net OPEB Liability to Changes in the Discount Rate*** - The following table presents the proportionate share of the net OPEB liability calculated using the single discount rate of 5.22%, as well as what the proportionate share of the net OPEB liability would be if it were calculated using a discount rate that is one-percentage-point lower (4.22%) or one-percentage-point higher (6.22%) than the current rate:

	1% Decrease	Current Discount Rate	1% Increase
Association's proportionate share of the net OPEB liability/(asset)	\$ 38,649	\$ 11,356	\$ (11,166)

***Sensitivity of the Association’s Proportionate Share of the Net OPEB Liability to Changes in the Health Care Cost Trend Rate*** - Changes in the health care cost trend rate may also have a significant impact on the net OPEB liability. The following table presents the net OPEB liability calculated using the assumed trend rates, and the expected net OPEB liability if it were calculated using a health care cost trend rate that is 1.00% lower or 1.00% higher than the current rate.

Retiree health care valuations use a health care cost trend assumption with changes over several years built into that 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 the health care 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.

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**

**NOTES TO THE BASIC FINANCIAL STATEMENTS  
FOR THE YEAR ENDED DECEMBER 31, 2023**

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	<u>1% Decrease</u>	<u>Current Health Care Trend Rate Assumption</u>	<u>1% Increase</u>
Association's proportionate share of the net OPEB liability	\$ 10,644	\$ 11,356	\$ 12,157

**NOTE 10 – LITIGATION AND CLAIMS**

The Association is party to various legal proceedings, which normally occur in the course of claims processing operations. Management believes that the outcome of such claims has been adequately accrued in the claims reserve liability, and excess will be covered by insurance carriers that provide excess insurance and reinsurance contracts. Nevertheless, due to uncertainties in the settlement process, it is at least reasonably possible that management's view of the outcome could change materially in the near term.

**REQUIRED SUPPLEMENTARY INFORMATION**

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**  
**REQUIRED SUPPLEMENTARY INFORMATION**  
COMPARATIVE SCHEDULE OF CLAIM DEVELOPMENT, EARNED ASSESSMENTS AND UNALLOCATED EXPENSES  
FOR THE YEARS ENDED DECEMBER 31, 2023, 2022, 2021, 2020, 2019, 2018, 2017, 2016, 2015 AND 2014

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Earned assessments and interest income:										
Earned	\$7,175,714	\$5,507,632	\$5,237,654	\$5,539,875	\$5,167,149	\$4,551,986	\$4,487,270	\$4,243,039	\$4,223,535	\$4,908,192
Ceded	2,750,180	2,362,508	1,808,446	1,473,388	1,125,633	988,162	947,406	864,407	885,468	878,317
Net	\$4,425,534	\$3,145,124	\$3,429,208	\$4,066,487	\$4,041,516	\$3,563,824	\$3,539,864	\$3,378,632	\$3,338,067	\$4,029,875
Unallocated loss expenses	\$925,260	\$631,270	\$885,455	\$854,427	\$987,998	\$881,436	\$835,464	\$826,140	\$758,871	\$757,719
Original estimates ultimate incurred claims and expenses for the policy year, including members' deductibles	\$2,645,000	\$2,461,000	\$2,623,000	\$1,970,000	\$1,893,000	\$2,051,000	\$2,055,000	\$1,413,000	\$1,459,000	\$2,771,000
Cummulative incurred claims, net of reinsurance, including members' deductibles, as of:										
End of policy year	\$1,718,751	\$1,296,798	\$1,395,759	\$345,736	\$768,547	\$960,849	\$643,802	\$577,160	\$626,239	\$1,480,995
One year later		2,016,138	1,308,088	1,453,639	1,025,943	938,593	1,115,953	998,670	947,321	1,626,822
Two years later			1,497,625	1,782,472	1,336,955	1,149,365	1,234,883	1,090,294	1,018,542	2,228,715
Three years later				1,852,572	1,456,056	1,524,356	1,200,098	1,143,625	1,049,615	2,217,389
Four years later					1,847,112	1,380,781	1,214,608	1,297,611	1,059,615	2,237,389
Five years later						1,365,781	1,214,608	1,346,174	1,056,165	2,207,066
Six years later							1,214,608	1,294,423	1,056,165	2,025,685
Seven years later								1,346,023	1,056,165	2,025,685
Eight years later									1,056,165	2,025,685
Nine years later										2,025,685
Re-estimated ultimate incurred claims and expenses, including members' deductibles:										
End of policy year	\$2,645,000	\$2,461,000	\$2,623,000	\$1,970,000	\$1,893,000	\$2,051,000	\$2,055,000	\$1,413,000	\$1,459,000	\$2,771,000
One year later		2,755,000	1,849,000	2,440,000	1,778,000	1,649,419	1,827,000	1,769,000	1,502,478	2,334,000
Two years later			1,708,307	2,002,816	1,796,000	1,482,656	1,621,901	1,475,758	1,277,747	2,637,033
Three years later				1,897,911	1,575,639	1,718,312	1,433,233	1,384,103	1,223,584	2,417,033
Four years later					1,449,779	1,424,866	1,214,595	1,369,103	1,133,584	2,327,033
Five years later						1,387,187	1,214,595	1,440,103	1,047,759	2,227,033
Six years later							1,214,595	1,318,103	1,047,759	2,192,900
Seven years later								1,365,103	1,047,759	2,192,900
Eight years later									1,047,759	2,192,900
Nine years later										2,192,900
Increase (decrease) in estimate incurred claims and expenses from original estimate		\$294,000	(\$914,693)	(\$72,089)	(\$443,221)	(\$663,813)	(\$840,405)	(\$47,897)	(\$411,241)	(\$578,100)

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.**

## Reconciliation of Claim Liabilities by Type of Contract

For the Year Ended December 31, 2023

	General Liability	Automobile Liability	Property	Total
Unpaid claims and claim adjustment expenses - Beginning of Year - including Aggregate Adjustment	\$2,288,295	\$303,001	\$528,964	\$3,120,260
Incurred claims and claim adjustment expenses:				
Provision for insured events of the current year	1,180,597	77,606	1,091,013	\$2,349,216
Change in provision for insured events of prior years	-281,115	-37,821	277,874	-41,062
Total incurred claims and claim adjustment expenses	899,482	39,785	1,368,887	2,308,154
Payments:				
Claims and claim adjustment expenses attributable to insured events of the current year	368,777	13,013	579,347	\$961,137
Claims and claim adjustment expenses attributable to insured events of prior years	386,244	41,856	577,534	1,005,634
Total Payments	755,021	54,869	1,156,881	1,966,771
Unpaid claims and claim adjustment expenses - End of Year	\$2,432,756	\$287,917	\$740,970	\$3,461,643

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION**

SCHEDULES OF THE REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULE OF THE ASSOCIATION'S PROPORTIONATE SHARE OF  
THE NET PENSION LIABILITY/NET PENSION ASSET  
OHIO PUBLIC EMPLOYEES RETIREMENT SYSTEM (OPERS)

LAST TEN YEARS (1)

	<b>2023</b>	<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
<i>Traditional Plan:</i>										
Association's proportion of the net pension liability	0.001497%	0.001653%	0.002183%	0.002123%	0.002082%	0.002069%	0.002152%	0.002093%	0.002411%	0.002411%
Association's proportionate share of the net pension liability	\$ 442,214	\$ 143,818	\$ 323,255	\$ 419,625	\$ 570,218	\$ 324,586	\$ 488,683	\$ 362,534	\$ 289,865	\$ 283,973
Association's covered payroll	\$ 231,629	\$ 231,679	\$ 262,950	\$ 346,736	\$ 281,800	\$ 273,031	\$ 266,575	\$ 285,853	\$ 301,763	\$ 337,396
Association's proportionate share of the net pension liability as a percentage of its covered payroll	190.91%	62.08%	122.93%	121.02%	202.35%	118.88%	183.32%	126.83%	96.06%	84.17%
Plan fiduciary net position as a percentage of the total pension liability	75.74%	92.62%	86.88%	82.17%	74.70%	84.66%	77.25%	81.08%	86.45%	86.36%
<i>Member Directed Plan:</i>										
Association's proportion of the net pension asset	0.009951%	0.010547%	0.010733%	0.010668%	0.009958%	0.010132%	0.011055%	0.010468%		
Association's proportionate share of the net pension asset	\$ 778	\$ 1,915	\$ 1,957	\$ 403	\$ 227	\$ 354	\$ 46	\$ 40		
Association's covered payroll	\$ 67,720	\$ 66,120	\$ 64,460	\$ 63,410	\$ 56,920	\$ 55,540	\$ 57,389	\$ 73,642		
Association's proportionate share of the net pension asset as a percentage of its covered payroll	1.15%	2.90%	3.04%	0.64%	40.00%	0.64%	0.08%	0.05%		
Plan fiduciary net position as a percentage of the total pension asset	126.74%	171.84%	188.21%	118.84%	113.42%	124.45%	103.40%	103.91%		

(1) Information prior to 2016 was unavailable for the Member Directed Plan.  
Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Amounts presented for each year were determined as of the Association's measurement date which is the prior year-end.

SEE ACCOMPANYING NOTES TO THE REQUIRED SUPPLEMENTARY INFORMATION

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION**

SCHEDULES OF THE REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULE OF ASSOCIATION PENSION CONTRIBUTIONS  
OHIO PUBLIC EMPLOYEES RETIREMENT SYSTEM (OPERS)

LAST TEN YEARS (1)

	<u>2023</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
<i>Traditional Plan:</i>										
Contractually required contribution	\$ 33,296	\$ 32,428	\$ 32,435	\$ 36,813	\$ 48,543	\$ 39,452	\$ 35,494	\$ 31,989	\$ 34,302	\$ 36,212
Contributions in relation to the contractually required contribution	(33,296)	(32,428)	(32,435)	(36,813)	(48,543)	(39,452)	(35,494)	(31,989)	(34,302)	(36,212)
Contribution deficiency (excess)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Association's covered payroll	\$ 237,829	\$ 231,629	\$ 231,679	\$ 262,950	\$ 346,736	\$ 303,480	\$ 295,779	\$ 266,579	\$ 285,854	\$ 278,552
Contributions as a percentage of covered payroll	14.00%	14.00%	14.00%	14.00%	14.00%	13.00%	12.00%	12.00%	12.00%	13.00%
<i>Member Directed Plan:</i>										
Contractually required contribution	\$ 6,964	\$ 6,772	\$ 6,612	\$ 6,446	\$ 6,341	\$ 5,692	\$ 5,554	\$ 5,452	\$ 6,996	
Contributions in relation to the contractually required contribution	(6,964)	(6,772)	(6,612)	(6,446)	(6,341)	(5,692)	(5,554)	(5,452)	(6,996)	
Contribution deficiency (excess)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Association's covered payroll	\$ 69,640	\$ 67,720	\$ 66,120	\$ 64,460	\$ 63,410	\$ 56,920	\$ 58,463	\$ 57,389	\$ 73,642	
Contributions as a percentage of covered payroll	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	9.50%	9.50%	9.50%	

(1) Information prior to 2015 was unavailable for the Member Directed Plan.

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

SEE ACCOMPANYING NOTES TO THE REQUIRED SUPPLEMENTARY INFORMATION



**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION**

SCHEDULES OF THE REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULE OF THE ASSOCIATION'S PROPORTIONATE SHARE OF  
THE NET OPEB LIABILITY/ASSET  
OHIO PUBLIC EMPLOYEES RETIREMENT SYSTEM (OPERS)

LAST SEVEN YEARS (1)

	<u>2023</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>
Association's proportion of the net OPEB liability	0.001801%	0.001963%	0.002459%	0.002397%	0.002331%	0.002320%	0.002420%
Association's proportionate share of the net OPEB (asset) liability	\$ 11,356	\$ (61,484)	\$ (43,809)	\$ 331,088	\$ 303,907	\$ 251,935	\$ 244,379
Association's covered payroll	\$ 299,349	\$ 297,799	\$ 327,410	\$ 410,146	\$ 338,720	\$ 328,571	\$ 323,964
Association's proportionate share of the net OPEB asset/liability as a percentage of its covered payroll	3.79%	20.65%	13.38%	80.72%	89.72%	76.68%	75.43%
Plan fiduciary net position as a percentage of the total OPEB asset/liability	94.79%	128.23%	115.57%	47.80%	46.33%	54.14%	54.05%

(1) Information prior to 2017 was unavailable.

Schedule is intended to show information for 10 years.

Additional years will be displayed as they become available.

SEE ACCOMPANYING NOTES TO THE REQUIRED SUPPLEMENTARY INFORMATION

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION**

SCHEDULES OF THE REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULE OF ASSOCIATION OPEB CONTRIBUTIONS  
OHIO PUBLIC EMPLOYEES RETIREMENT SYSTEM (OPERS)

LAST TEN YEARS

	<u>2023</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Contractually required contribution	\$ 2,786	\$ 2,709	\$ 2,645	\$ 2,578	\$ 2,537	\$ 2,277	\$ 4,951	\$ 7,913	\$ 6,157	\$ 6,116
Contributions in relation to the contractually required contribution	<u>(2,786)</u>	<u>(2,709)</u>	<u>(2,645)</u>	<u>(2,578)</u>	<u>(2,537)</u>	<u>(2,277)</u>	<u>(4,951)</u>	<u>(7,913)</u>	<u>(6,157)</u>	<u>(6,116)</u>
Contribution deficiency (excess)	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
Association's covered payroll	\$ 307,469	\$ 299,349	\$ 297,799	\$ 327,410	\$ 410,146	\$ 360,400	\$ 354,242	\$ 323,968	\$ 359,496	\$ 278,552
Contributions as a percentage of covered payroll	0.91%	0.90%	0.89%	0.79%	0.62%	0.63%	1.40%	2.44%	1.71%	2.20%

SEE ACCOMPANYING NOTES TO THE REQUIRED SUPPLEMENTARY INFORMATION

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION**

**NOTES TO THE REQUIRED SUPPLEMENTARY INFORMATION  
FOR THE YEAR ENDED DECEMBER 31, 2023**

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**PENSION**

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*OHIO PUBLIC EMPLOYEES RETIREMENT SYSTEM (OPERS)*

*Changes in benefit terms :*

- There were no changes in benefit terms from the amounts reported for 2014.
- There were no changes in benefit terms from the amounts reported for 2015.
- There were no changes in benefit terms from the amounts reported for 2016.
- There were no changes in benefit terms from the amounts reported for 2017.
- There were no changes in benefit terms from the amounts reported for 2018.
- There were no changes in benefit terms from the amounts reported for 2019.
- There were no changes in benefit terms from the amounts reported for 2020.
- There were no changes in benefit terms from the amounts reported for 2021.
- There were no changes in benefit terms from the amounts reported for 2022.
- There were no changes in benefit terms from the amounts reported for 2023.

*Changes in assumptions :*

- There were no changes in assumptions for 2014.
- There were no changes in assumptions for 2015.
- There were no changes in assumptions for 2016.
- For 2017, the following were the most significant changes of assumptions that affected the total pension liability since the prior measurement date: (a) reduction in the actuarially assumed rate of return from 8.00% down to 7.50%, (b) for defined benefit investments, decreasing the wage inflation from 3.75% to 3.25% and (c) changing the future salary increases from a range of 4.25%-10.05% to 3.25%-10.75%.
- There were no changes in assumptions for 2018.
- For 2019, the following were the most significant changes of assumptions that affected the total pension liability since the prior measurement date: (a) the assumed rate of return and discount rate were reduced from 7.50% down to 7.20%.
- There were no changes in assumptions for 2020.
- There were no changes in assumptions for 2021.
- For 2022, the following were the most significant changes of assumptions that affected the total pension liability since the prior measurement date: (a) wage inflation was changed from 3.25% to 2.75%, (b) future salary increases, including inflation were changed from 3.25%-10.75% to 2.75%-10.75%, (c) COLA for post 1/7/2013 retirees were changed from 0.50%, simple through 2021, then 2.15% simple to 3.00%, simple through 2022, then 2.05% simple and (d) the actuarially assumed rate of return was changed from 7.20% to 6.90%.
- There were no changes in assumptions for 2023.

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION**

NOTES TO THE REQUIRED SUPPLEMENTARY INFORMATION (CONTINUED)  
FOR THE YEAR ENDED DECEMBER 31, 2023

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OTHER POSTEMPLOYMENT BENEFITS (OPEB)

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*OHIO PUBLIC EMPLOYEES RETIREMENT SYSTEM (OPERS)*

*Changes in benefit terms :*

- There were no changes in benefit terms from the amounts reported for 2017.
- There were no changes in benefit terms from the amounts reported for 2018.
- There were no changes in benefit terms from the amounts reported for 2019.
- There were no changes in benefit terms from the amounts reported for 2020.
- For 2021, the following were the most significant changes in benefit terms since the prior measurement date: the Board approved several changes to the health care plan offered to Medicare and non-Medicare retirees in efforts to decrease costs and increase the solvency of the health care Plan. These changes are effective January 1, 2022 and include changes to base allowances and eligibility for Medicare retirees, as well as replacing OPERS-sponsored medical plans for non-Medicare retirees with monthly allowances, similar to the program for Medicare retirees. These changes are reflected in the December 31, 2020 measurement date health care valuation. These changes significantly decreased the total OPEB liability for the measurement date December 31, 2020.
- There were no changes in benefit terms from the amounts reported for 2022.
- There were no changes in benefit terms from the amounts reported for 2023.

*Changes in assumptions :*

- There were no changes in methods and assumptions used in the calculation of actuarial determined contributions for 2017.
- For 2018, the following were the most significant changes of assumptions that affected the total OPEB liability since the prior measurement date: (a) reduction in the actuarially assumed rate of return from 4.23% down to 3.85%.
- For 2019, the following were the most significant changes of assumptions that affect the total OPEB liability since the prior measurement date: (a) the discount rate was increased from 3.85% up to 3.96%, (b) The investment rate of return was decreased from 6.50% percent down to 6.00%, (c) the municipal bond rate was increased from 3.31% up to 3.71% and (d) the health care cost trend rate was increased from 7.50%, initial/3.25%, ultimate in 2028 up to 10.00%, initial/3.25% ultimate in 2029.
- For 2020, the following were the most significant changes of assumptions that affect the total OPEB liability since the prior measurement date: (a) the discount rate was decreased from 3.96% up to 3.16%, (b) the municipal bond rate was decreased from 3.71% up to 2.75% and (c) the health care cost trend rate was increased from 10.50%, initial/3.25%, ultimate in 2029 up to 10.50%, initial/3.50% ultimate in 2030.
- For 2021, the following were the most significant changes of assumptions that affect the total OPEB liability since the prior measurement date: (a) the discount rate was increased from 3.16% up to 6.00%, (b) the municipal bond rate was decreased from 2.75% up to 2.00% and (c) the health care cost trend rate was decreased from 10.50%, initial/3.50%, ultimate in 2030 down to 8.50%, initial/3.50% ultimate in 2035.
- For 2022, the following were the most significant changes of assumptions that affect the total OPEB liability since the prior measurement date: (a) wage inflation changed from 3.25% to 2.75%, (b) projected salary increases, including inflation changed from 3.25%-10.75% to 2.75%-10.75%, (c) the municipal bond rate was changed from 2.00% to 1.84% and (d) the health care cost trend rate was changed from 8.50% initial, 3.50% ultimate in 2035 to 5.50% initial, 3.50% ultimate in 2034.

- For 2023, the following were the most significant changes of assumptions that affect the total OPEB liability since the prior measurement date: (a) the single discount rate changed from 6.00% to 5.22%, (b) the municipal bond rate was changed from 1.84% to 4.05% and (c) the health care cost trend rate was changed from 5.50% initial, 3.50% ultimate in 2034 to 5.50% initial, 3.50% ultimate in 2036.

# STATISTICAL SECTION

Miami Valley Risk Management Association  
Statistical Section  
December 31, 2023

This section of Miami Valley Risk Management's annual comprehensive financial report provides users with additional historical perspective, context, and detail to assist in using the information in the financial statements, notes to financial statements and required supplementary information to understand and assess the Association's overall financial health.

<u>Contents</u>	<u>Page</u>
Financial Trends Information (Schedules 1, 2 & 3) These schedules contain trend information to help the reader understand and assess how the Association's financial position has changed over time.	54-56
Revenue Capacity Information (Schedule 4) This schedule contains information to help the reader understand the sources of the Association's revenues.	57
Demographic and Economic Information (Schedules 5-28) These schedules contain information related to the demographics of the region as well as the Association's members' exposures, which determine each member's annual contribution. These schedules are intended to assist the reader in understanding the changing environment of the Association and to provide comparisons among its members.	58-85
Operating Information (Schedule 29) This schedule contains information about the Association's operations and resources to help the reader understand how the information in the financial report relates to the services the Association provides and the activities it performs.	86

Note: The Association has no debt, and therefore, provides no schedules related to debt.

Sources: Unless otherwise noted, the information in these schedules is derived from the audited annual financial statements for the relevant year.

Miami Valley Risk Management Association  
 Net Position by Component  
 Last Ten Years

Schedule 1

Year Ended December 31

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Invested in capital assets	\$ 11,747	\$ 8,756	\$ 6,395	\$ 2,839	\$ 3,890	\$ 5,051	\$ 1,544	\$ 5,058	\$ 8,978	\$ 7,751
Restricted	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 778
Unrestricted	\$ 11,275,275	\$ 10,575,137	\$ 11,187,936	\$ 10,274,966	\$ 8,382,738	\$ 10,325,620	\$ 9,250,682	\$ 7,598,631	\$ 9,269,697	\$ 8,772,159
Total Net Position	\$ 11,287,022	\$ 10,583,893	\$ 11,194,331	\$ 10,277,805	\$ 8,386,628	\$ 10,330,671	\$ 9,252,226	\$ 7,603,689	\$ 9,278,675	\$ 8,780,688

Note: Accounting standards require that net position be reported in three components in the financial statements: invested in capital assets net of related debt, restricted and unrestricted. The Association does not have any assets "restricted" by outside parties or by law through constitutional provisions or enabling legislation. The "unrestricted" assets are assets that do not meet the definition of "restricted" or "invested in capital assets net of related debt."

Source: Audited Financial Statements for the years 2014-2023



Miami Valley Risk Management Association  
Changes in Net Position  
Last Ten Years

Schedule 2

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
<b>EXPENSES:</b>										
Claim expenses										
Incurring claims and claim adjustment expenses	\$1,892,603	\$651,209	\$1,890,342	\$1,984,627	\$1,298,832	\$1,011,172	\$1,431,084	\$2,467,648	\$827,856	\$2,526,129
Reinsurance/insurance premiums	878,317	885,468	864,407	947,406	988,162	1,125,633	1,473,388	1,808,446	2,362,508	2,750,180
<b>Total claim expense</b>	<b>2,770,920</b>	<b>1,536,677</b>	<b>2,754,749</b>	<b>2,932,033</b>	<b>2,286,994</b>	<b>2,136,805</b>	<b>2,904,472</b>	<b>4,276,094</b>	<b>3,190,364</b>	<b>5,276,309</b>
<b>Total general and administrative expenses</b>	<b>757,719</b>	<b>758,871</b>	<b>826,140</b>	<b>835,464</b>	<b>881,436</b>	<b>987,998</b>	<b>854,427</b>	<b>885,455</b>	<b>631,270</b>	<b>925,260</b>
<b>Total operating expenses</b>	<b>3,528,639</b>	<b>2,295,548</b>	<b>3,580,889</b>	<b>3,767,497</b>	<b>3,168,430</b>	<b>3,124,803</b>	<b>3,758,899</b>	<b>5,161,549</b>	<b>3,821,634</b>	<b>6,201,569</b>
<b>REVENUES:</b>										
Operating revenues										
Members' contributions	4,173,334	4,208,593	4,211,279	4,039,646	4,124,647	4,215,860	4,807,293	4,991,737	6,057,009	6,272,187
Claim deductibles	251,166	214,597	188,899	229,033	205,147	197,056	188,172	270,126	252,400	131,995
Other	37,437	39,109	93,488	35,770	48,670	111,011	19,323	154,854	57,944	57,609
<b>Total operating revenues</b>	<b>4,461,937</b>	<b>4,462,299</b>	<b>4,493,666</b>	<b>4,304,449</b>	<b>4,378,464</b>	<b>4,523,927</b>	<b>5,014,788</b>	<b>5,416,717</b>	<b>6,367,353</b>	<b>6,461,791</b>
Non-operating revenues (expense)										
Gain/Loss on disposal of capital assets	-	166	(304)	-	-	176	-	-	-	-
Interest income	119,888	151,016	201,828	245,259	245,073	265,620	228,822	191,594	203,178	318,964
Gain/loss on investment	326,367	(389,946)	(452,151)	(62,438)	(71,551)	377,426	296,265	(370,657)	(1,062,899)	394,959
Members' dividends	(1,325,803)	(2,389,527)	(51,712)	(1,636,299)	(3,035,305)	(98,303)	(2,859,421)	(1,724,642)	(11,012)	(1,472,132)
<b>Total non-operating revenues</b>	<b>(879,548)</b>	<b>(2,628,291)</b>	<b>(302,339)</b>	<b>(1,453,478)</b>	<b>(2,861,783)</b>	<b>544,919</b>	<b>(2,334,334)</b>	<b>(1,903,705)</b>	<b>(870,733)</b>	<b>(758,209)</b>
<b>Total revenues</b>										
<b>CHANGES IN NET POSITION:</b>										
Increase (decrease) in net position	53,750	(461,540)	610,438	(916,526)	(1,651,749)	1,944,043	(1,078,445)	(1,648,537)	1,674,986	(497,987)

Source: Audited Financial Statements for the years 2014-2023

**Miami Valley Risk Management Association**  
**Loss Development Report-Comparison of Dollar Losses and Claims Counts by Loss Year - As of December 31, 2023**  
**Last 10 Years**

Schedule 3

Loss Experience After:	12 Months	24 Months	36 Months	48 Months	60 Months	72 Months	84 Months	96 Months	108 Months	120 Months		
Loss Year/Member's Loss Fund Contribution	Total amount incurred followed by number of claims/open claims (1)										Balance in Loss Fund 12/31/23	Paid to Date 12/31/23
<b>Loss Year 26 12/31/13-12/31/14</b> <b>20 Member Cities</b>	\$1,480,995 (395/46)	\$1,626,822 (421/8)	\$2,228,715 (422/3)	\$2,217,389 (422/2)	\$2,237,389 (422/2)	\$2,207,066 (422/0)	\$2,025,685 (422/0)	\$2,025,685 (422/0)	\$2,025,685 (422/0)	\$2,025,685 (422/0)	\$0 (LY Closed)	\$2,025,685
<b>Loss Year 27 12/31/14-12/31/15</b> <b>20 Member Cities</b>	\$626,239 (344/53)	\$947,321 (364/7)	\$1,018,542 (369/3)	\$1,049,615 (369/1)	\$1,059,615 (369/1)	\$1,056,165 (369/0)	\$1,056,165 (369/0)	\$1,056,165 (369/0)	\$1,056,165 (369/0)		\$0 (LY Closed)	\$1,056,165
<b>Loss Year 28 12/31/15-12/31/16</b> <b>20 Member Cities</b>	\$577,160 (349/56)	\$998,670 (386/11)	\$1,090,294 (389/8)	\$1,143,625 (390/5)	\$1,297,611 (390/3)	\$1,346,175 (390/3)	\$1,294,423 (390/1)	\$1,346,023 (390/1)			\$352,355	\$1,314,143
<b>Loss Year 29 12/31/16-12/31/17</b> <b>20 Member Cities</b>	\$643,802 (352/74)	\$1,115,953 (374/10)	\$1,234,883 (376/4)	\$1,200,098 (377/2)	\$1,214,608 (377/0)	\$1,214,608 (377/0)	\$1,214,608 (377/0)				\$0 (LY Closed)	\$1,214,608
<b>Loss Year 30 12/31/17-12/31/18</b> <b>20 Member Cities</b>	\$960,849 (370/78)	\$938,593 (413/9)	\$1,149,365 (415/6)	\$1,524,356 (415/4)	\$1,380,781 (416/1)	\$1,365,781 (417/2)					\$1,414,413	\$1,325,955
<b>Loss Year 31 12/31/18-12/31/19</b> <b>20 Member Cities</b>	\$768,547 (279/46)	\$1,025,943 (304/10)	\$1,336,955 (310/13)	\$1,456,056 (310/7)	\$1,847,112 (311/3)						\$1,277,227	\$1,800,263
<b>Loss Year 32 12/31/19-12/31/20</b> <b>21 Member Cities</b>	\$345,736 (235/56)	\$1,453,639 (259/32)	\$1,782,472 (261/2)	\$1,852,572 (261/2)							\$1,304,930	\$1,793,488
<b>Loss Year 32 12/31/20-12/31/21</b> <b>21 Member Cities</b>	\$1,395,759 (260/93)	\$1,308,088 (276/18)	\$1,497,625 (282/10)								\$1,220,988	\$1,305,344
<b>Loss Year 33 12/31/21-12/31/22</b> <b>21 Member Cities</b>	\$1,296,798 (284/98)	\$2,016,138 (314/22)									\$1,195,755	\$1,583,907
<b>Loss Year 34 12/31/22-12/31/23</b> <b>21 Member Cities</b>	\$1,718,751 (209/87)										\$1,371,459	\$1,231,791

(1) Incurred losses include both paid claims (including loss adjustment expenses) and all claims reserves against open claims.

Year Ended December 31

Member	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Beavercreek	\$272,287	\$252,044	\$404,225	\$396,331	\$376,481	\$386,335	\$290,474	\$275,125	\$302,222	\$322,772
Bellbrook	\$77,140	\$69,985	\$58,945	\$43,586	\$41,654	\$41,772	\$42,823	\$40,886	\$52,434	\$56,286
Blue Ash	\$274,384	\$242,578	\$270,782	\$305,552	\$272,335	\$273,513	\$270,323	\$324,875	\$347,097	\$281,645
Centerville	\$182,291	\$183,871	\$194,763	\$165,657	\$163,297	\$172,091	\$180,592	\$193,841	\$251,886	\$301,302
Englewood	\$142,257	\$143,500	\$122,470	\$110,777	\$121,263	\$121,449	\$119,708	\$125,852	\$172,025	\$230,458
Fairfield	N/A	N/A	N/A	N/A	N/A	N/A	\$447,380	\$472,932	\$535,517	\$552,205
Indian Hill	\$135,918	\$124,962	\$102,159	\$96,127	\$92,846	\$97,660	\$116,852	\$110,656	\$138,459	\$139,891
Kettering	\$569,468	\$504,942	\$510,029	\$483,326	\$482,101	\$531,091	\$554,768	\$615,648	\$760,938	\$741,779
Madeira	\$37,293	\$37,718	\$35,798	\$43,778	\$53,754	\$65,887	\$78,629	\$50,743	\$61,466	\$59,166
Mason	\$346,946	\$304,519	\$252,994	\$258,915	\$297,685	\$314,490	\$377,074	\$377,781	\$449,905	\$526,659
Miamisburg	\$214,458	\$227,484	\$248,201	\$218,238	\$234,983	\$267,148	\$255,813	\$284,008	\$327,803	\$342,543
Montgomery	\$114,304	\$120,712	\$104,255	\$104,963	\$110,282	\$106,442	\$102,692	\$114,897	\$129,560	\$127,622
NAWA <sup>1</sup>	\$12,481	\$11,835	\$11,018	\$7,807	\$7,630	\$7,999	\$7,919	\$20,756	\$25,394	\$23,044
Piqua	\$370,336	\$342,528	\$312,389	\$286,932	\$326,311	\$309,951	\$380,083	\$329,733	\$449,790	\$494,664
Sidney	\$275,604	\$291,276	\$267,186	\$248,446	\$268,006	\$261,609	\$288,514	\$285,384	\$327,697	\$355,042
Springdale	\$142,950	\$157,690	\$155,822	\$147,329	\$144,919	\$140,075	\$137,851	\$136,838	\$195,616	\$229,566
Tipp City	\$148,587	\$194,349	\$263,477	\$188,514	\$203,316	\$234,869	\$201,495	\$209,290	\$202,443	\$181,752
Troy	\$272,050	\$276,511	\$304,759	\$288,345	\$282,197	\$313,352	\$300,246	\$315,609	\$458,069	\$427,416
Vandalia	\$208,679	\$186,839	\$165,571	\$181,551	\$163,633	\$184,439	\$193,224	\$179,944	\$219,180	\$213,810
West Carrollton	\$104,806	\$149,097	\$152,266	\$114,605	\$121,320	\$106,134	\$108,407	\$109,333	\$127,913	\$122,955
Wilmington	\$237,165	\$257,999	\$199,029	\$204,166	\$180,841	\$187,724	\$253,712	\$323,806	\$403,105	\$413,092
Wyoming	\$123,930	\$93,154	\$99,813	\$119,701	\$134,793	\$81,830	\$98,714	\$93,490	\$118,490	\$128,518
Total	\$4,263,334	\$4,173,593	\$4,235,951	\$4,014,646	\$4,079,647	\$4,205,860	\$4,807,293	\$4,991,427	\$6,057,009	\$6,272,187

*Note 1: Beginning in 2007, NAWA, a joint venture water authority shared by Tipp City and Vandalia, was included as a separate entity for the purpose of calculating member contributions.*

*Source: Association's internal records*

**Miami Valley Risk Management Association  
Demographic Statistics  
Last 10 Years**

MVRMA is a consortium of municipalities located in southwest Ohio. Core cities for the region are Dayton and Cincinnati. Information for the Dayton MSA and the Cincinnati MSA provides an indication of the demographic and economic condition of the region.

<b>DAYTON MSA</b>	<u><b>2023</b></u>	<u><b>2022</b></u>
<b>Population:</b>	*	812,595
<b>Total Personal Income (thousands \$):</b>	*	45,885,237
<b>Per Capita Personal Income:</b>	*	56,478
<b>GDP (thousands \$):</b>	*	53,329,306
<b>Wage and Salary Jobs:</b>	*	396,187
<b>Unemployment Rate:</b>	3.10%	3.50%

\* This information is not yet available

**Ten Largest Employers (employee count and %):**

	Count	%		Count	%
Kettering Health Network	15,813		Wright-Patterson Air Force Base	32,000	8.08%
Premier Health	11,344		Kettering Health Network	13,720	3.46%
Montgomery County	4,358		Premier Health	11,344	2.86%
Dayton Children's Hospital	4,163		Kroger Co	4,523	1.14%
Meijer Inc	3,896		Montgomery County	4,352	1.10%
Dayton Va Medical Center	3,529		Dayton Children's Hospital	3,904	0.99%
University of Dayton	3,200		Miami University	3,794	0.96%
Homda Development & Mfc	2,900		Meijer, Inc.	3,496	0.88%
CareSource	2,562		University of Dayton	3,100	0.78%
Sinclair	2,406		Caresource	3,000	0.76%

<b>CINCINNATI MSA</b>	<u><b>2023</b></u>	<u><b>2022</b></u>
<b>Population:</b>	*	2,265,051
<b>Total Personal Income (thousands \$):</b>	*	147,802,274
<b>Per Capita Personal Income:</b>	*	65,253
<b>GDP (thousands \$)</b>	*	186,141,091
<b>Wage and Salary Jobs:</b>	*	1,159,227
<b>Unemployment Rate:</b>	2.90%	3.1%

\* This information is not yet available

**Ten Largest Employers (employee count and %):**

	Count	%		Count	%
Kroger Co.	20,000		Kroger co.	18,000	1.55%
Cincinnati Children's Hospital	18,502		Cincinnati Children's Hospital	16,478	1.42%
Cinn/Northern Kentucky Airport	14,602		Cinn/Northern Kentucky Airport	14,602	1.26%
TriHealth Inc	12,096		TriHealth Inc	12,000	1.04%
University of Cincinnati	11,141		St. Elizabeth Healthcare	10,282	0.89%
Proctor and Gamble	11,000		University of Cincinnati	19,196	1.66%
St. Elizabeth Hospital	10,282		UC Health	10,112	0.87%
UC Health	10,112		The Proctor and Gamble Company	10,000	0.86%
GE Transportation	9,000		GE Transportation	9,000	0.78%
Bon Secours Mercy Health	7,700		Bon Secours Mercy Health	7,700	0.66%

**Miami Valley Risk Management Association  
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Last 10 Years**

Schedule 5

<b>DAYTON MSA</b>	<b>2021</b>	<b>2020</b>
<b>Population:</b>	813,516	809,248
<b>Total Personal Income (thousands \$):</b>	45,208,430	\$42,377,993
<b>Per Capita Personal Income:</b>	55,572	\$52,367
<b>GDP (thousands \$):</b>	40,549,210	\$45,157,246
<b>Wage and Salary Jobs:</b>	387,772	382,864
<b>Unemployment Rate:</b>	3.50%	5.00%

**Ten Largest Employers (employee count and %):**

	<b>Count</b>	<b>%</b>		<b>Count</b>	<b>%</b>
Wright-Patterson Air Force Base	32,000	8.25%	Wright Patterson Air Force	30,000	7.84%
Kettering Health Network	13,984	3.61%	Kettering Health Network	12,847	3.36%
Premier Health	10,537	2.72%	Premier Health	12,018	3.14%
Kroger Co.	4,523	1.17%	Kroger Co.	4,532	1.18%
Montgomery County	4,272	1.10%	Montgomery County	4,239	1.11%
Miami Univesity	3,723	0.96%	Miami University	3,781	0.99%
Dayton Children's Hospital	3,620	0.93%	Meijer	3,607	0.94%
Meijer Inc.	3,496	0.90%	Dayton Children's Hospital	3,342	0.87%
CareSource	3,100	0.80%	Caresource	3,148	0.82%
Honda Development & Manufacturing	3,000	0.77%	Sinclair Community College	3,017	0.79%

<b>CINCINNATI MSA</b>	<b>2021</b>	<b>2020</b>
<b>Population:</b>	2,259,935	2,232,907
<b>Total Personal Income (thousands \$):</b>	142,639,155	\$133,097,872
<b>Per Capita Personal Income:</b>	63,116	\$59,607
<b>GDP (thousands \$):</b>	171,737,526	\$152,618,516
<b>Wage and Salary Jobs:</b>	1,118,354	1,084,005
<b>Unemployment Rate:</b>	3%	4.70%

**Ten Largest Employers (employee count and %):**

	<b>Count</b>	<b>%</b>		<b>Count</b>	<b>%</b>
Kroger	18,000	1.61%	Cincinnati Children's Hospital	15,796	1.46%
Cincinnati Children's Hospital	16,478	1.47%	Cinn/Northern Kentucky Airport	14,602	1.35%
Cinn/Northern Kentucky Airport	14,000	1.25%	Kroger	14,987	1.38%
St. Elizabeth Healthcare	10,282	0.92%	University of Cincinnati	10,159	0.94%
University of Cincinnati	10,196	0.91%	The Proctor & Gamble Company	10,000	0.92%
TriHealth	12,000	1.07%	TriHealth, Inc.	12,332	1.14%
UC Health	12,000	1.07%	UC Health	11,000	1.01%
The Proctor and Gamble Company	10,000	0.89%	GE Transportation	9,700	0.89%
GE Transportation	9,700	0.87%	St. Elizabeth Healthcare	8,885	0.82%
Fifth Third	7,500	0.67%	Fifth Third Bank	7,366	0.68%

Miami Valley Risk Management Association

Demographic Statistics

Last 10 Years

DAYTON MSA

	<u>2019</u>	<u>2018</u>
Population:	807,611	806,548
Total Personal Income (thousands \$):	39,703,066	\$38,461,497
Per Capita Personal Income:	49,161	\$47,687
GDP (thousands \$):	45,689,081	\$43,254,892
Wage and Salary Jobs:	404,157	401,009
Unemployment Rate:	3.60%	4.60%

Ten Largest Employers (employee count and %):

	Count	%		Count	%
Wright Patterson Air Force	30,000	7.48%	Wright Patterson Air Force	28,000	6.98%
Premier Health	12,425	3.10%	Premier Health	12,138	3.03%
Kettering Health Network	9,319	2.32%	Kettering Health Network	8,909	2.22%
Montgomery County	4,284	1.07%	Kroger Co.	4,855	1.21%
Kroger Co.	4,030	1.00%	Montgomery County	4,366	1.09%
Miami University	3,817	0.95%	Miami University	3,777	0.94%
Dayton's Children's Hospital	3,341	0.83%	Sinclair Community College	3,085	0.77%
Honda of America	3,200	0.80%	University of Dayton	3,028	0.76%
Sinclair Community College	3,163	0.79%	Honda of America	3,000	0.75%
CareSource	3,021	0.75%	LexisNexis	3,000	0.75%

CINCINNATI MSA

	<u>2019</u>	<u>2018</u>
Population:	2,221,208	2,212,945
Total Personal Income (thousands \$):	124,461,934	\$119,887,654
Per Capita Personal Income:	56,033	\$54,176
GDP (thousands \$):	153,931,926	\$141,052,695
Wage and Salary Jobs:	1,146,149	1,133,931
Unemployment Rate:	3.20%	4.00%

Ten Largest Employers (employee count and %):

	Count	%		Count	%
Kroger	20,000	1.74%	Kroger	21,263	1.88%
University of Cincinnati	15,000	1.31%	Cincinnati Children's Hospital	15,429	1.36%
Cincinnati Children's Hospital	12,000	1.05%	Cincinnati/Northern KY Airport	12,682	1.12%
The Proctor & Gamble Company	12,000	1.05%	TriHealth	12,000	1.06%
TriHealth, Inc.	10,000	0.87%	UC Health	11,241	0.99%
UC Health	8,000	0.70%	University of Cincinnati	10,551	0.93%
GE Transportation	7,500	0.65%	GE Transportation	10,500	0.93%
St. Elizabeth Healthcare	7,000	0.61%	Mercy Health	10,422	0.92%
Fifth Third Bank	7,000	0.61%	Proctor and Gamble	10,000	0.88%

**Miami Valley Risk Management Association  
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<b>DAYTON MSA</b>	<b>2017</b>	<b>2016</b>
<b>Population:</b>	803,416	800,683
<b>Total Personal Income (thousands \$):</b>	\$36,722,900	\$34,966,720
<b>Per Capita Personal Income:</b>	\$45,708	\$43,671
<b>GDP (thousands \$):</b>	\$41,703,905	\$40,309,278
<b>Wage and Salary Jobs:</b>	398,960	400,572
<b>Unemployment Rate:</b>	4.20%	4.5%

**Ten Largest Employers (employee count and %):**

	<b>Count</b>	<b>%</b>		<b>Count</b>	<b>%</b>
Wright Patterson Air Force Base	27,585	6.91%	Wright Patterson Air Force Base	27,585	6.89%
Premier Health Partners	13,858	3.47%	Premier Health Partners	13,500	3.37%
Kettering Health Network	8,415	2.11%	Kettering Health Network	8,288	2.07%
Kroger Co.	5,151	1.29%	Montgomery County	4,389	1.10%
Montgomery County	4,383	1.10%	Kroger Co.	4,267	1.07%
Miamia University	3,778	0.95%	Wright State University	3,715	0.93%
Honda of America Manufacturing	3,300	0.83%	Miami University	3,685	0.92%
Sinclair Community College	3,094	0.78%	Sinclair Community College	3,206	0.80%
LexisNexis	3,000	0.75%	LexisNexis	3,000	0.75%
University of Dayton	2,964	0.74%	Honda of America	2,850	0.71%

<b>CINCINNATI MSA</b>	<b>2017</b>	<b>2016</b>
<b>Population:</b>	2,179,082	2,165,139
<b>Total Personal Income (thousands \$):</b>	\$112,301,900	\$105,372,017
<b>Per Capita Personal Income:</b>	\$51,536	\$48,668
<b>GDP (thousands \$):</b>	\$139,031,021	\$134,287,267
<b>Wage and Salary Jobs:</b>	1,111,262	1,096,885
<b>Unemployment Rate:</b>	3.8%	3.8%

**Ten Largest Employers (employee count and %):**

	<b>Count</b>	<b>%</b>		<b>Count</b>	<b>%</b>
Kroger	20,000	1.80%	Kroger Co.	20,000	1.82%
University of Cincinnati	15,000	1.35%	University of Cincinnati	15,000	1.37%
Cincinnati Children's Hospital	12,000	1.08%	Cincinnati Children's Hospital	12,000	1.09%
Proctor & Gamble	12,000	1.08%	Proctor & Gamble	12,000	1.09%
TriHealth Inc.	10,000	0.90%	TriHealth Inc.	10,000	0.91%
UC Health	8,000	0.72%	UC Health	8,000	0.73%
GE Transportation	7,500	0.67%	GE Transportation	7,500	0.68%
St. Elizabeth Healthcare	7,000	0.63%	St. Elizabeth Healthcare	7,000	0.64%
Fifth Third Bank	7,000	0.63%	Fifth Third Bank	7,000	0.64%

**Miami Valley Risk Management Association  
Demographic Statistics  
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Schedule 5

	<u>2015</u>	<u>2014</u>
<b>DAYTON MSA</b>		
<b>Population:</b>	800,909	800,836
<b>Total Personal Income (thousands \$):</b>	\$34,204,726	33,143,730
<b>Per Capita Personal Income:</b>	\$42,707	41,386
<b>GDP (thousands \$):</b>	\$39,144,944	38,178,000
<b>Wage and Salary Jobs:</b>	389,565	383,380
<b>Unemployment Rate:</b>	4.5%	5.8%

**Ten Largest Employers (employee count and %):**

	<b>Count</b>	<b>%</b>		<b>Count</b>	<b>%</b>
Wright Patterson Air Force Base	26,270	6.74%	Wright Patterson Air Force Base	27,500	7.17%
Premier Health Partners	13,500	3.47%	Premier Health Partners	13,500	3.52%
Kettering Health Network	8,259	2.12%	Kettering Health Network	7,115	1.86%
Montgomery County	4,343	1.11%	Kroger Company	5,582	1.46%
Kroger Co.	4,335	1.11%	Montgomery County	4,328	1.13%
Miami University	3,655	0.94%	Miami University	3,564	0.93%
LexisNexis	3,000	0.77%	Wright State University	3,303	0.86%
Honda of America	2,800	0.72%	LexisNexis	3,200	0.83%
Wright State University	2,469	0.63%	Sinclair Community College	2,601	0.68%
University of Dayton	2,453	0.63%	Honda of America	2,600	0.68%

	<u>2015</u>	<u>2014</u>
<b>CINCINNATI MSA</b>		
<b>Population:</b>	2,157,719	2,149,449
<b>Total Personal Income (thousands \$):</b>	\$101,960,460	\$98,613,244
<b>Per Capita Personal Income:</b>	\$47,254	\$45,878
<b>GDP (thousands \$):</b>	\$127,779,662	121,407,000
<b>Wage and Salary Jobs:</b>	1,077,899	\$1,507,998
<b>Unemployment Rate:</b>	4.3%	5.4%

**Ten Largest Employers (employee count and %):**

	<b>Count</b>	<b>%</b>		<b>Count</b>	<b>%</b>
Kroger Co.	21,646	2.01%	Kroger Company	17,000	1.13%
University of Cincinnati	16,016	1.49%	University of Cincinnati	15,162	1.01%
Cincinnati Children's Hospital	14,944	1.39%	Procter & Gamble Co.	14,000	0.93%
TriHealth Inc	11,800	1.09%	Cincinnati Children's Hospital	12,057	0.80%
Procter & Gambe	11,000	1.02%	TriHealth Inc.	8,898	0.59%
UC Health	10,000	0.93%	Mercy Health Partners	8,550	0.57%
GE Aviation	7,800	0.72%	Archdiocese of Cincinnati	8,000	0.53%
Mercy Health - Cincinnati	7,500	0.70%	GE Aviation	7,300	0.48%
St. Elizabeth Healthcare	7,479	0.69%	Wal-Mart Stores	6,932	0.46%
Fifth Third Bancorp	6,882	0.64%	St. Elizabeth Healthcare	6,839	0.45%

Sources: US Census Bureau, Bureau of Economic Analysis, Ohio Dept. of Jobs and Family Services, The Dayton Business Journal, REDI Cincinnati, and The City of Blue Ash Economic Development



MVRMA POOL CONTRIBUTION FACTORS -- 2023 / Loss Year 35

Schedule 6

Member City	2020 Population	# Sworn FT Police	# Other Full-Time	# Titled Vehicles	Insurable Property Values	NOE	Avg. Annual Adjusted Losses	Pool Contribution Factors
Beavercreek	46,507	50	99	134	\$48,112,898	\$17,493,510	\$42,593	5.19194%
Bellbrook	7,308	11	21	31	\$16,892,680	\$5,071,912	\$1,936	0.90537%
Blue Ash	13,379	33	104	110	\$136,794,798	\$26,886,040	\$37,039	4.54144%
Centerville	24,255	41	99	96	\$48,986,025	\$18,664,084	\$59,885	4.84263%
Englewood	13,450	23	77	63	\$55,801,396	\$13,735,660	\$48,691	3.57926%
Fairfield	44,936	64	217	210	\$124,091,638	\$48,644,817	\$62,719	8.13686%
Indian Hill	5,769	21	59	63	\$42,658,308	\$12,257,115	\$19,930	2.25125%
Kettering	57,743	79	335	244	\$207,637,860	\$51,779,456	\$124,219	11.94085%
Madeira	9,483	14	11	19	\$6,266,036	\$4,912,167	\$5,769	0.95253%
Mason	34,787	49	169	148	\$188,438,776	\$42,792,887	\$98,786	8.46588%
Miamisburg	19,890	37	108	98	\$110,210,344	\$21,880,005	\$70,993	5.51093%
Montgomery	10,846	20	55	56	\$32,616,492	\$13,894,231	\$12,303	2.05419%
NAWA	-	0	5	2	\$17,642,306	\$1,412,741	\$6,162	0.36601%
Piqua	20,361	31	145	139	\$200,836,352	\$45,458,991	\$104,480	7.95532%
Sidney	20,592	37	199	154	\$104,257,406	\$21,927,084	\$54,874	5.71041%
Springdale	10,990	32	84	69	\$48,706,252	\$19,013,157	\$43,856	3.65139%
Tipp City	10,282	20	51	76	\$52,999,171	\$26,504,655	\$24,779	2.92778%
Troy	23,027	43	159	151	\$131,207,018	\$28,772,354	\$83,679	6.88313%
Vandalia	15,177	28	109	93	\$70,047,259	\$17,404,768	\$24,908	3.44180%
West Carrollton	13,095	22	54	59	\$35,646,707	\$10,981,403	\$8,236	1.97949%
Wilmington	12,518	24	131	144	\$100,268,841	\$18,447,788	\$113,876	6.64449%
Wyoming	8,749	19	36	42	\$42,856,276	\$7,766,281	\$22,791	2.06706%
<b>TOTALS</b>	423,144	698	2327	2201	\$1,822,974,839	\$475,701,106	\$1,072,504	100.00000%

Notes:

1. The data is as of 11/1/22 unless otherwise noted.

2. "Avg. Annual Adjusted Losses" are calculated by averaging each member's losses for the years 2018, 2019, 2020 & 2021. Losses are adjusted in accordance with MVRMA's Loss Capping Policy and include both paid claims and open claim reserves. Loss data is as of August 9, 2022

3. Annually, all buildings valued in excess of \$50K, that were constructed or acquired since the previous year's on-site appraisal, are appraised. Annually, Alliant updates the values of existing buildings using an index.

4. "NOE" are calculated based upon each members' audited financial statements for the fiscal year most recently concluded. The amount has been adjusted to exclude depreciation, interest expense and contracts for which the risk has been effectively transferred to a third party.

5. A member's PCF value is determined by applying the following formula to the member's percentage share of each of the factors in  $(3 \times \%AAAL) + (\%Population + \%FT Police + \% Other FT + \%Titled Vehicles + \% IRPRV + \%NOE)$

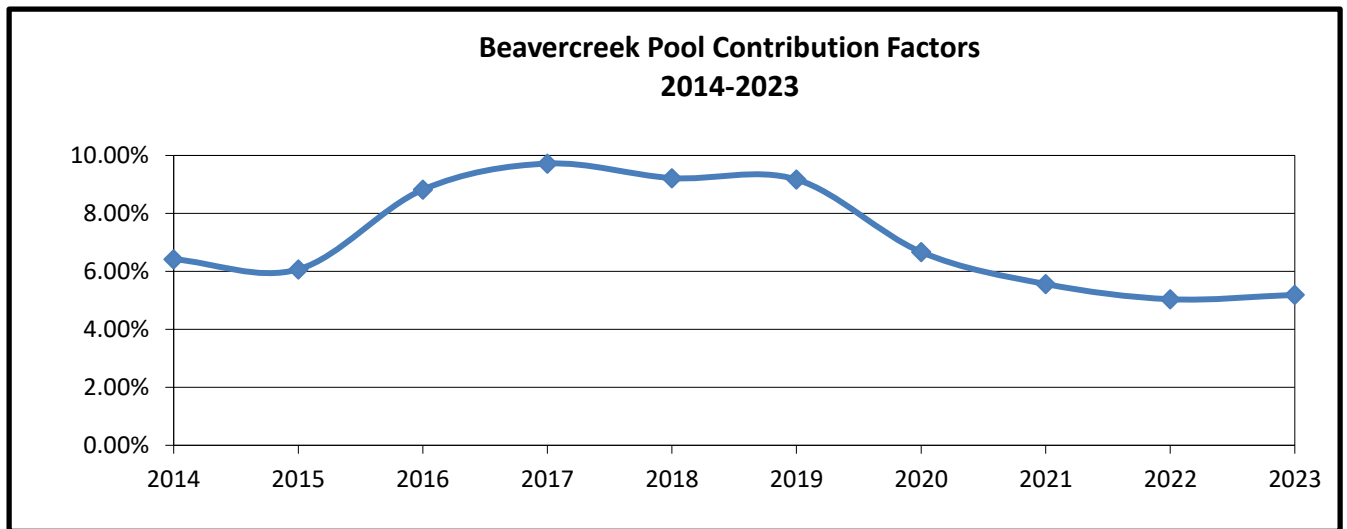
Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Employees	Full-Time Sworn Police	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2014	\$672,451	370,590	1,822	605	1,924	\$1,107,428,574	\$411,669,530	100.00%
2015	\$724,499	370,590	1,825	622	1,904	\$1,113,247,357	\$420,164,274	100.00%
2016	\$821,474	370,590	1,927	629	2,025	\$1,387,612,758	\$511,970,781	100.00%
2017	\$835,455	370,590	1,849	634	1,987	\$1,235,194,030	\$444,428,163	100.00%
2018	\$899,008	370,590	1,938	645	2,010	\$1,318,462,345	\$477,164,152	100.00%
2019	\$884,061	370,590	1,927	629	2,025	\$1,387,612,758	\$511,970,781	100.00%
2020	\$823,913	370,590	2,015	622	2,051	\$1,444,416,825	\$544,820,528	100.00%
2021	\$925,830	413,203	2,255	712	2,317	\$1,627,778,372	\$449,979,104	100.00%
2022	\$920,489	421,168	2,226	698	2,260	\$167,652,598	\$612,052,318	100.00%
2023	\$1,072,504	423,144	2,327	698	2,201	\$1,822,974,839	\$475,701,016	100.00%

Note: In 2007, NAWA, a joint venture water authority shared by the cities of Tipp City and Vandalia, was included as a separate entity when contribution factors were calculated for each member of the pool. Calculating a separate contribution factor for NAWA was simply a means of separating it from the cities of Tipp City and Vandalia. The totals above include the following information submitted for NAWA:

NAWA 2014	\$2,166	0	4	0	1	\$13,010,810	\$976,491	0.29%
NAWA 2015	\$2,166	0	4	0	1	\$13,010,810	\$952,964	0.28%
NAWA 2016	\$2,166	0	4	0	1	\$14,740,428	\$287,066	0.26%
NAWA 2017	\$0	0	4	0	2	\$14,832,952	\$1,096,999	0.20%
NAWA 2018	\$0	0	4	0	2	\$14,845,395	\$1,243,673	0.19%
NAWA 2019	\$0	0	4	0	2	\$15,229,675	\$1,269,145	0.18%
NAWA 2020	\$0	0	4	0	2	\$15,851,114	\$1,323,172	0.18%
NAWA 2021	\$6,162	0	4	0	2	\$16,012,021	\$1,337,640	0.39%
NAWA 2022	\$6,162	0	5	0	2	\$16,234,233	\$1,853,587	0.39%
NAWA 2023	6,162	0	5	0	2	\$17,642,306	\$1,412,741	0.37%

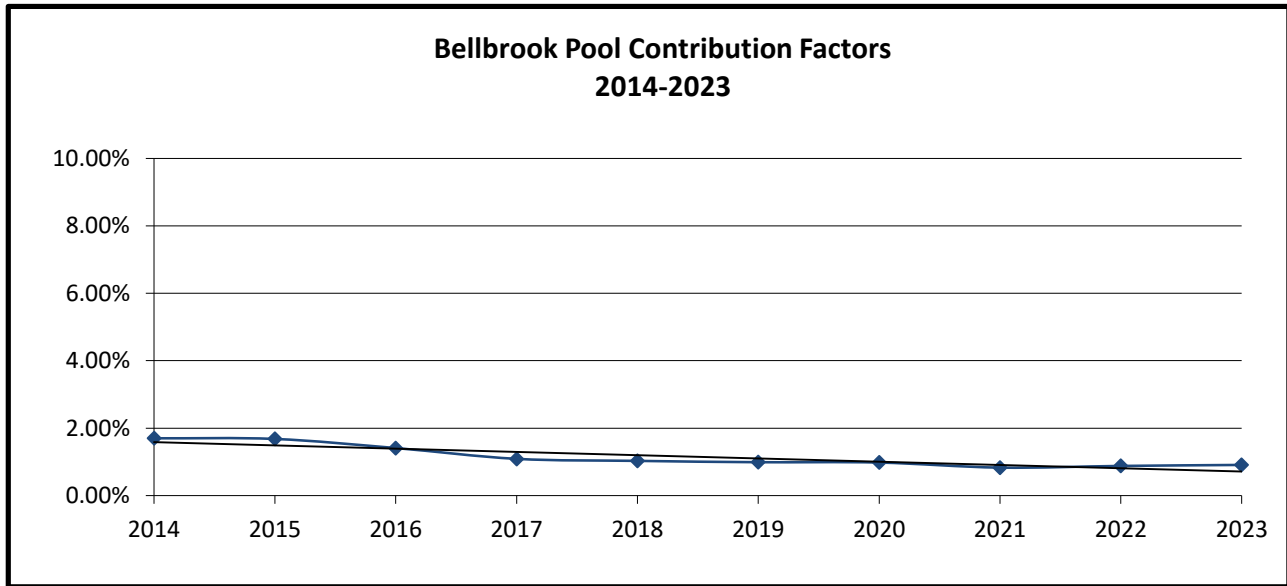
Membership Year	Risk Exposure							Pool Contribution Factors
	Average Annual Losses	Population	(Non-Police)				Net Operating Expenditures	
			Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values		
2014	\$45,937	45,193	46	86	99	\$29,362,096	\$20,582,065	6.42%
2015	\$42,018	45,193	47	85	108	\$29,769,414	\$18,828,507	6.07%
2016	\$114,445	45,193	49	84	107	\$39,267,907	\$17,233,509	8.82%
2017	\$139,604	45,193	48	86	115	\$34,916,451	\$19,362,614	9.72%
2018	\$135,665	45,193	48	95	120	\$37,187,098	\$21,017,345	9.22%
2019	\$133,278	45,193	49	95	126	\$39,267,907	\$17,233,509	9.17%
2020	\$57,543	45,193	50	95	135	\$41,247,037	\$25,512,604	6.67%
2021	\$39,895	45,193	68	81	148	\$43,358,980	\$18,083,165	5.56%
2022	\$26,413	47,995	50	100	148	\$44,537,133	\$27,383,221	5.04%
2023	\$42,593	46,507	50	99	134	\$48,112,898	\$17,493,510	5.19%

Source: Association's internal records



Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2014	\$14,085	6,943	12	21	31	\$14,346,736	\$4,562,205	1.70%
2015	\$14,727	6,943	12	22	30	\$14,271,119	\$5,003,578	1.68%
2016	\$10,768	6,943	12	21	29	\$14,381,106	\$4,850,570	1.41%
2017	\$3,219	6,943	12	21	30	\$14,617,343	\$4,850,506	1.09%
2018	\$1,260	6,943	12	21	30	\$14,939,089	\$5,262,563	1.03%
2019	\$1,260	6,943	12	21	30	\$14,939,089	\$5,262,563	0.99%
2020	\$848	6,943	12	21	32	\$15,693,252	\$5,710,319	0.98%
2021	\$448	6,943	12	21	33	\$15,645,922	\$2,763,959	0.83%
2022	\$448	7,383	12	21	33	\$15,925,415	\$5,605,524	0.88%
2023	\$1,936	7,308	11	21	31	\$16,892,680	\$5,071,912	0.91%

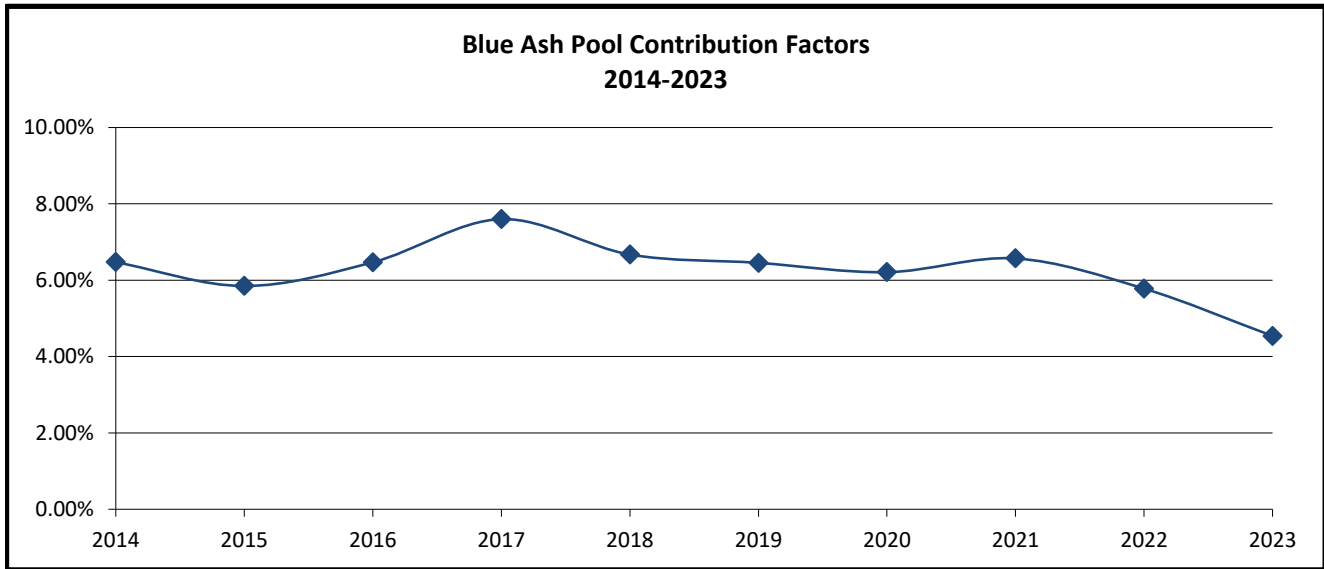
Source: Association's internal records



Last Ten Years

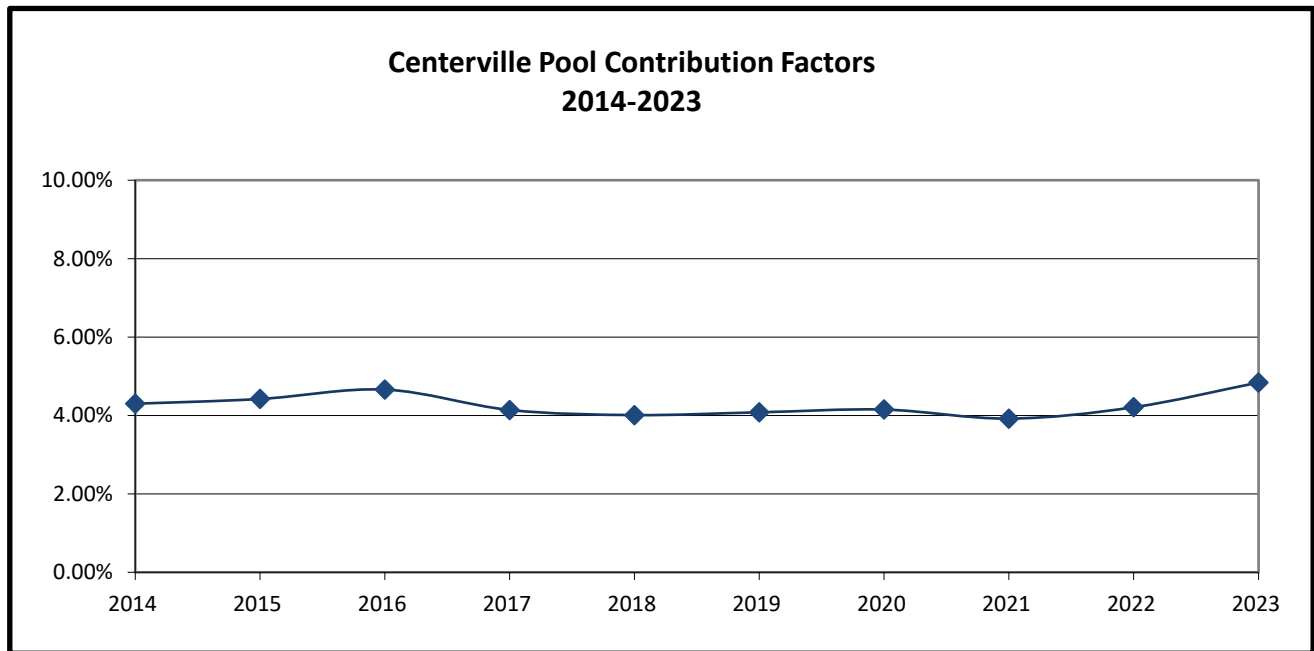
Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2014	\$50,436	12,114	32	93	111	\$94,664,444	\$31,999,635	6.47%
2015	\$41,104	12,114	32	100	109	\$96,040,638	\$30,980,532	5.85%
2016	\$63,400	12,114	32	100	109	\$96,760,953	\$31,950,901	6.47%
2017	\$90,330	12,114	34	107	109	\$109,611,799	\$31,908,666	7.60%
2018	\$75,207	12,114	34	108	113	\$105,131,960	\$34,591,458	6.67%
2019	\$65,514	12,114	34	107	119	\$118,393,102	\$36,981,816	6.45%
2020	\$57,416	12,114	34	103	110	\$125,278,264	\$38,501,787	6.21%
2021	\$87,544	12,114	34	108	113	\$126,361,440	\$25,329,457	6.57%
2022	\$65,117	12,492	34	103	111	\$128,264,108	\$35,486,941	5.78%
2023	\$37,039	13,379	33	104	110	\$136,794,798	\$26,886,040	4.54%

Source: Association's internal records



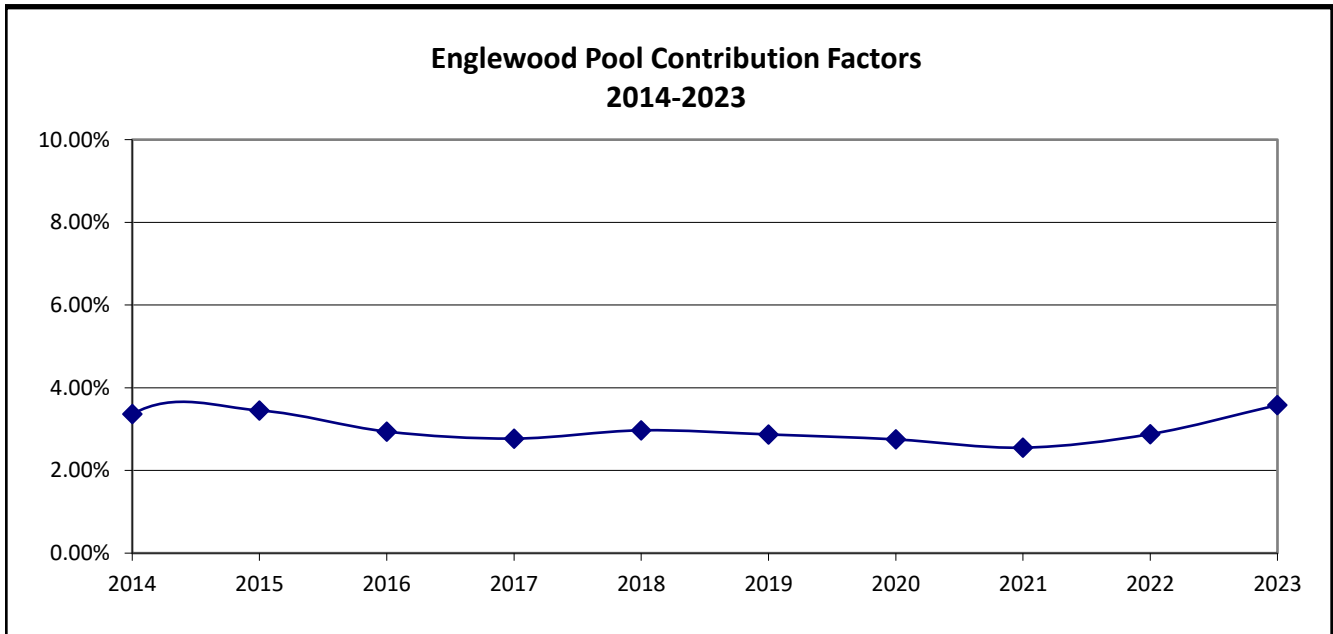
Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2014	\$20,305	23,999	40	80	91	\$35,803,979	\$17,299,367	4.30%
2015	\$26,014	23,999	40	81	83	\$35,644,958	\$17,250,599	4.42%
2016	\$35,777	23,999	40	78	87	\$36,227,816	\$17,754,223	4.66%
2017	\$23,591	23,999	40	78	92	\$36,577,419	\$18,739,020	4.14%
2018	\$23,835	23,999	41	81	94	\$38,265,500	\$20,506,479	4.01%
2019	\$23,835	23,999	41	81	94	\$38,265,500	\$20,506,479	4.08%
2020	\$20,368	23,999	29	123	114	\$43,771,876	\$22,165,005	4.15%
2021	\$26,075	23,999	34	89	130	\$44,493,221	\$17,813,739	3.92%
2022	\$34,544	23,700	40	99	97	\$44,428,340	\$23,820,101	4.21%
2023	\$59,885	24,255	41	99	96	\$48,986,025	\$18,664,084	4.84%

Source: Association's internal records



Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2014	\$26,466	13,465	20	49	63	\$31,999,694	\$10,713,519	3.36%
2015	\$30,371	13,465	20	50	63	\$32,153,474	\$11,290,786	3.45%
2016	\$22,670	13,465	20	49	62	\$32,410,510	\$11,570,295	2.94%
2017	\$19,154	13,465	20	52	62	\$32,146,447	\$11,995,274	2.77%
2018	\$21,799	13,465	20	55	62	\$41,057,826	\$14,106,568	2.97%
2019	\$21,799	13,465	20	55	62	\$41,057,826	\$14,106,568	2.87%
2020	\$16,880	13,465	20	55	61	\$45,420,901	\$15,753,840	2.75%
2021	\$16,744	13,465	21	74	60	\$50,233,936	\$10,425,343	2.55%
2022	\$24,336	13,502	22	74	60	\$53,459,485	\$1,497,184	2.88%
2023	\$48,691	13,450	23	77	63	\$55,801,396	\$13,735,660	2.88%

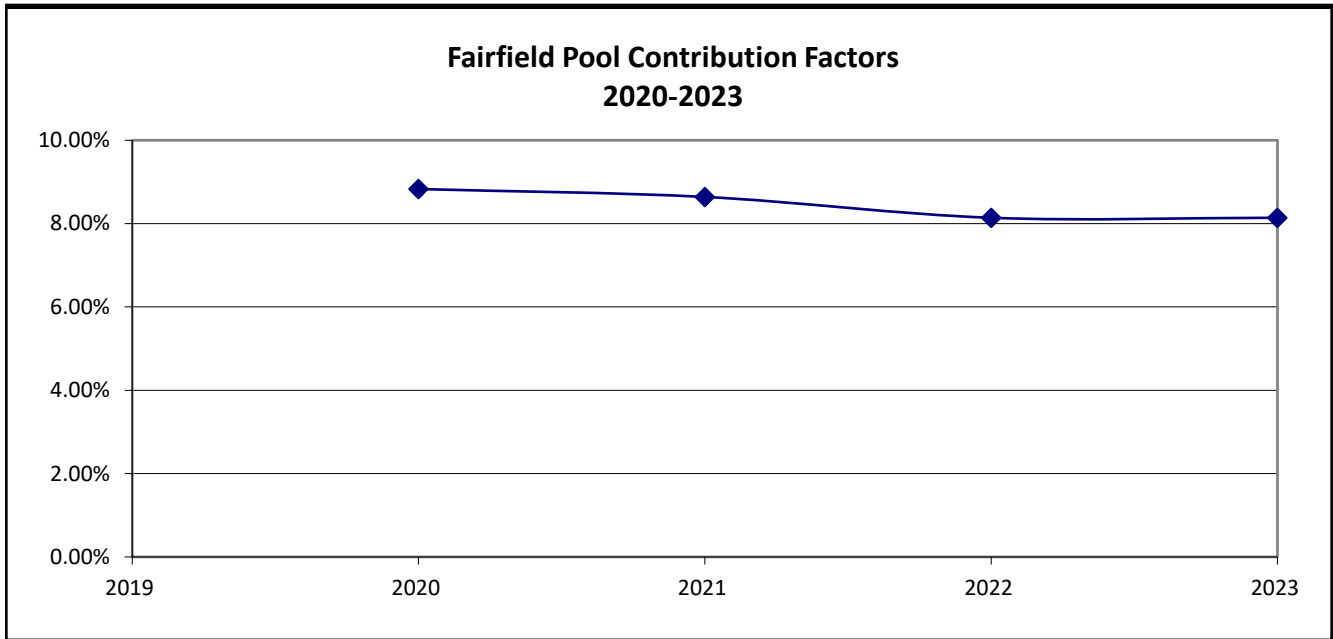
Source: Association's internal records



Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2020	\$70,000	42,613	63	202	275	\$92,391,582	\$57,043,248	8.83%
2021	\$70,000	42,613	63	215	211	\$113,086,436	\$46,650,598	8.64%
2022	\$60,260	42,603	61	206	195	\$114,709,867	\$61,403,012	8.14%
2023	\$62,719	44,936	64	217	210	\$124,091,638	\$48,644,817	8.14%

Source: Association's internal records

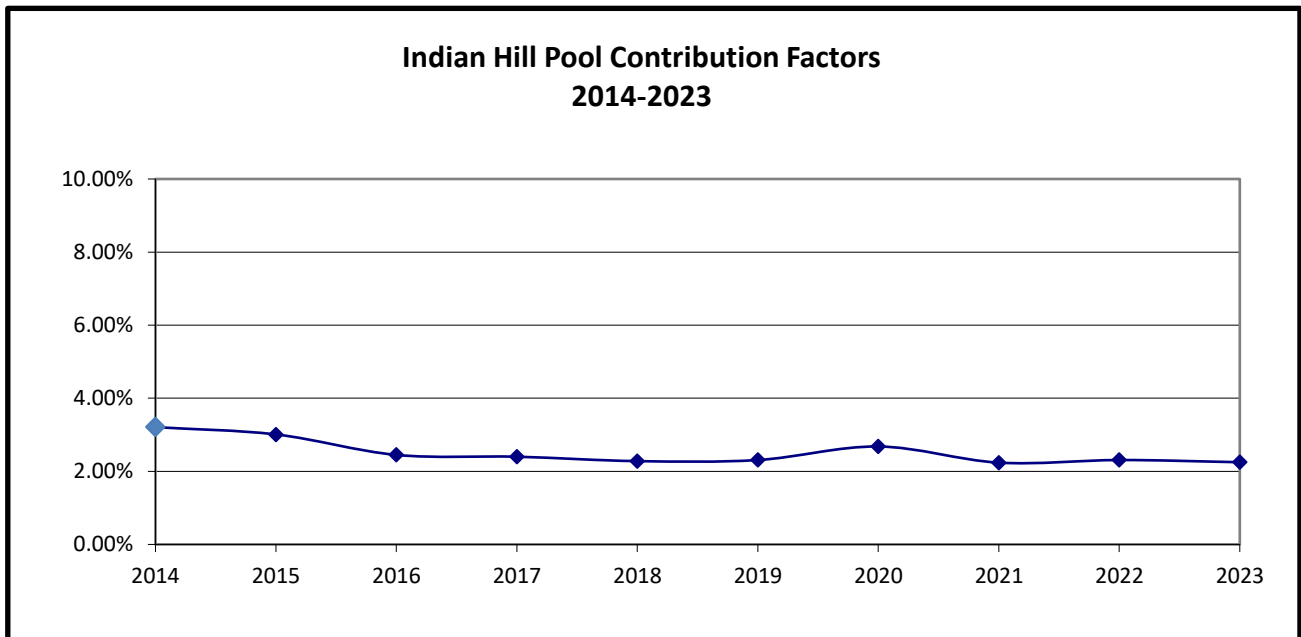


Note: Ten years' of date not available as the City of Fairfield joined MVRMA in December 2019.



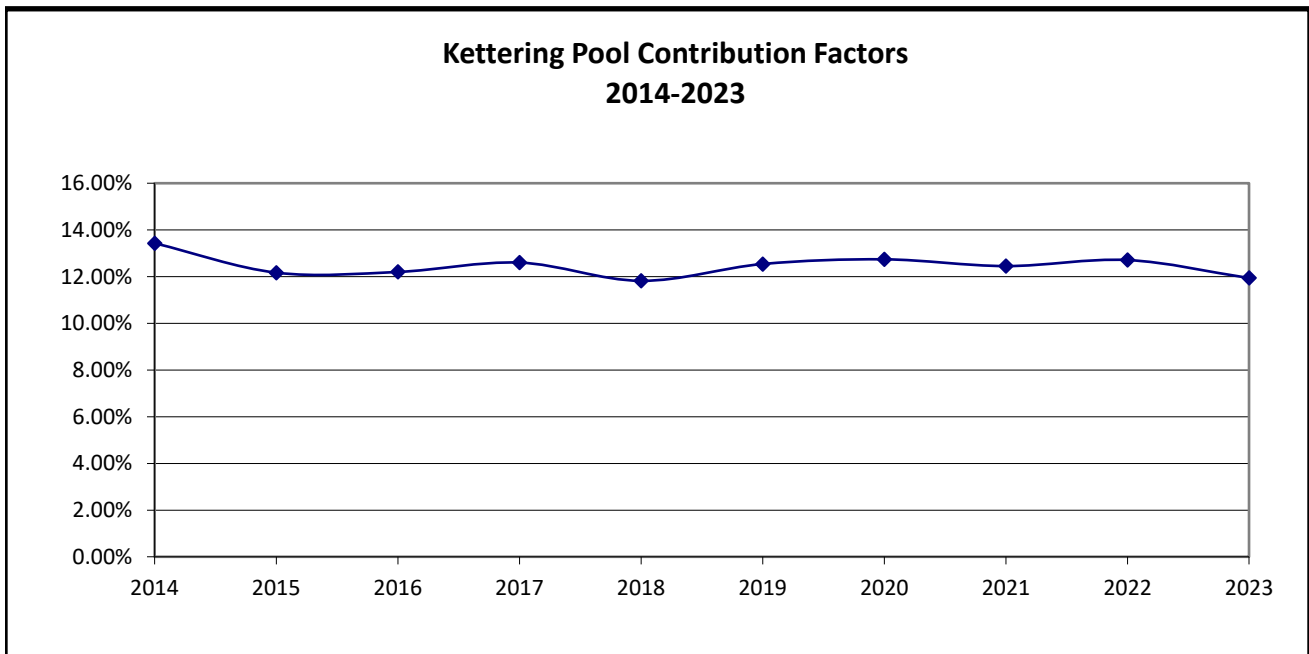
Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2014	\$28,111	5,785	19	53	64	\$25,936,887	\$12,499,416	3.21%
2015	\$26,341	5,785	19	53	63	\$26,085,169	\$12,659,360	3.01%
2016	\$16,205	5,785	20	54	62	\$26,377,682	\$12,891,852	2.45%
2017	\$15,839	5,785	20	54	61	\$26,721,716	\$13,480,644	2.40%
2018	\$13,894	5,785	20	57	61	\$26,967,014	\$15,599,813	2.28%
2019	\$13,894	5,785	20	56	66	\$29,273,224	\$15,671,784	2.31%
2020	\$22,391	5,785	21	57	66	\$30,472,416	\$15,791,753	2.68%
2021	\$15,722	5,785	21	59	71	\$30,991,521	\$14,006,258	2.24%
2022	\$19,150	5,769	21	60	63	\$31,192,427	\$17,482,082	2.13%
2023	\$19,930	5,769	21	59	63	\$42,658,308	\$12,257,115	2.25%



Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2014	\$74,944	56,163	80	282	260	\$174,741,061	\$58,950,292	13.43%
2015	\$55,970	56,163	80	284	245	\$175,472,336	\$59,574,560	12.17%
2016	\$65,033	56,163	81	290	245	\$179,251,621	\$61,549,195	12.20%
2017	\$63,302	56,163	78	303	249	\$187,790,324	\$63,210,217	12.06%
2018	\$76,630	56,163	80	322	243	\$209,567,322	\$77,636,512	11.82%
2019	\$76,630	56,163	80	322	243	\$209,567,322	\$77,636,512	12.54%
2020	\$83,555	56,163	84	328	248	\$180,496,812	\$79,991,301	12.74%
2021	\$118,849	56,163	81	337	237	\$182,701,883	\$54,811,490	12.45%
2022	\$124,711	57,743	81	318	234	\$194,662,733	\$78,900,656	12.71%
2023	\$1,242,129	57,743	79	335	244	\$207,637,860	\$51,779,456	11.94%

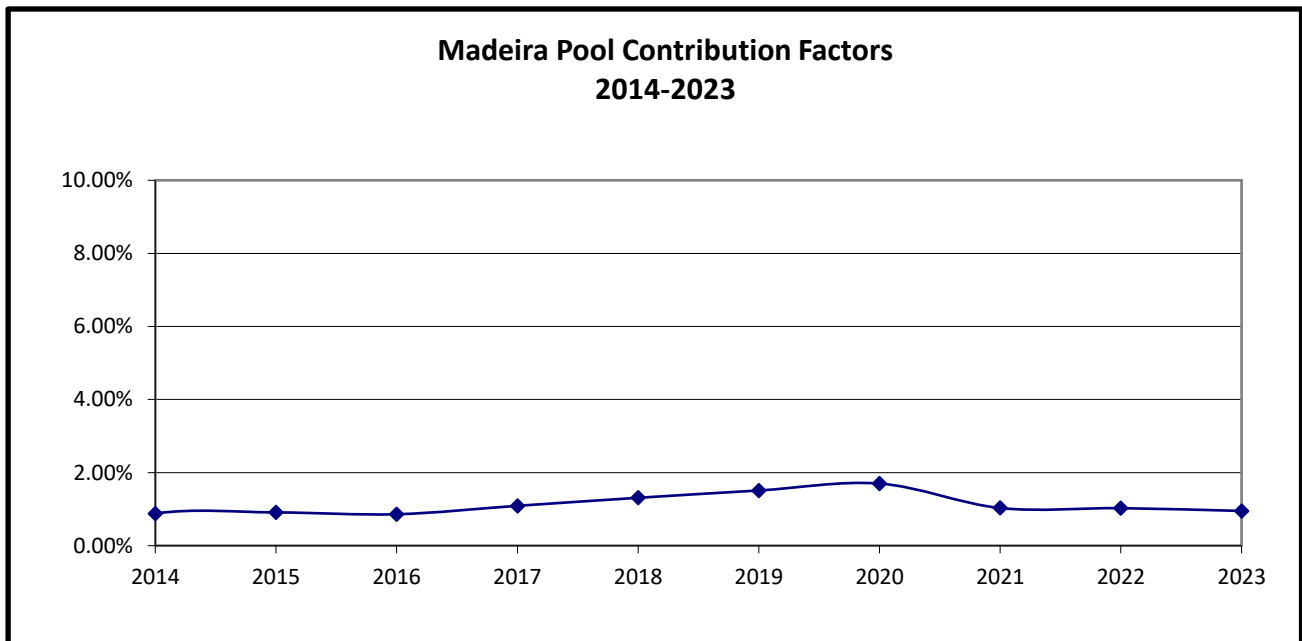
Source: Association's internal records



Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2014	\$1,435	8,726	12	11	20	\$5,155,887	\$3,419,147	0.88%
2015	\$2,300	8,726	12	10	20	\$5,155,887	\$3,625,419	0.91%
2016	\$1,548	8,726	12	11	20	\$5,212,559	\$3,390,139	0.86%
2017	\$7,883	8,726	12	10	20	\$5,248,717	\$3,274,069	1.09%
2018	\$18,404	8,726	13	15	17	\$5,412,265	\$4,645,128	1.31%
2019	\$18,404	8,726	15	13	17	\$5,412,265	\$4,645,128	1.51%
2020	\$21,854	8,726	14	11	19	\$5,767,760	\$4,955,224	1.70%
2021	\$8,611	8,726	14	11	19	\$5,754,721	\$3,177,565	1.03%
2022	\$7,207	9,284	14	11	21	\$5,893,027	\$5,529,035	1.03%
2023	\$5,769	9,483	14	11	19	\$6,266,036	\$4,912,167	0.95%

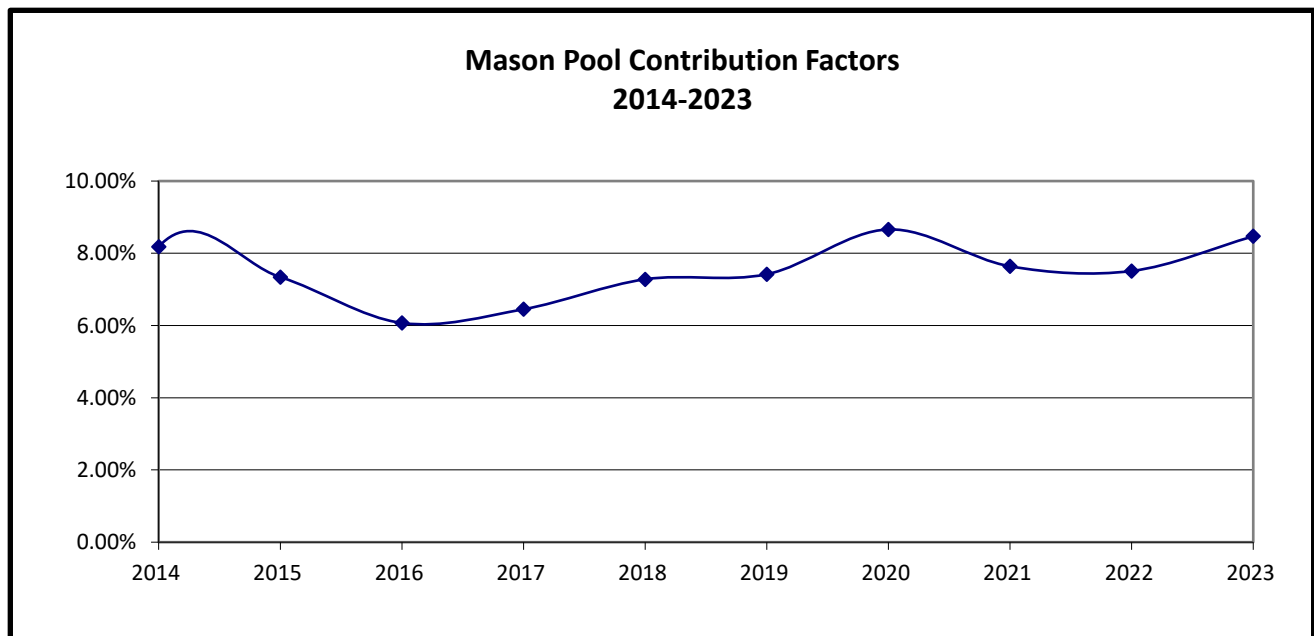
Source: Association's internal records



Last Ten Years

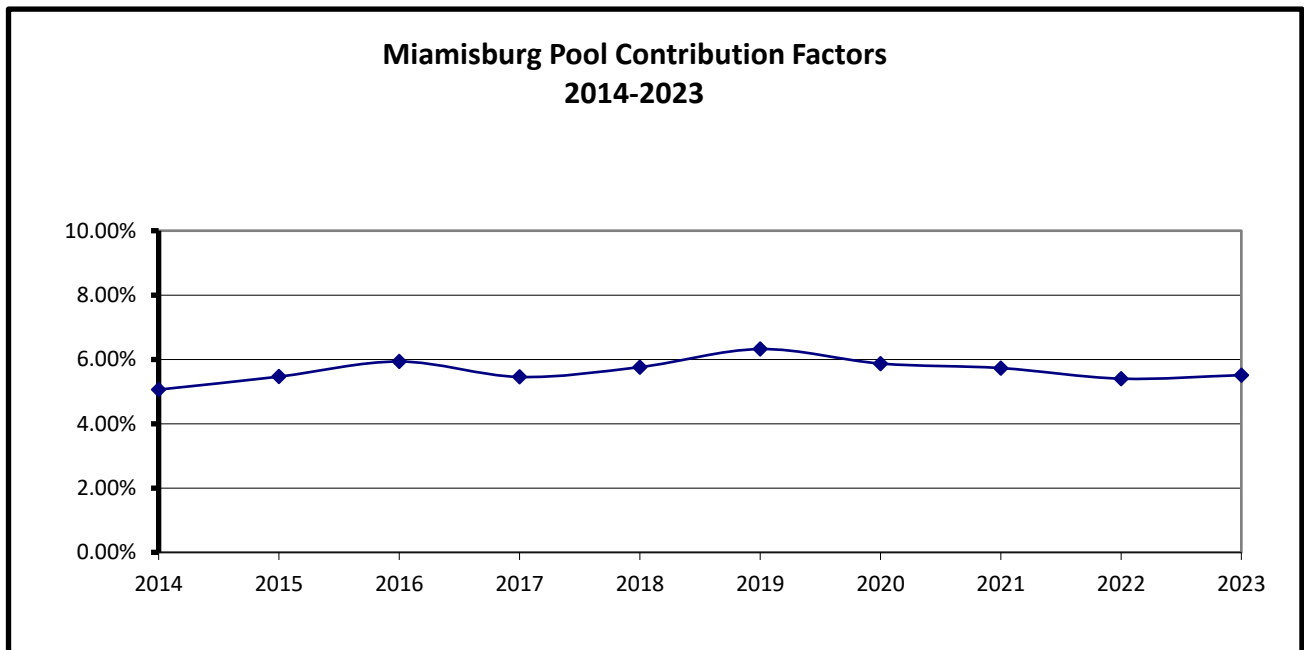
Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2014	\$53,392	30,712	43	144	124	\$128,276,254	\$35,045,902	8.18%
2015	\$38,276	30,712	49	134	123	\$127,892,985	\$36,913,947	7.34%
2016	\$12,809	30,712	42	141	140	\$132,122,628	\$38,044,980	6.07%
2017	\$22,200	30,712	45	143	146	\$139,207,628	\$37,109,923	6.45%
2018	\$46,567	30,712	45	151	164	\$143,727,091	\$47,197,419	7.28%
2019	\$46,567	30,712	45	151	164	\$143,727,091	\$47,197,419	7.42%
2020	\$73,576	30,712	49	155	171	\$152,384,914	\$45,652,169	8.66%
2021	\$71,077	30,712	50	156	179	\$151,009,644	\$33,096,301	7.64%
2022	\$60,432	34,300	44	161	184	\$167,089,530	\$49,652,469	7.51%
2023	\$98,786	34,787	49	169	148	\$18,838,776	\$42,792,887	8.47%

Source: Association's internal records



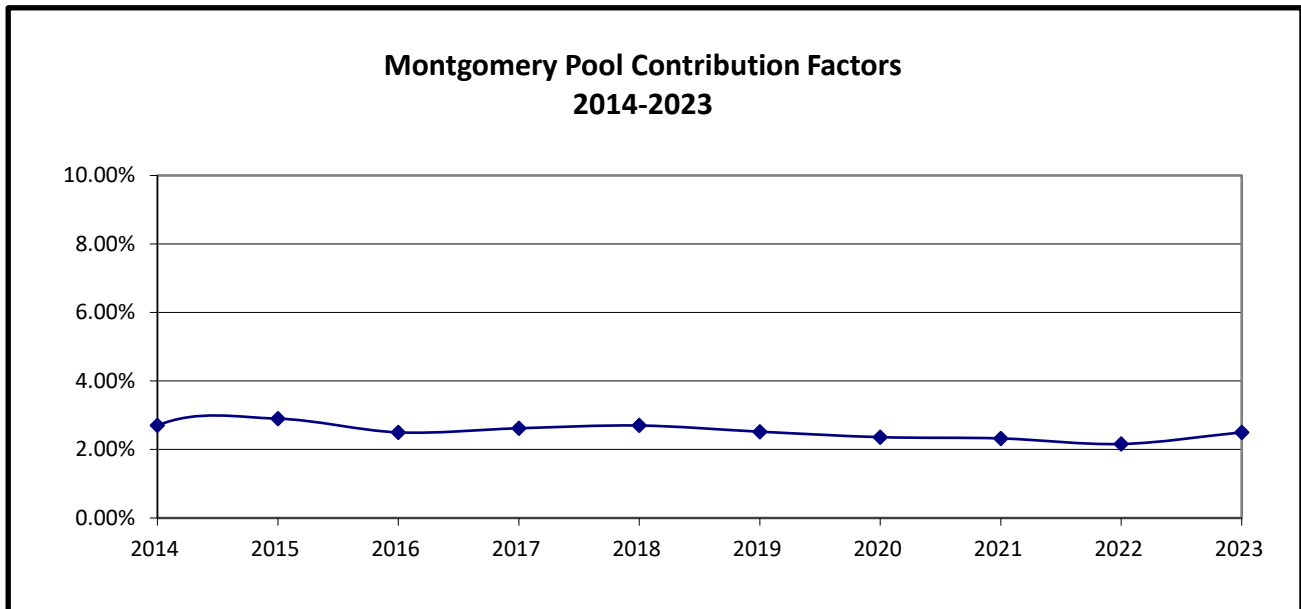
Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2014	\$32,924	20,181	35	90	99	\$41,886,009	\$23,648,250	5.06%
2015	\$44,553	20,181	38	91	103	\$41,870,338	\$21,050,388	5.46%
2016	\$62,190	20,181	35	95	105	\$48,293,033	\$21,180,125	5.93%
2017	\$53,302	20,181	34	95	100	\$48,831,994	\$22,259,700	5.45%
2018	\$74,103	20,181	35	112	107	\$71,138,218	\$23,148,846	5.76%
2019	\$74,103	20,181	35	112	107	\$71,138,218	\$23,148,846	6.32%
2020	\$51,331	20,181	38	109	107	\$100,132,615	\$27,536,118	5.87%
2021	\$64,527	20,181	36	106	105	\$100,777,341	\$24,394,278	5.73%
2022	\$60,263	20,117	35	103	104	\$102,524,114	\$27,222,464	5.40%
2023	\$70,993	19,890	37	108	98	\$110,210,344	\$21,880,005	5.51%

Source: Association's internal records



Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2014	\$16,280	10,251	21	43	72	\$18,958,734	\$12,157,433	2.70%
2015	\$21,607	10,251	23	42	72	\$18,628,129	\$12,298,636	2.90%
2016	\$17,922	10,251	22	43	44	\$26,774,775	\$11,925,188	2.50%
2017	\$20,850	10,251	22	43	47	\$26,776,746	\$13,162,092	2.62%
2018	\$20,360	10,251	22	43	51	\$27,647,615	\$14,169,080	2.70%
2019	\$20,360	10,251	22	43	51	\$27,647,615	\$14,169,080	2.52%
2020	\$16,255	10,251	21	42	50	\$29,222,178	\$14,235,016	2.36%
2021	\$17,931	10,251	22	64	54	\$29,531,227	\$11,470,634	2.32%
2022	\$11,839	10,888	22	50	56	\$30,173,316	\$20,363,268	2.16%
2023	\$12,303	10,846	20	55	56	\$32,616,492	\$13,894,231	2.05%

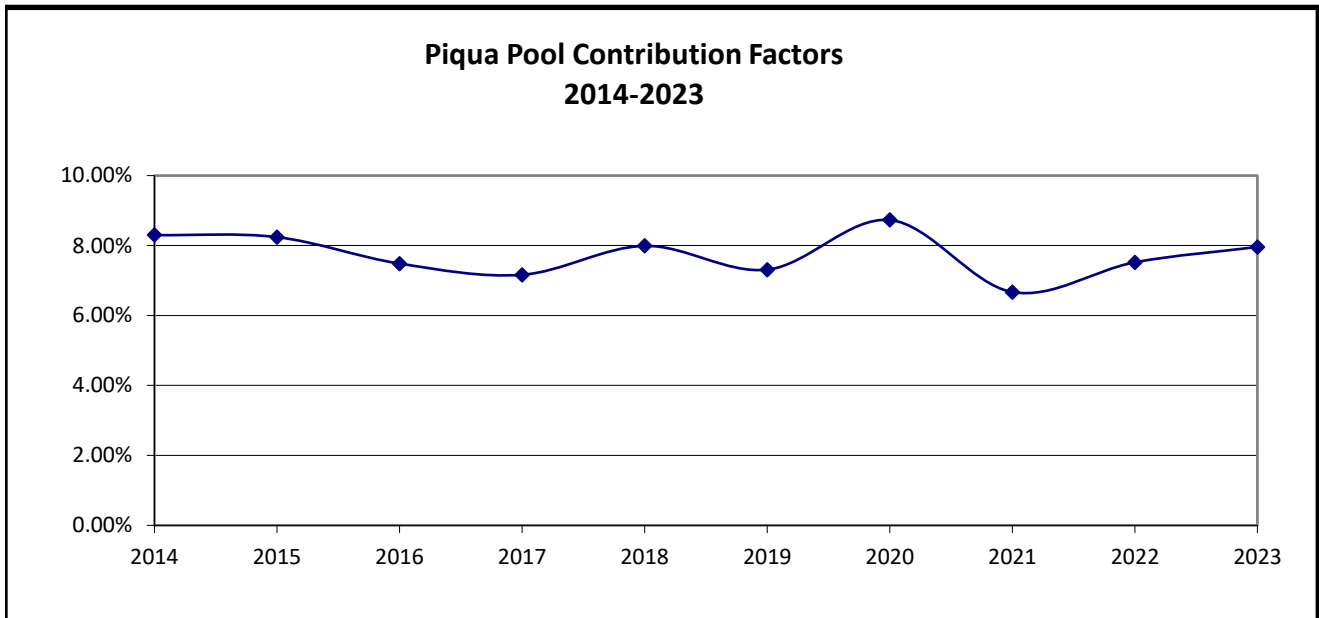
Source: Association's internal records



Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2014	\$71,322	20,522	30	154	147	\$74,654,276	\$39,353,735	8.30%
2015	\$73,617	20,522	30	158	147	\$75,400,976	\$42,740,087	8.24%
2016	\$54,907	20,522	34	157	162	\$99,149,309	\$47,488,995	7.48%
2017	\$47,244	20,522	31	161	166	\$110,204,542	\$49,325,717	7.16%
2018	\$50,248	20,522	34	161	160	\$144,885,171	\$56,850,108	7.99%
2019	\$50,248	20,522	161	34	160	\$144,885,171	\$56,850,108	7.31%
2020	\$87,435	20,522	32	155	153	\$146,251,801	\$58,512,558	8.73%
2021	\$46,030	20,522	34	155	153	\$192,648,005	\$45,211,920	6.67%
2022	\$72,148	21,435	34	155	153	\$195,833,972	\$54,113,478	7.52%
2023	\$104,480	20,361	31	145	139	\$200,836,352	\$45,458,991	7.96%

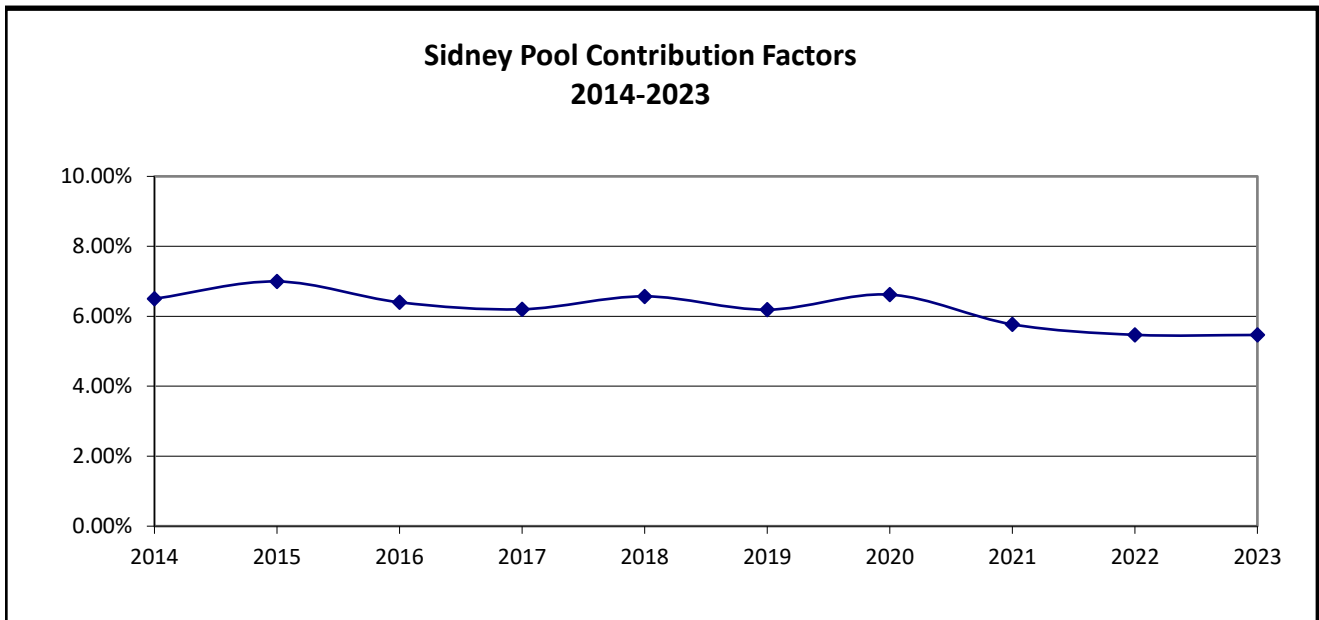
Source: Association's internal records



Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2014	\$41,798	21,229	36	149	142	\$76,513,173	\$23,545,356	6.50%
2015	\$56,895	21,229	36	149	133	\$77,683,418	\$24,203,862	7.00%
2016	\$48,047	21,229	36	149	153	\$80,469,787	\$24,562,121	6.40%
2017	\$46,835	21,229	36	154	139	\$81,984,842	\$25,004,148	6.20%
2018	\$50,753	21,229	38	149	147	\$88,091,655	\$27,312,360	6.57%
2019	\$50,753	21,229	38	149	147	\$88,091,655	\$27,312,360	6.19%
2020	\$57,864	21,229	38	149	150	\$94,916,530	\$29,579,976	6.62%
2021	\$53,230	21,229	36	161	161	\$96,951,816	\$20,058,856	5.77%
2022	\$42,433	20,301	36	162	163	\$98,329,965	\$30,849,890	5.47%
2023	\$54,874	20,592	37	199	154	\$104,257,406	\$21,927,084	5.47%

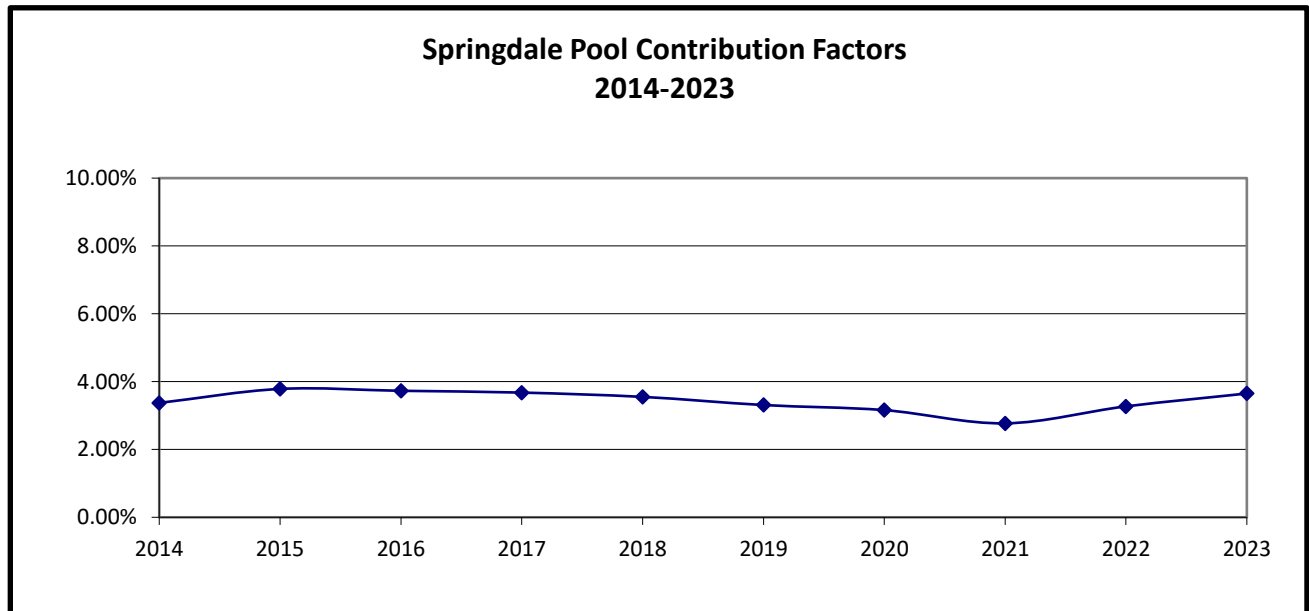
Source: Association's internal records





Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2014	\$14,364	11,223	34	76	71	\$39,495,622	\$15,911,155	3.37%
2015	\$24,833	11,223	32	76	73	\$39,769,584	\$16,941,758	3.78%
2016	\$27,036	11,223	33	76	78	\$40,343,050	\$16,215,558	3.73%
2017	\$26,734	11,223	37	76	69	\$40,359,051	\$16,758,666	3.68%
2018	\$20,837	11,223	32	79	69	\$42,083,153	\$20,995,756	3.55%
2019	\$20,837	11,223	32	79	69	\$42,083,153	\$20,995,756	3.31%
2020	\$16,221	11,223	33	83	66	\$43,955,028	\$21,050,311	3.16%
2021	\$15,671	11,223	34	91	74	\$44,445,359	\$10,698,055	2.77%
2022	\$25,833	11,201	35	85	71	\$45,181,659	\$22,805,421	3.27%
2023	\$43,856	10,990	32	84	69	\$48,706,252	\$19,013,157	3.65%

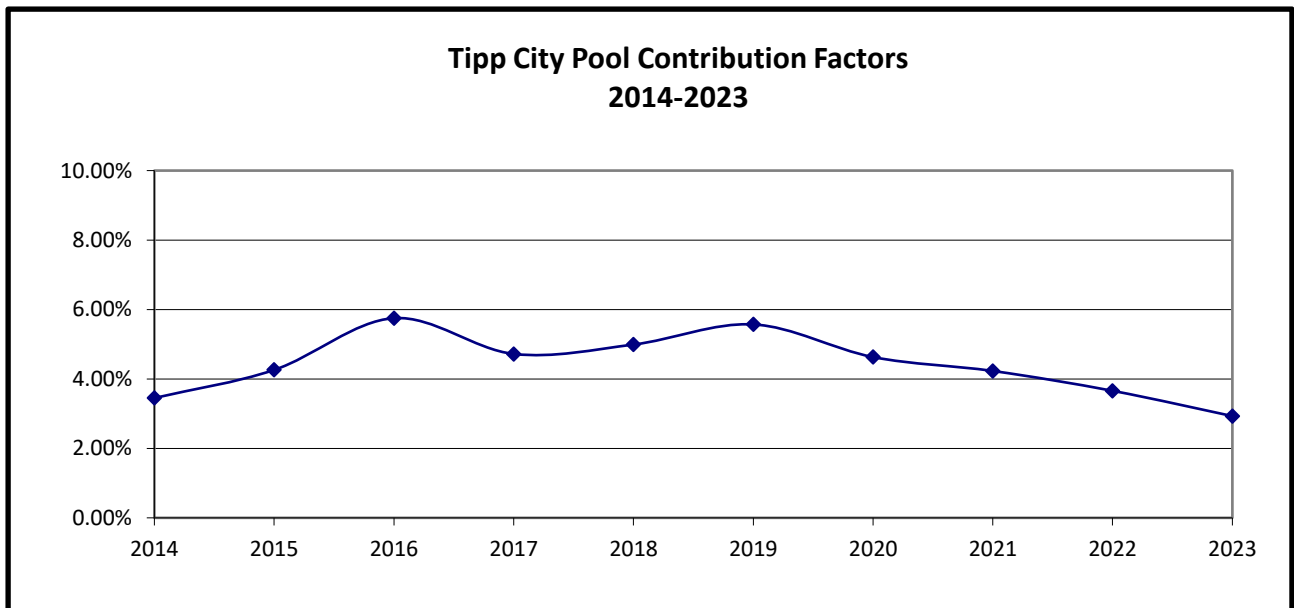
Source: Association's internal records



Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2014	\$24,948	9,689	19	47	86	\$30,389,846	\$19,237,669	3.45%
2015	\$43,746	9,689	19	48	80	\$30,983,069	\$20,849,710	4.26%
2016	\$83,711	9,689	19	49	84	\$36,375,267	\$23,526,968	5.75%
2017	\$60,284	9,689	19	49	89	\$37,947,607	\$22,429,536	4.72%
2018	\$88,510	9,689	19	48	79	\$40,172,980	\$26,395,734	4.99%
2019	\$88,510	9,689	48	19	79	\$40,172,980	\$26,395,734	5.57%
2020	\$59,200	9,689	20	51	74	\$41,537,304	\$28,519,971	4.63%
2021	\$58,348	9,689	20	51	76	\$45,585,223	\$25,608,347	4.23%
2022	\$86,845	10,166	20	51	73	\$44,257,664	\$29,654,495	3.37%
2023	\$24,779	10,282	20	51	76	\$52,999,171	\$26,504,655	2.93%

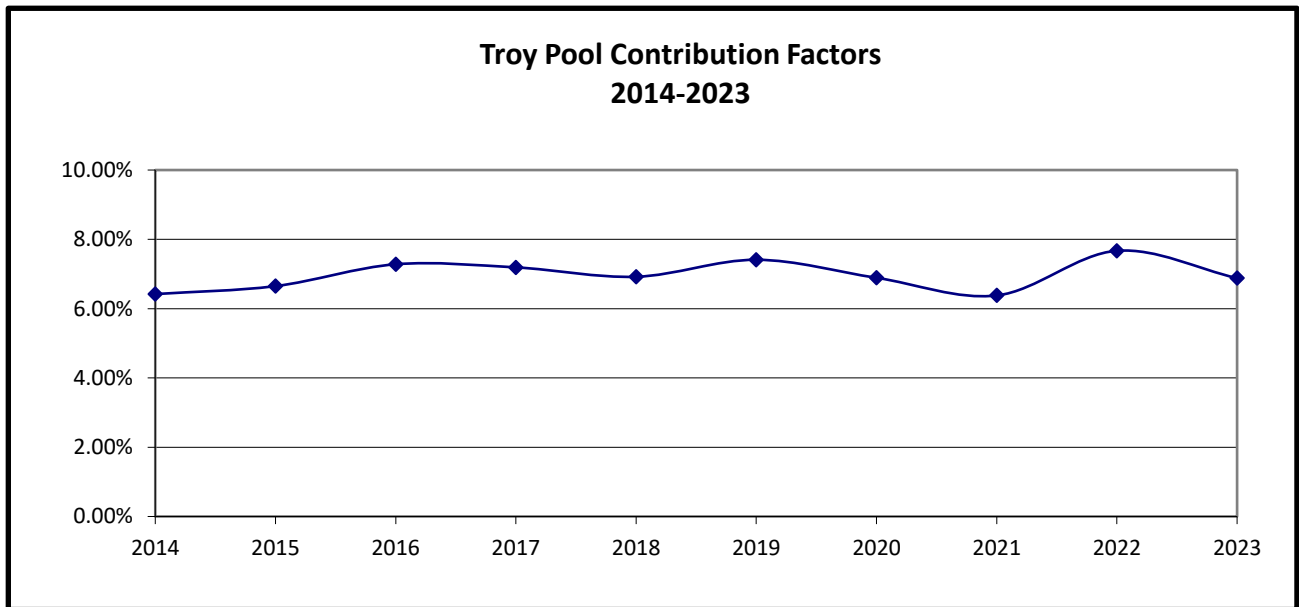
Source: Association's internal records



Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2014	\$37,119	25,058	39	140	118	\$82,989,425	\$27,498,899	6.42%
2015	\$42,575	25,058	43	141	124	\$83,607,476	\$28,426,635	6.65%
2016	\$67,444	25,058	43	141	111	\$83,275,967	\$29,243,228	7.28%
2017	\$63,225	25,058	40	141	144	\$88,115,813	\$30,974,471	7.19%
2018	\$72,270	25,058	43	144	146	\$104,911,885	\$32,223,154	6.92%
2019	\$72,270	25,058	144	43	146	\$104,911,885	\$32,223,154	7.41%
2020	\$54,408	25,058	43	151	140	\$110,956,100	\$36,492,082	6.89%
2021	\$60,130	25,058	43	153	149	\$114,842,219	\$25,141,395	6.38%
2022	\$94,420	26,473	43	151	148	\$115,480,095	\$34,245,515	7.67%
2023	\$83,679	23,027	43	159	151	\$131,207,018	\$28,772,354	6.88%

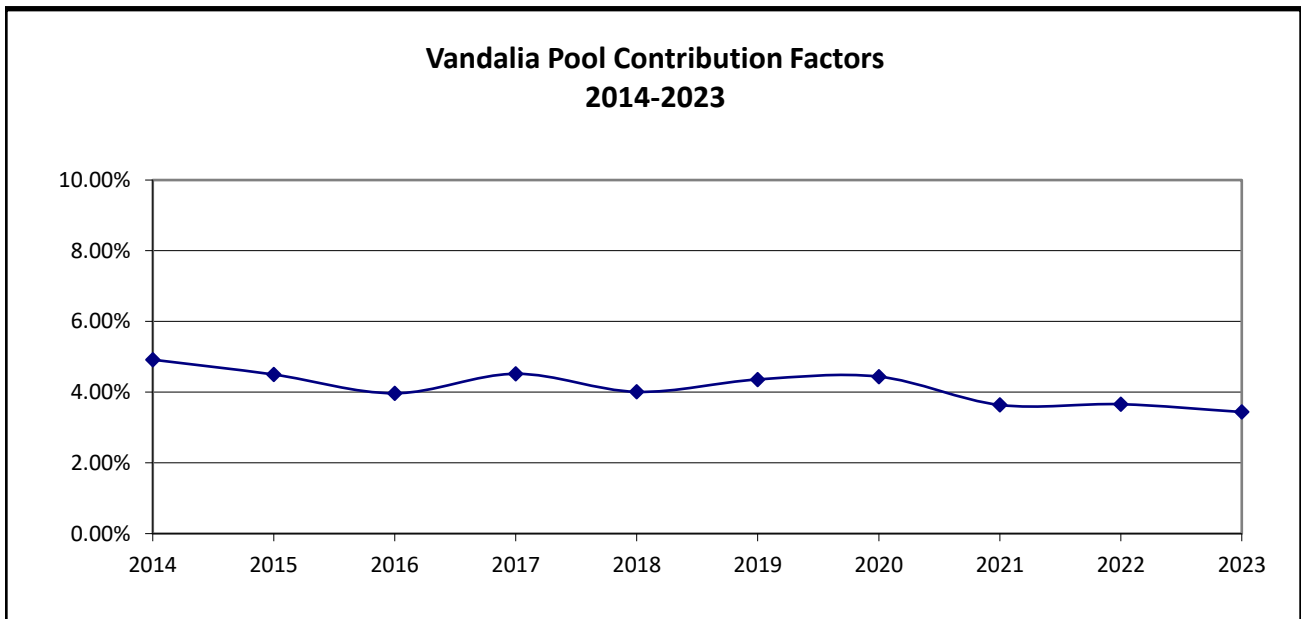
Source: Association's internal records



Last Ten Years

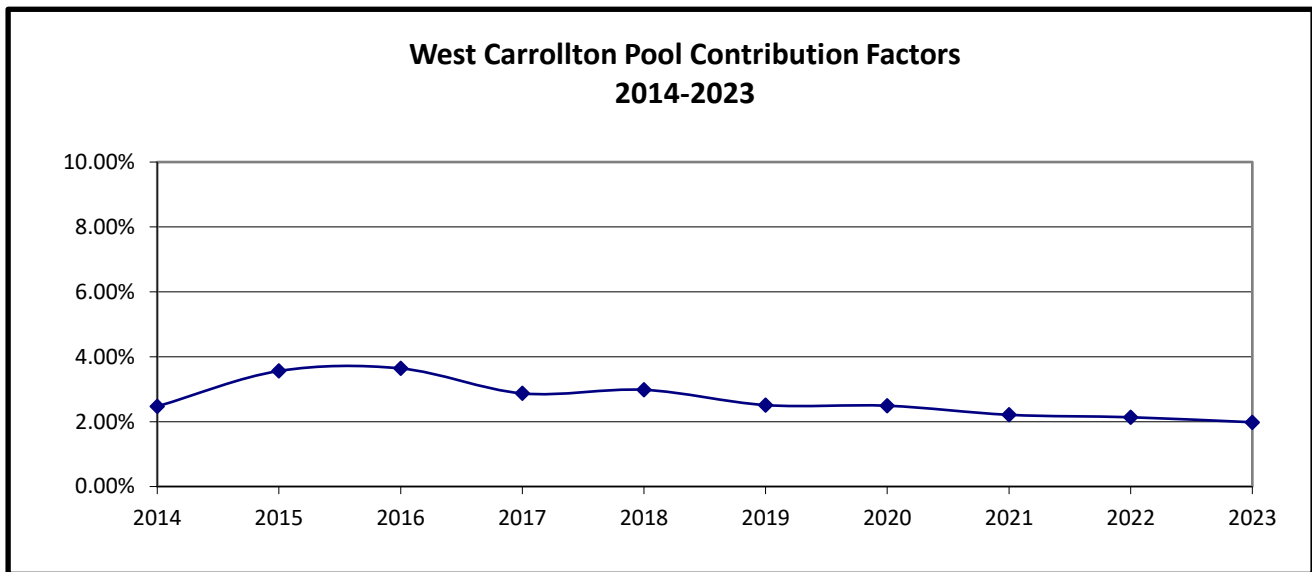
Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Employees	Full-Time Sworn Police	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2014	\$33,126	15,246	105	31	101	\$57,688,226	\$16,739,616	4.92%
2015	\$24,552	15,246	31	107	102	\$57,965,235	\$20,335,739	4.50%
2016	\$15,674	15,246	31	106	104	\$58,382,095	\$20,699,768	3.97%
2017	\$30,156	15,246	31	103	112	\$60,231,706	\$21,085,397	4.52%
2018	\$31,795	15,246	28	98	112	\$63,028,519	\$24,142,716	4.01%
2019	\$31,795	15,246	28	98	112	\$63,028,519	\$24,142,716	4.36%
2020	\$31,771	15,246	26	106	112	\$65,728,761	\$26,105,057	4.44%
2021	\$23,298	15,246	27	108	104	\$66,802,205	\$19,528,185	3.64%
2022	\$23,623	14,987	35	102	96	\$65,785,774	\$23,623	3.66%
2023	\$24,908	15,177	28	109	93	\$70,047,259	\$24,908	3.44%

Source: Association's internal records



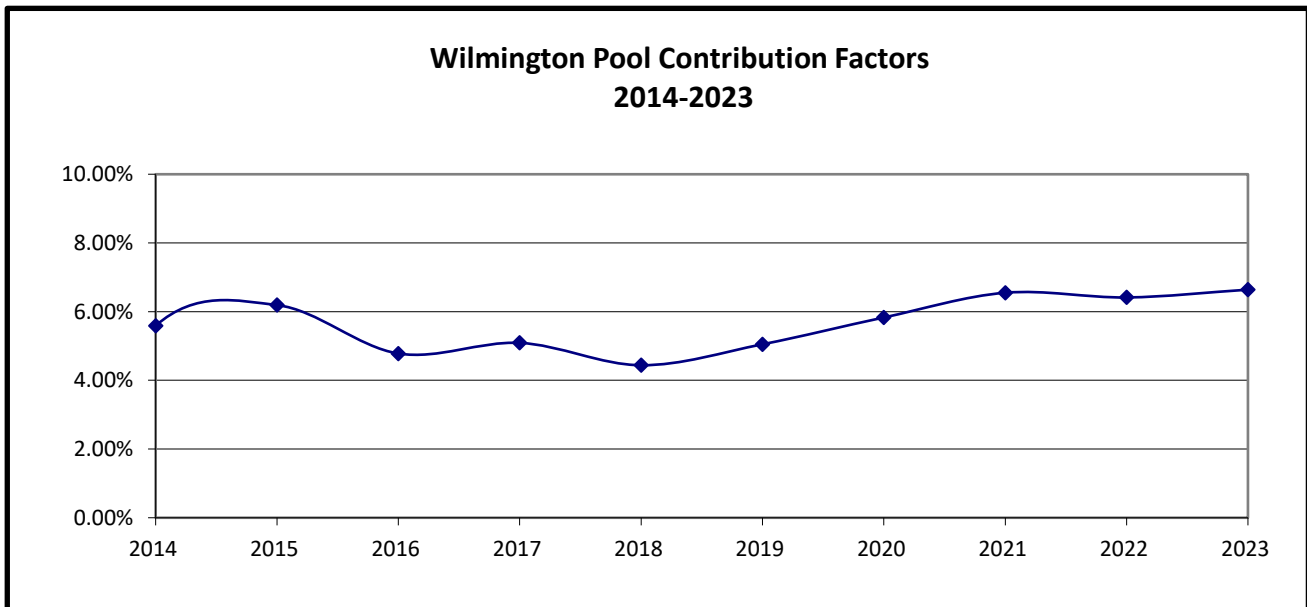
Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2014	\$8,931	13,143	22	46	63	\$28,876,147	\$11,021,168	2.47%
2015	\$33,748	13,143	22	45	63	\$29,414,833	\$10,888,826	3.56%
2016	\$40,289	13,143	22	44	64	\$30,933,346	\$11,436,574	3.64%
2017	\$22,794	13,143	23	42	64	\$31,209,386	\$11,060,789	2.87%
2018	\$16,133	13,143	21	42	63	\$33,595,978	\$12,941,859	2.98%
2019	\$16,133	13,143	21	42	63	\$33,595,978	\$12,941,859	2.51%
2020	\$14,259	13,143	21	42	68	\$33,769,391	\$13,879,960	2.49%
2021	\$13,571	13,143	22	52	64	\$34,246,229	\$9,901,609	2.21%
2022	\$11,070	12,850	22	54	64	\$33,938,286	\$12,970,833	2.13%
2023	\$8,236	13,095	22	54	59	\$35,646,707	\$10,981,403	1.98%

Source: Association's internal records



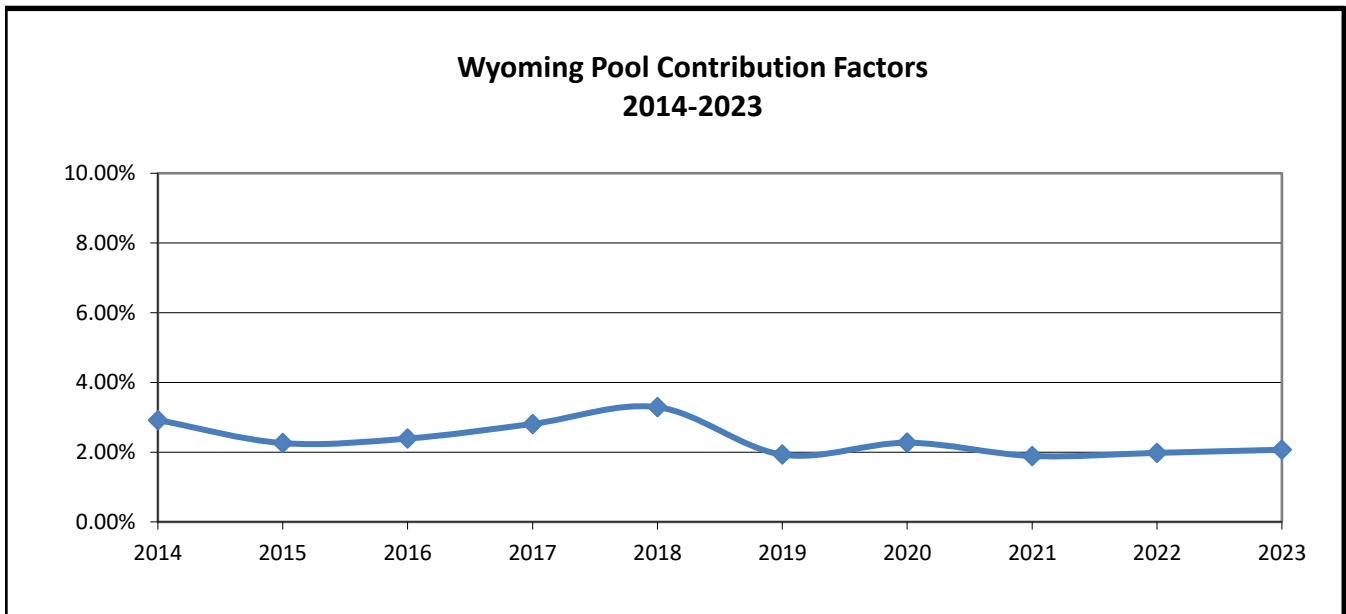
Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2014	\$45,623	12,520	18	117	122	\$74,109,343	\$17,250,306	5.59%
2015	\$61,564	12,520	21	114	123	\$74,328,087	\$17,262,613	6.19%
2016	\$35,691	12,520	21	114	126	\$75,583,201	\$17,710,188	4.78%
2017	\$44,388	12,520	21	111	134	\$76,275,394	\$18,793,497	5.09%
2018	\$46,241	12,520	21	118	131	\$81,058,086	\$23,420,103	4.44%
2019	\$46,241	12,520	21	118	131	\$81,058,086	\$23,420,103	5.05%
2020	\$62,253	12,520	18	140	135	\$83,784,532	\$22,632,528	5.83%
2021	\$97,941	12,520	22	124	136	\$84,552,649	\$20,334,591	6.55%
2022	\$95,146	12,399	20	125	142	\$90,304,603	\$22,136,394	6.41%
2023	\$113,876	12,518	24	131	144	\$100,268,841	\$18,447,788	6.64%

Source: Association's internal records



Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2014	\$28,739	8,428	16	32	39	\$28,119,925	\$9,256,904	2.92%
2015	\$17,522	8,428	16	31	39	\$28,099,422	\$8,085,768	2.26%
2016	\$23,742	8,428	16	31	33	\$29,508,384	\$8,915,723	2.39%
2017	\$34,521	8,428	16	31	37	\$31,586,153	\$8,546,218	2.97%
2018	\$11,630	8,428	16	31	37	\$35,866,497	\$9,860,142	3.29%
2019	\$11,630	8,428	22	26	37	\$35,866,497	\$9,860,142	1.93%
2020	\$18,885	8,428	19	35	38	\$37,524,239	\$10,919,777	2.27%
2021	\$14,024	8,428	19	35	38	\$37,756,374	\$10,135,719	1.89%
2022	\$18,089	8,550	17	32	40	\$39,446,852	\$11,626,496	1.98%
2023	\$22,791	8,749	19	36	42	\$42,856,276	\$7,766,281	2.07%

Source: Association's internal records



Miami Valley Risk Management Association  
 Operating Information by Component  
 Last Ten Years

Schedule 29

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Number of Members	20	20	20	20	20	21	21	21	21	21
Number of Staff	4	4	4	4	4	4	4	3	3	3
Number of Claims	422	369	390	377	417	311	261	282	314	209
Number of Training Sessions	22	24	32	34	57	48	26	25	39	30

Note: All data as of 12/31/2023

Note: The MVRMA staff attends to its members' risk management and risk financing needs, acts as a clearing house for risk related information, administers a claims/litigation management program, and provides extensive safety/loss control consulting and training.

Source: Employment Records, Association's internal records



# MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

**Analysis of Unpaid Loss and LAE as of December 31, 2023**

March 28, 2024



1 Concourse Parkway, Suite 645  
Atlanta, GA 30328  
770.587.0351  
pinnacleactuarial.com

**Commitment Beyond Numbers**



1 Concourse Parkway, Suite 645  
Atlanta, GA 30328  
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Timothy C. Mosler, FCAS, MAAA  
Principal and Consulting Actuary  
tmosler@pinnacleactuarial.com

March 28, 2024

Mr. Mark T. Wendling  
Executive Director  
Miami Valley Risk Management Association  
3085 Woodman Drive, Suite 200  
Kettering, OH 45420

Re: Analysis of Unpaid Loss and LAE as of December 31, 2023

Dear Mr. Wendling:

Attached is Pinnacle Actuarial Resources, Inc.'s (Pinnacle's) report on the unpaid loss and loss adjustment expense (LAE) amounts of Miami Valley Risk Management Association (MVRMA) as of December 31, 2023.

Attention is called to the section of the report entitled Distribution, which sets out the limits on distribution of the report.

We have prepared this report to document our analysis and so that MVRMA may comply with requirements of the state of Ohio concerning the need for a written actuarial report. A copy of this report should be retained in MVRMA's offices for a seven-year period in support of the loss reserves that will be contained in the 2023 financial statement. The report should be made available for insurance regulatory examination, upon request.

This report contains workpapers, trade secrets, and confidential information of both MVRMA and Pinnacle, and as such, it is not intended to be subject to disclosure requirements under any Freedom of Information Act or similar laws.

The authors of this report are members of the American Academy of Actuaries and meet its qualification standards to render the actuarial opinion contained herein. We have enjoyed working with you in the preparation of this report. Please let us know if you have any questions.

Very truly yours,



Timothy C. Mosler, FCAS, MAAA  
Principal and Consulting Actuary  
Direct Dial: 678.894.7254



Daniel A. Linton, FCAS, MAAA  
Senior Consulting Actuary  
Direct Dial: 309.807.2335

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## EXHIBITS

# Miami Valley Risk management Association

## Analysis of Unpaid Loss and LAE as of December 31, 2023

### PURPOSE AND SCOPE

Pinnacle Actuarial Resources, Inc. (Pinnacle) was retained by Miami Valley Risk Management Association (MVRMA) to prepare an actuarial analysis of MVRMA's loss and loss adjustment expense (LAE) experience for the purpose of developing estimates of unpaid loss and LAE as of December 31, 2023.

This report was prepared for the internal use of MVRMA management to present our findings with respect to this analysis. It is our understanding that MVRMA management will consider our findings for the purposes of establishing liability estimates for external financial reporting and internal management reporting.

Our report is not intended or necessarily suitable for any other purpose.

In this report, we develop an actuarial central estimate of MVRMA's unpaid loss and LAE as of December 31, 2023. This actuarial central estimate is intended to represent an expected value over a range of reasonably foreseeable outcomes. The actuarial central estimate was arrived at through evaluation of the results of various actuarial methods and models applied to MVRMA's experience. As such, the derivation of this estimate does not reflect extreme events believed to have a remote possibility of occurring. We consider the actuarial central estimate suitable for use in financial reporting contexts.

The exhibits attached in support of our conclusions are an integral part of this report. This section has been prepared so that our actuarial assumptions and judgments are documented. Judgments about the analysis and findings presented in this report should be made only after considering the report in its entirety. Our projections are predicated on a number of assumptions as to future conditions and events. These assumptions are documented in subsequent sections of this report and should be understood in order to place the actuarial estimates in their appropriate context. In addition, these projections are subject to a number of reliances and limitations, as described in subsequent sections of this report.

We are available to answer any questions that may arise regarding this report. We assume that the user of this report will seek such explanation on any matter in question.

The scope does not include quantification of the uncertainty in our estimates. However, our report includes commentary on this uncertainty to assist in understanding the financial implications of our results.

For the purposes of our report, the “accounting date” of December 31, 2023 is the date used to separate paid and unpaid claim amounts in MVRMA’s financial statement. Transactions through the “valuation date” of December 31, 2023 are included in the data used in our analysis. No account has been taken in the projections of developments subsequent to the “review date” of January 24, 2024.

Paid losses provided to us are net of salvage and subrogation. Therefore loss reserve estimates derived from this data would implicitly anticipate salvage and subrogation. The other recoverables considered in our reserve estimates are individual member liabilities and excess insurance.

All loss and LAE amounts are stated on an undiscounted basis as regards future investment income.

Throughout this report, the use of the term *loss* without modification includes loss and allocated loss adjustment expenses (ALAE), but does not include unallocated loss adjustment expenses (ULAE).

This actuarial report is being provided to MVRMA to be retained for a period of seven years in its administrative offices and to be available for examination by its members and for regulatory examination, if appropriate.

Loss adjustment expenses include but are not limited to the costs of administering, determining coverage for, settling, or defending claims even if it is ultimately determined that the claim is invalid.

## DISTRIBUTION

Our report is delivered under the following terms and conditions:

- This report is provided to MVRMA solely for the intended purpose, and may not be referenced or distributed to any other party without our prior written consent
- This report has been prepared for use by persons technically competent in the areas covered and with the necessary background information
- Draft versions of this report must not be relied upon by any person for any purpose
- This report is available for regulatory examination

A copy of this report may be shared with MVRMA's independent auditors solely in the context of their performing regular audit activities

We accept no responsibility for any consequences arising from any third party relying on this report. If we agree to provide this report to a third party, you are responsible for ensuring that the report is provided in its entirety, that the third party is made aware of the fact that they are not entitled to rely upon it, and that they may not distribute the report to any other party.

This report contains workpapers, trade secrets, and confidential information of both MVRMA and Pinnacle. Because of the nature of the material contained in the report, it is not intended to be subject to disclosure requirements under any Freedom of Information Act or similar laws.

## BACKGROUND

MVRMA has provided insurance coverage for its members since December 1, 1988. As of December 31, 2023, the pool was comprised of the following 22 entities: Beavercreek, Bellbrook, Blue Ash, Centerville, Englewood, Fairfield, Kettering, Madeira, Mason, Miamisburg, Montgomery, NAWA, Piqua, Sidney, Springdale, Tipp City, Troy, Vandalia, the Village of Indian Hill, West Carrollton, Wilmington and Wyoming. MVRMA provides coverage for several lines of insurance including commercial property, comprehensive general liability, automobile liability, automobile physical damage, law enforcement liability, public official's liability, crime, ambulance attendants, and boiler and machinery.

This report groups all losses into three categories: automobile liability (AL), general liability (GL), and property which includes auto physical damage (Property). Each line is analyzed for annual periods December 1, 1988 through December 31, 2023. The results of the report are not intended to apply to any other entities, lines of insurance, or periods.

Funding for MVRMA's loss and LAE is accomplished via annually budgeted contributions. In the event the pool requires additional funds, such amounts can be obtained via a call for special assessments by MVRMA's Board of Trustees for supplementary payments.

Prior to December 31, 1994, claim adjustment services were provided to MVRMA through Gallagher Bassett Insurance Services, Incorporated. Gallagher Bassett continued to adjust run-off claims for the period December 1, 1988 through December 31, 1994. As of December 31, 2008, there were no outstanding claims from this claim period. Effective January 1, 1995, MVRMA began to employ an in-house claims staff.

Data

We were provided with “gross” paid and incurred loss and ALAE by accident period, by line of business. The term “gross” means before consideration of recoverables from excess carriers and member deductibles. Paid losses are net of salvage and subrogation.

Detailed claims data was provided to us by MVRMA’s claims department for the 2016 and 2018 through 2023 accident periods. It is our understanding that there has been no claim activity for accident periods prior to 2016 as well as the 2017 accident period since our prior analysis as of December 31, 2022. Excess insurance limits were provided by MVRMA.

In our review, we have relied on listings and other relevant data, prepared by Mark, T. Wendling, Executive Director of MVRMA. We evaluated that data for reasonableness and consistency. We are relying on the audit procedures of MVRMA's independent public accountant and claims auditor to verify the accuracy of the data underlying our analysis. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete.

Self-Insured Retention History

The following table details the MVRMA self-insured retention (SIR) per occurrence for casualty and property coverages separately by accident year.

Accident Year	Casualty - SIR	Property - SIR
1993 & Prior	\$250,000	\$250,000
1994	\$250,000	\$100,000
1995	\$250,000	\$150,000
1996	\$250,000	\$250,000
1997-1998	\$500,000	\$250,000
1999-2001	\$500,000	\$150,000
2002	\$500,000	\$250,000
2003-2004	\$1,000,000	\$250,000
2005-2008	\$1,000,000	\$200,000
2009	\$1,000,000	\$200,000/\$250,000
2010-2023	\$500,000	\$250,000

The first \$2,500 of each occurrence is treated as a deductible by the pool member who suffered the loss. MVRMA did not have an aggregate stop loss policy for periods prior to December 31, 1990; however, there is an \$850,000 aggregate “property and casualty combined” stop loss in place for the accident periods 1991 through 1993 and a \$950,000 aggregate “casualty only” stop loss for the 1994 and 1995 accident periods. There is no aggregate stop loss policy for accident periods 1996 and



subsequent; rather, MVRMA is aggregating premiums previously paid for such coverage into an accumulating “shock loss” fund to be used at the discretion of the MVRMA Board.

Excess Insurance

The following table is a synopsis of the historical excess liability coverage carried by MVRMA:

Accident Year	Liability Excess Coverage	Provider
1997-2002	\$10M excess of \$1M	National Public Entity Excess Program (NPX)
2003	\$11M excess of \$1M	Government Entities Mutual, Inc. (GEM)/ Endurance Specialty Insurance Limited
2004	\$1M excess of \$1M \$5M excess of \$2M	GEM Insurance Co. of the State of PA (AIG)
2005	\$1M excess of \$1M \$5M excess of \$2M	GEM Illinois Union Insurance Company (ACE)
2006-2008	\$1M excess of \$1M \$8M excess of \$2M	GEM Munich Reinsurance America
2009	\$1M excess of \$1M \$8M excess of \$2M	GEM General Reinsurance Corporation
2010-2012	\$1.5M excess of \$500K \$8M excess of \$2M	GEM General Reinsurance Corporation
2013-2015	\$2.5M excess of \$500K \$7M excess of \$3M	GEM Genesis
2016-2023	\$4.5M excess of \$500K \$7M excess of \$5M	GEM Genesis

GEM is a protected cell reinsurance captive domiciled in the District of Columbia. GEM is sponsored by the National Association of Government Entity Programs, Inc. (NAGEP), a non-profit association incorporated in the District of Columbia.

## FINDINGS

Based on our analysis of MVRMA’s experience as of December 31, 2023, and subject to the considerations set forth in the *Reliances and Limitations* section, we have reached the conclusions set forth below.

### Unpaid Loss and LAE as of December 31, 2023

The estimated total undiscounted unpaid loss and LAE as of December 31, 2023 is \$3,461,643. This amount is net of reinsurance and member deductibles. It compares to an estimated unpaid amount of \$3,120,260 from our analysis as of December 31, 2022.

### Development in Net Loss Estimates from Prior Analysis

The table below compares our net ultimate loss estimate as of December 31, 2023 to our estimate as of December 31, 2022 for accident years 2022 and prior. Our estimates have decreased by \$68,000. The estimated ultimate losses are increased for 2022 which is the result of adverse loss experience related to property. The 2022 experience is more than offset by favorable experience in preceding years.

<b>MIAMI VALLEY RISK MANAGEMENT ASSOCIATION</b>				
Comparison of Net Ultimate Loss to Prior Ultimate Loss (in \$000s)				
Prior to Consideration of Member's Deductibles				
Accident Year	Evaluation Date		Difference	Percent Change
	@12/31/2022	@12/31/2023		
1989-2009	\$19,665	\$19,665	\$0	0.0%
2010	1,524	1,524	0	0.0%
2011	1,291	1,291	0	0.0%
2012	1,140	1,140	0	0.0%
2013	1,419	1,419	0	0.0%
2014	2,193	2,193	0	0.0%
2015	1,048	1,048	0	0.0%
2016	1,318	1,365	47	3.6%
2017	1,215	1,215	0	0.0%
2018	1,425	1,387	(38)	-2.6%
2019	1,576	1,450	(126)	-8.0%
2020	2,003	1,898	(105)	-5.2%
2021	1,849	1,708	(141)	-7.6%
2022	2,461	2,755	294	11.9%
<b>Total</b>	<b>\$40,126</b>	<b>\$40,058</b>	<b>(\$68)</b>	<b>-0.2%</b>

## ANALYSIS

Our analysis consisted of the steps outlined below.

### Development Patterns

Our projection of future claim reporting and payment is based on MVRMA's historical experience. Using historical loss development experience provided by MVRMA, we select report-to-report (RTR) development factors. In cases for which MVRMA's historical data is not sufficiently credible, stable, or mature, we have supplemented MVRMA's experience with benchmark reporting and payment patterns.

Benchmark patterns are constructed internally by Pinnacle, drawing upon available relevant sources of loss development data. Benchmarks are revised periodically as new information and trends emerge. While each company's own development can be expected to vary from the benchmark based on individual circumstances, we believe the benchmark is an appropriate supplement to the analysis of MVRMA's data, as it represents our current judgment as to the typical emergence of loss that can be expected for that class of business.

The selected development patterns are used for both the development and Bornhuetter-Ferguson (B-F) projection methods.

### Initial Expected Loss Costs

The selected initial expected loss costs (IELCs or loss per exposure) are based on a review of the paid and incurred loss development methods, the results of prior analyses, insurance industry indications, and observed trends. These IELCs form the basis of the B-F and expected loss projection methods.

### Selected Ultimate Losses

In general, our selected ultimate losses are based on the results of various projection methods. Our selections are based on judgment reflecting the range of estimates produced by the methods, and the strengths and weaknesses of each method. These methods are described in the *Description of Projection Methods* section of this report.

### Unallocated Loss Expense Reserve

We estimate the ULAE reserve based on a ratio of paid ULAE to paid loss by line of business. On Summary, Exhibit 4, the industry paid ULAE to paid loss ratio is applied to the estimated IBNR amounts and one-half of this ratio is applied to case reserves. This method is derived from the expectation that half of ULAE is incurred when a claim is opened and the other half at closure.

### General Overview of Exhibits

The Summary exhibits combine all lines of business and compare the indicated reserves and carried reserves in total. Exhibit 1.4 shows our calculation of the indicated ULAE reserve. Exhibit 1.3 summarizes member deductible losses by AY, while Exhibit 1.2 summarizes ultimate losses by AY prior to the application of any member deductibles. Note that the aggregate retention is applied to the appropriate AY's and affects AY 1993. Exhibit 1.1 summarizes the indicated reserves from Exhibit 1.2 before and after application of the member deductibles.

### Automobile Liability

The auto liability analysis is arranged in 19 exhibits. Exhibit 19 shows the summarized data from the loss runs provided by MVRMA for this analysis. The claim summary and ultimate claim projection can be found in Exhibits 15 through 18. Exhibit 18 shows AL's historical reported claim experience and our selected development factors. For nearly all years, all claims are reported by 36 months. Exhibit 15 summarizes the claim indications including indicated IBNR claims.

Exhibits 13 and 14 show the incurred and paid loss triangles limited to \$500,000 and our initial selected development factors, respectively. On Exhibit 12, we estimate \$1,000,000 limits development patterns based on the \$500,000 limits development patterns and an assumed 6 month lag.

Exhibits 8 through 10 contain the development method indications using the selected development factors from Exhibits 12 through 14. Exhibit 11 shows indications based on industry development.

Exhibits 7.1 through 7.3 calculate the expected loss cost used in the B-F methods found in Exhibits 5 and 6. First, a limit factor is selected to adjust all AY's to a \$500,000 limit (Exhibit 7.3). Second, an initial ultimate loss is selected based on the development methods (Exhibit 7.2). Next, AY loss costs based on the initial selected ultimate losses are trended to AY 2023 with an initial loss cost selected for AY 2023. Finally, the expected loss cost for all AY's are calculated by detrending the selected AY 2023 loss cost (Exhibit 7.1).

We select ultimate losses at retained limits on Exhibit 4. Exhibit 3 provides a comparison of selected ultimate losses to those selected in our prior analysis. Exhibit 2 calculates the ultimate frequency, ultimate severity, and ultimate loss costs based on the selected ultimate losses in Exhibit 4. Exhibit 1 summarizes the loss indications including indicated IBNR losses.

The exhibits for GL and Property follow a similar layout as the AL exhibits.

Exhibits in support of the Annual Comprehensive Financial Report (ACFR) are also provided at the end of the analysis.

## RELIANCES AND LIMITATIONS

### Inherent Uncertainty

Projections of loss and LAE liabilities are subject to potentially large errors of estimation, since the ultimate disposition of claims incurred prior to the financial statement date, whether reported or not, is subject to the outcome of events that have not yet occurred. Examples of these events include jury decisions, court interpretations, legislative changes, changes in the medical condition of claimants, public attitudes, and social/economic conditions such as inflation. Any estimate of future costs is subject to the inherent limitation on one's ability to predict the aggregate course of future events. It should therefore be expected that the actual emergence of losses and LAE will vary, perhaps materially, from any estimate. Thus, no assurance can be given that MVRMA's actual loss and LAE liabilities will not ultimately exceed the estimates contained herein. In our judgment, we have employed techniques and assumptions that are appropriate, and the estimates presented herein are reasonable, given the information currently available.

Note that a quantification of this uncertainty would likely reflect a range of reasonable, favorable and adverse scenarios, but not necessarily a range of all possible outcomes. Further, the proper application of any range is dependent on the context. MVRMA's financial reports are governed by accounting standards, and such standards vary among jurisdictions. Under current accounting standards, the ends of a range that is illustrative of uncertainty would likely not be suitable for financial reporting purposes.

### Sensitivity Analysis

In performing this analysis, the sensitivity of key variables was considered. A number of assumptions about model variables are made in our analysis. We consider the key variables to include the selection of RTR factors, initial expected loss costs and loss cost trend factors. The overall results are potentially sensitive to any of these, and reasonable alternative selections could change the results significantly (favorably or adversely).

### Data Reliance

Throughout this analysis, we have relied on historical data and other quantitative and qualitative information supplied by MVRMA. We have not independently audited or verified this information; however, we have reviewed it for reasonableness and internal consistency. We have assumed that the information is complete and accurate, and that we have been provided with all information relevant to the analysis of MVRMA's ultimate losses and LAE. The accuracy of our results is dependent upon the accuracy and completeness of the underlying data; therefore, any material discrepancies discovered in this data should be reported to us and this report amended accordingly, if warranted.

MVRMA has indicated that it will require that their independent certified public accountant subject the data significant to our loss and LAE projections to testing procedures.

### Extraordinary Future Emergence

We have not anticipated any extraordinary changes to the legal, social, or economic environment that might affect the cost, frequency, or future reporting of claims. In addition, our estimates make no provision for potential future claims arising from loss causes not represented in the historical data (e.g., new types of mass torts or latent injuries, terrorist acts, etc.), except where claims of these types are included but not identified in the reported claims and are implicitly analyzed.

### Projections by Accident Year

Consistent with the purpose of our engagement, the focus of our analysis was on MVRMA's overall reserves for unpaid claims. As such, projections shown in this report for each accident year should be viewed in the context of the entire portfolio of liabilities, not necessarily as best estimates for individual accident years.

### Excess Insurance Collectability

Our estimates are presented net of excess insurance. Based solely on inquiries made of MVRMA management, we understand that none of MVRMA's excess insurance is considered uncollectible. An independent evaluation of the quality of security provided by MVRMA's excess insurers is outside the scope of our engagement. We have assumed that all of MVRMA's excess insurance protection will be valid and collectible. Contingent liability may exist for any excess insurance recoveries that may prove to be uncollectible. Should such liabilities materialize, they would be in addition to the net liability estimates contained herein.

### Underlying Assets

We have not examined the assets underlying MVRMA's loss and LAE reserves, and we have formed no opinion as to the validity or value of these assets. We have assumed throughout the analysis that MVRMA's loss and LAE reserves are backed by valid assets with suitably scheduled maturities and/or adequate liquidity to meet cash flow requirements.

## DESCRIPTION OF PROJECTION METHODS

The choice of method to estimate ultimate losses should consider, among other things, the line of business, the number of years of experience, and the age of the experience year being developed. In general, these methods can be applied to losses, ALAE, and various measures of claim counts.

### Incurred Development Method

The incurred development method is based upon the assumption that the relative change in a given year's incurred loss estimates from one evaluation point to the next is similar to the relative change in

prior years' incurred loss estimates at similar evaluation points. In utilizing this method, actual annual historical incurred loss data is evaluated. Successive years can be arranged to form a triangle of data.

RTR development factors are calculated to measure the change in cumulative incurred costs from one evaluation point to the next. These historical RTR factors and comparable benchmark factors form the basis for selecting the RTR factors used in projecting the current valuation of losses to an ultimate basis.

This method's implicit assumption is that the relative adequacy of case reserves has been consistent over time, and that there have been no material changes in the rate at which claims have been reported.

#### Paid Development Method

The paid development method is similar to the incurred development method; however, case reserves are excluded from the analysis. While this method has the disadvantage of not recognizing the information provided by current case reserves, it has the advantage of avoiding potential distortions in the data due to changes in case reserving methodology.

This method's implicit assumption is that the rate of payment of claims has been relatively consistent over time.

#### Case Reserve Development Method

The case reserve development technique derives case reserve development factors through an analysis of the historical development of case reserves by period. The changes measured by the case reserve development technique include payments associated with the historical case reserves and subsequent reserve amounts for those claims remaining open.

The case reserve development factors are applied to the current case reserves by period to estimate their ultimate settlement value. Payments to date are then added to determine the ultimate losses for each period.

#### Expected Loss Method

In the expected loss method, ultimate loss projections are based upon a prior measure of the anticipated losses, such as number of cars, expenditures, etc. An expected loss cost is applied to the measure of exposure to determine estimated ultimate losses for each year.

Actual losses are not considered in this calculation. This method has the advantage of stability over time because the ultimate loss estimates do not change unless the expected loss costs change.

However, this advantage of stability is offset by a lack of responsiveness since this method does not consider actual loss experience as it emerges.

This method is entirely dependent on the assumption that the loss cost per unit of exposure is a good indication of ultimate losses.

### Incurred Bornhuetter-Ferguson Method

The incurred B-F method is essentially a blend of two other methods. The first method is the loss development method whereby actual incurred losses are multiplied by an expected loss development factor. For slow reporting coverages, the loss development method can lead to erratic and unreliable projections because a relatively small swing in early reportings can result in a large swing in ultimate projections. The second method is the expected loss method whereby the IBNR estimate equals the difference between a predetermined estimate of expected losses and actual incurred losses. This has the advantage of stability, but it does not respond to actual results as they emerge.

The incurred B-F method combines these two methods by setting ultimate losses equal to actual incurred losses plus expected unreported losses. As an experience year matures and expected unreported losses become smaller, the initial expected loss assumption becomes gradually less important.

Two parameters are needed to apply the B-F method: the initial expected loss cost (IELC) and the expected reporting pattern. The IELC is selected as described in the *Analysis* section, while the expected reporting pattern is based on the incurred loss development method described above.

This method is often used for long-tail lines and in situations where the incurred loss experience is relatively immature or lacks sufficient credibility for the application of other methods.

### Paid Bornhuetter-Ferguson Method

The paid B-F method is analogous to the incurred B-F method using paid losses and development patterns in place of incurred losses and patterns.



# Exhibits

Miami Valley Risk Management Association  
Summary  
December 31, 2023

Indicated Reserves

Gross of Member Deductible		
(1)	Selected Ultimate Loss	\$42,702,937
(2)	Application of Aggregate Retention	\$144,133
(3)	Retained Ultimate Loss	\$42,558,804
(4)	Retained Paid Loss	\$39,077,706
(5)	Indicated Loss Reserves	\$3,481,098
Member Deductible		
(6)	Indicated Ultimate Loss	\$4,229,213
(7)	Paid Loss	\$4,087,973
(8)	Indicated Loss Reserves	\$141,240
Net of Member Deductible		
(9)	Indicated Loss Reserves	\$3,339,858
(10)	Indicated Unallocated Loss Expense Reserves	\$121,785
(11)	Indicated Loss and Loss Expense Reserves	\$3,461,643

Notes:

- (1) From Summary, Exhibit 2, Col (5)
- (2) = Summary, Exhibit 2, Col (5) - Exhibit 2, Col (7)
- (3) From Summary, Exhibit 2, Col (7)
- (4) From Summary, Exhibit 2, Col (12)
- (5) = (3) - (4)
- (6) From Summary, Exhibit 3, Col (5)
- (7) From Summary, Exhibit 3, Col (9)
- (8) = (6) - (7)
- (9) = (5) - (8)
- (10) From Summary, Exhibit 4, Row (11)
- (11) = (9) + (10)

Miami Valley Risk Management Association  
Summary  
December 31, 2023

Summary of Estimated Ultimate Retained Loss Prior to Consideration of Member Deductible  
Retained Limits

Accident Year (1)	Ultimate Loss					Paid Loss					
	Automobile Liability (2)	General Liability (3)	Property Liability (4)	Total (5)	Aggregate Retention (6)	Retained Losses (7)	Automobile Liability (8)	General Liability (9)	Property Liability (10)	Total (11)	Retained Losses (12)
1989	\$111,919	\$207,853	\$124,141	\$443,913		\$443,913	\$111,919	\$207,853	\$124,141	\$443,913	\$443,913
1990	18,683	439,863	32,734	491,280		491,280	18,683	439,863	32,734	491,280	491,280
1991	13,946	84,015	75,626	173,587	850,000	173,587	13,946	84,015	75,626	173,587	173,587
1992	39,293	139,376	63,858	242,527	850,000	242,527	39,293	139,376	63,858	242,527	242,527
1993	329,494	600,979	63,660	994,133	850,000	850,000	329,494	600,979	63,660	994,133	850,000
1994	126,181	106,065	96,833	329,079	950,000	329,079	126,181	106,065	96,833	329,079	329,079
1995	157,537	156,790	85,639	399,966	950,000	399,966	157,537	156,790	85,639	399,966	399,966
1996	75,097	357,926	92,901	525,924		525,924	75,097	357,926	92,901	525,924	525,924
1997	572,332	706,526	225,205	1,504,063		1,504,063	572,332	706,526	225,205	1,504,063	1,504,063
1998	98,687	554,289	135,150	788,126		788,126	98,687	554,289	135,150	788,126	788,126
1999	203,725	657,094	392,466	1,253,285		1,253,285	203,725	657,094	392,466	1,253,285	1,253,285
2000	81,660	164,560	130,204	376,424		376,424	81,660	164,560	130,204	376,424	376,424
2001	555,168	497,423	505,931	1,558,522		1,558,522	555,168	497,423	505,931	1,558,522	1,558,522
2002	167,747	1,347,177	369,496	1,884,420		1,884,420	167,747	1,347,177	369,496	1,884,420	1,884,420
2003	168,870	269,762	265,463	704,095		704,095	168,870	269,762	265,463	704,095	704,095
2004	49,417	511,964	229,621	791,002		791,002	49,417	511,964	229,621	791,002	791,002
2005	243,966	857,801	369,470	1,471,237		1,471,237	243,966	857,801	369,470	1,471,237	1,471,237
2006	145,431	915,795	497,206	1,558,432		1,558,432	145,431	915,795	497,206	1,558,432	1,558,432
2007	275,826	312,120	405,891	993,837		993,837	275,826	312,120	405,891	993,837	993,837
2008	136,527	856,672	654,562	1,647,761		1,647,761	136,527	856,672	654,562	1,647,761	1,647,761
2009	31,122	1,177,813	324,515	1,533,450		1,533,450	31,122	1,177,813	324,515	1,533,450	1,533,450
2010	161,512	972,613	389,384	1,523,508		1,523,508	161,512	972,613	389,384	1,523,508	1,523,508
2011	87,731	323,802	879,940	1,291,472		1,291,472	87,731	323,802	879,940	1,291,472	1,291,472
2012	38,269	542,610	559,108	1,139,987		1,139,987	38,269	542,610	559,108	1,139,987	1,139,987
2013	234,785	601,882	582,706	1,419,374		1,419,374	234,785	601,882	582,706	1,419,374	1,419,374
2014	104,340	925,867	1,162,693	2,192,900		2,192,900	104,340	925,867	1,162,693	2,192,900	2,192,900
2015	82,316	314,175	651,268	1,047,759		1,047,759	82,316	314,175	651,268	1,047,759	1,047,759
2016	145,899	771,000	448,203	1,365,103		1,365,103	145,899	720,040	448,203	1,314,143	1,314,143
2017	65,054	541,861	607,680	1,214,595		1,214,595	65,054	541,861	607,680	1,214,595	1,214,595
2018	78,866	737,000	571,312	1,387,178		1,387,178	78,866	675,778	571,312	1,325,956	1,325,956
2019	65,140	545,000	839,639	1,449,779		1,449,779	65,140	446,564	839,639	1,351,343	1,351,343
2020	69,079	770,000	1,058,832	1,897,911		1,897,911	69,079	584,419	1,058,832	1,712,330	1,712,330
2021	120,307	630,000	958,000	1,708,307		1,708,307	120,307	232,536	952,501	1,305,344	1,305,344
2022	320,000	980,000	1,455,000	2,755,000		2,755,000	104,982	229,978	1,248,947	1,583,907	1,583,907
2023	125,000	1,220,000	1,300,000	2,645,000		2,645,000	35,807	395,237	703,113	1,134,157	1,134,157
Total	\$5,300,926	\$20,797,672	\$16,604,338	\$42,702,937		\$42,558,804	\$4,996,715	\$18,429,223	\$15,795,900	\$39,221,839	\$39,077,706

Notes:

- (2) From Auto Liability (AB, AD), Exhibit 1, Col (2)
- (3) From General Liability, Exhibit 1, Col (2)
- (4) From Property and Auto Physical Damage, Exhibit 1, Col (2)
- (5) = (2) + (3) + (4)
- (6) Provided by MVRMA
- (7) = (5) subject to (6)
- (8)-(10) Provided by MVRMA
- (11) = (8) + (9) + (10)
- (12) = (11) subject to (6)

Miami Valley Risk Management Association  
Summary  
December 31, 2023

Summary of Estimated Member Deductible Ultimate Loss

Accident Year	Ultimate Loss				Paid Loss			
	Automobile Liability	General Liability	Property Liability	Total	Automobile Liability	General Liability	Property Liability	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1989								
1990								
1991								
1992								
1993								
1994								
1995								
1996								
1997								
1998								
1999								
2000								
2001								
2002								
2003								
2004								
2005								
2006	\$48,974	\$55,888	\$103,904	\$208,766	\$48,974	\$55,888	\$103,904	\$208,766
2007	76,272	54,069	101,827	232,168	76,272	54,069	101,827	232,168
2008	46,288	71,826	134,525	252,640	46,288	71,826	134,525	252,640
2009	30,922	58,683	119,127	208,732	30,922	58,683	119,127	208,732
2010	43,334	68,618	87,270	199,222	43,334	68,618	87,270	199,222
2011	43,911	67,033	127,474	238,418	43,911	67,033	127,474	238,418
2012	24,213	48,604	92,085	164,902	24,213	48,604	92,085	164,902
2013	40,252	54,455	112,692	207,399	40,252	54,455	112,692	207,399
2014	64,282	72,415	103,333	240,030	64,282	72,415	103,333	240,030
2015	47,339	64,046	94,439	205,824	47,339	64,046	94,439	205,824
2016	71,966	64,852	124,197	261,014	71,966	64,852	124,197	261,014
2017	40,684	49,966	101,811	192,461	40,684	49,966	101,811	192,461
2018	36,140	63,974	131,858	231,972	36,140	61,488	131,858	229,486
2019	40,764	74,963	130,981	246,708	40,764	74,963	130,981	246,708
2020	32,317	41,258	141,235	214,810	32,317	41,258	141,235	214,810
2021	46,935	45,406	204,614	296,954	46,935	42,191	204,614	293,739
2022	45,240	59,929	226,239	331,409	43,467	57,429	217,737	318,634
2023	47,394	39,403	208,987	295,784	22,795	26,459	123,766	173,020
Total	\$827,229	\$1,055,388	\$2,346,596	\$4,229,213	\$800,856	\$1,034,243	\$2,252,873	\$4,087,973

Notes:

- (2)-(4) Provided by MVRMA
- (5) = (2) + (3) + (4)
- (6)-(8) Provided by MVRMA
- (9) = (6) + (7) + (8)

Miami Valley Risk Management Association  
Summary  
December 31, 2023

Indicated Unallocated Loss Adjustment Expense Reserves

Accident Year	Case Reserves				IBNR			
	Automobile Liability	General Liability	Property Liability	Total	Automobile Liability	General Liability	Property Liability	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1989								
1990								
1991								
1992								
1993								
1994								
1995								
1996								
1997								
1998								
1999								
2000								
2001								
2002								
2003								
2004								
2005								
2006	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2007	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0
2016	0	31,880	0	31,880	0	19,080	0	19,080
2017	0	0	0	0	0	0	0	0
2018	0	39,825	0	39,825	0	21,397	0	21,397
2019	0	46,269	0	46,269	0	52,167	0	52,167
2020	0	59,083	0	59,083	0	126,498	0	126,498
2021	0	186,861	5,419	192,281	0	210,603	79	210,682
2022	163,293	84,175	184,762	432,230	51,725	665,847	21,291	738,862
2023	33,729	120,417	332,805	486,951	55,464	704,347	264,081	1,023,892
Total	\$197,022	\$568,510	\$522,987	\$1,288,519	\$107,189	\$1,799,939	\$285,452	\$2,192,579
	(10)		Selected ULAE Expense to Loss Ratio		4.9%	4.1%	4.8%	4.3%
	(11)		ULAE Reserves		\$10,079	\$85,452	\$26,253	\$121,785

Notes: Losses Net of Deductibles  
(2)-(4) Provided by MVRMA  
(5) = (2) + (3) + (4)  
(6) From Auto Liability (AB, AD), Exhibit 1, Col (6)  
(7) From General Liability, Exhibit 1, Col (6)  
(8) From Property and Auto Physical Damage, Exhibit 1, Col (6)  
(9) = (6) + (7) + (8)  
(10) Based on Pinnacle's analysis of industry data  
(11) = 50% of ULAE Ratio x Case Reserves + 100% of ULAE Ratio x IBNR Reserves

Miami Valley Risk Management Association  
Auto Liability (AB, AD)  
December 31, 2023

Summary of Loss Reserve Estimates  
Retained Limits

Accident Year	Selected Ultimate Loss	Incurred Loss	Paid Loss	Case Reserves	Indicated IBNR	Estimated Total Reserves
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1989	\$111,919	\$111,919	\$111,919	\$0	\$0	\$0
1990	18,683	18,683	18,683	0	0	0
1991	13,946	13,946	13,946	0	0	0
1992	39,293	39,293	39,293	0	0	0
1993	329,494	329,494	329,494	0	0	0
1994	126,181	126,181	126,181	0	0	0
1995	157,537	157,537	157,537	0	0	0
1996	75,097	75,097	75,097	0	0	0
1997	572,332	572,332	572,332	0	0	0
1998	98,687	98,687	98,687	0	0	0
1999	203,725	203,725	203,725	0	0	0
2000	81,660	81,660	81,660	0	0	0
2001	555,168	555,168	555,168	0	0	0
2002	167,747	167,747	167,747	0	0	0
2003	168,870	168,870	168,870	0	0	0
2004	49,417	49,417	49,417	0	0	0
2005	243,966	243,966	243,966	0	0	0
2006	145,431	145,431	145,431	0	0	0
2007	275,826	275,826	275,826	0	0	0
2008	136,527	136,527	136,527	0	0	0
2009	31,122	31,122	31,122	0	0	0
2010	161,512	161,512	161,512	0	0	0
2011	87,731	87,731	87,731	0	0	0
2012	38,269	38,269	38,269	0	0	0
2013	234,785	234,785	234,785	0	0	0
2014	104,340	104,340	104,340	0	0	0
2015	82,316	82,316	82,316	0	0	0
2016	145,899	145,899	145,899	0	0	0
2017	65,054	65,054	65,054	0	0	0
2018	78,866	78,866	78,866	0	0	0
2019	65,140	65,140	65,140	0	0	0
2020	69,079	69,079	69,079	0	0	0
2021	120,307	120,307	120,307	0	0	0
2022	320,000	268,275	104,982	163,293	51,725	215,018
2023	125,000	69,536	35,807	33,729	55,464	89,193
Total	\$5,300,926	\$5,193,737	\$4,996,715	\$197,022	\$107,189	\$304,211

Notes:  
 (2) From Exhibit 4, Col (11)  
 (3)-(5) Provided by MVRMA  
 (6) = (2) - (3)  
 (7) = (5) + (6)

Miami Valley Risk Management Association  
Auto Liability (AB, AD)  
December 31, 2023

Ultimate Average Indications  
Retained Limits

Accident Year	Selected Ultimate Loss	Number of Vehicles	Selected Ultimate Claims	Ultimate Claims per 100 Vehicles	Ultimate Loss per Vehicle	Ultimate Loss per Claim
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1989	\$111,919	534	43	8.1	\$210	\$2,603
1990	18,683	663	33	5.0	28	566
1991	13,946	797	26	3.3	17	536
1992	39,293	870	38	4.4	45	1,034
1993	329,494	1,023	60	5.9	322	5,492
1994	126,181	1,153	72	6.2	109	1,753
1995	157,537	1,031	85	8.2	153	1,853
1996	75,097	1,131	114	10.1	66	659
1997	572,332	1,293	98	7.6	443	5,840
1998	98,687	1,379	86	6.2	72	1,148
1999	203,725	1,367	121	8.9	149	1,684
2000	81,660	1,431	104	7.3	57	785
2001	555,168	1,422	86	6.0	390	6,455
2002	167,747	1,557	80	5.1	108	2,097
2003	168,870	1,573	117	7.4	107	1,443
2004	49,417	1,745	86	4.9	28	575
2005	243,966	1,828	98	5.4	133	2,489
2006	145,431	1,812	70	3.9	80	2,078
2007	275,826	1,824	98	5.4	151	2,815
2008	136,527	1,891	76	4.0	72	1,796
2009	31,122	1,933	57	2.9	16	546
2010	161,512	1,926	78	4.0	84	2,071
2011	87,731	1,920	74	3.9	46	1,186
2012	38,269	1,939	52	2.7	20	736
2013	234,785	1,976	46	2.3	119	5,104
2014	104,340	1,924	78	4.1	54	1,338
2015	82,316	1,904	51	2.7	43	1,614
2016	145,899	1,926	76	3.9	76	1,920
2017	65,054	1,987	51	2.6	33	1,276
2018	78,866	2,010	49	2.4	39	1,610
2019	65,140	2,025	49	2.4	32	1,329
2020	69,079	2,326	37	1.6	30	1,867
2021	120,307	2,317	45	1.9	52	2,673
2022	320,000	2,260	71	3.1	142	4,507
2023	125,000	2,195	43	2.0	57	2,907
Total	\$5,300,926	56,892	2,448	4.3	\$93	\$2,165

Notes:

- (2) From Exhibit 4, Col (11)
- (3) Provided by MVRMA
- (4) From Exhibit 15, Col (6)
- (5) = (4) / (3) x 100
- (6) = (2) / (3)
- (7) = (2) / (4)

Miami Valley Risk Management Association  
Auto Liability (AB, AD)  
December 31, 2023

Comparison of Ultimate Loss to Prior Ultimate Loss  
Retained Limits

Accident Year	Selected Ultimate Loss @ 12/31/2022	Selected Ultimate Loss @ 12/31/2023	Difference	Percent Change
(1)	(2)	(3)	(4)	(5)
1989	\$111,919	\$111,919	\$0	0.0%
1990	18,683	18,683	0	0.0%
1991	13,946	13,946	0	0.0%
1992	39,293	39,293	0	0.0%
1993	329,494	329,494	0	0.0%
1994	126,181	126,181	0	0.0%
1995	157,537	157,537	0	0.0%
1996	75,097	75,097	0	0.0%
1997	572,332	572,332	0	0.0%
1998	98,687	98,687	0	0.0%
1999	203,725	203,725	0	0.0%
2000	81,660	81,660	0	0.0%
2001	555,168	555,168	0	0.0%
2002	167,747	167,747	0	0.0%
2003	168,870	168,870	0	0.0%
2004	49,417	49,417	0	0.0%
2005	243,966	243,966	0	0.0%
2006	145,431	145,431	0	0.0%
2007	275,826	275,826	0	0.0%
2008	136,527	136,527	0	0.0%
2009	31,122	31,122	0	0.0%
2010	161,512	161,512	0	0.0%
2011	87,731	87,731	0	0.0%
2012	38,269	38,269	0	0.0%
2013	234,785	234,785	0	0.0%
2014	104,340	104,340	0	0.0%
2015	82,316	82,316	0	0.0%
2016	145,899	145,899	0	0.0%
2017	65,054	65,054	0	0.0%
2018	78,866	78,866	0	0.0%
2019	71,000	65,140	(5,860)	-8.3%
2020	73,000	69,079	(3,921)	-5.4%
2021	145,000	120,307	(24,693)	-17.0%
2022	325,000	320,000	(5,000)	-1.5%
Total	\$5,215,400	\$5,175,926	(\$39,474)	-0.8%

Notes:

- (2) From Pinnacle's analysis of unpaid loss & LAE at 12/31/2022
- (3) From Exhibit 4, Col (11)
- (4) = (3) - (2)
- (5) = (4) / (2)



Miami Valley Risk Management Association  
Auto Liability (AB, AD)  
December 31, 2023

Selected Ultimate Loss  
Retained Limits

Accident Year	Retention	Industry Development		MVRMA's Loss Development			MVRMA Expected Loss Method	MVRMA Incurred BF Method	MVRMA Paid BF Method	Selected Ultimate Loss Method
		Incurred Loss Method	Paid Loss Method	Incurred Loss Method	Paid Loss Method	Case Reserve Method				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1989	\$250,000	\$111,919	\$111,919	\$111,919	\$111,919	\$111,919	\$20,427	\$111,919	\$111,919	\$111,919
1990	250,000	18,683	18,683	18,683	18,683	18,683	25,868	18,683	18,683	18,683
1991	250,000	13,946	13,946	13,946	13,946	13,946	31,719	13,946	13,946	13,946
1992	250,000	39,293	39,293	39,293	39,293	39,293	35,316	39,293	39,293	39,293
1993	250,000	329,494	329,494	329,494	329,494	329,494	42,358	329,494	329,494	329,494
1994	250,000	126,181	126,181	126,181	126,181	126,181	48,695	126,181	126,181	126,181
1995	250,000	157,537	157,537	157,537	157,537	157,537	44,414	157,537	157,537	157,537
1996	250,000	75,097	75,097	75,097	75,097	75,097	49,696	75,097	75,097	75,097
1997	500,000	572,332	572,332	572,332	572,332	572,332	57,950	572,332	572,332	572,332
1998	500,000	98,687	98,687	98,687	98,687	98,687	63,041	98,687	98,687	98,687
1999	500,000	203,725	203,725	203,725	203,725	203,725	63,742	203,725	203,725	203,725
2000	500,000	81,660	81,660	81,660	81,660	81,660	68,061	81,660	81,660	81,660
2001	500,000	555,168	555,168	555,168	555,168	555,168	68,985	555,168	555,168	555,168
2002	500,000	167,747	167,747	167,747	167,747	167,747	77,045	167,747	167,747	167,747
2003	1,000,000	168,870	168,870	168,870	168,870	168,870	79,394	168,870	168,870	168,870
2004	1,000,000	49,417	49,417	49,417	49,417	49,417	89,837	49,417	49,417	49,417
2005	1,000,000	243,969	243,971	243,966	243,966	243,966	95,992	243,966	243,966	243,966
2006	1,000,000	145,434	145,437	145,431	145,431	145,431	97,055	145,431	145,431	145,431
2007	1,000,000	275,838	275,847	275,826	275,826	275,826	99,651	275,826	275,826	275,826
2008	1,000,000	136,539	136,548	136,527	136,527	136,527	105,378	136,527	136,527	136,527
2009	1,000,000	31,128	31,132	31,122	31,122	31,122	109,873	31,122	31,122	31,122
2010	500,000	161,568	161,611	161,512	161,512	161,512	111,665	161,512	161,512	161,512
2011	500,000	87,792	87,839	87,731	87,731	87,731	113,543	87,731	87,731	87,731
2012	500,000	38,323	38,364	38,269	38,269	38,269	116,960	38,269	38,269	38,269
2013	500,000	235,446	235,948	234,785	234,785	234,785	121,576	234,785	234,785	234,785
2014	500,000	104,928	105,376	104,340	104,340	104,340	120,744	104,340	104,340	104,340
2015	500,000	82,837	83,399	82,316	82,316	82,316	121,878	82,316	82,316	82,316
2016	500,000	147,000	148,677	145,899	145,899	145,899	125,752	145,899	145,899	145,899
2017	500,000	65,820	67,121	65,054	65,314	65,054	132,330	65,054	65,581	65,054
2018	500,000	80,592	83,568	78,866	79,577	78,866	136,539	78,866	80,086	78,866
2019	500,000	67,851	73,097	65,140	66,056	65,140	140,309	65,140	67,086	65,140
2020	500,000	75,491	88,176	69,425	71,802	69,079	164,388	69,897	75,313	69,079
2021	500,000	145,412	195,703	125,745	133,802	120,307	167,027	127,530	137,153	120,307
2022	500,000	388,010	259,313	336,482	140,110	957,668	166,176	301,960	146,646	320,000
2023	500,000	147,336	212,088	106,402	83,630	121,392	164,625	126,575	129,946	125,000
Total		\$5,431,071	\$5,442,969	\$5,304,593	\$5,097,773	\$5,934,987	\$3,278,008	\$5,292,502	\$5,159,292	\$5,300,926

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 11.1, Col (4)
- (4) From Exhibit 11.2, Col (4)
- (5) From Exhibit 8, Col (4)
- (6) From Exhibit 9, Col (4)
- (7) From Exhibit 10, Col (8)
- (8) From Exhibit 5, Col (4)
- (9) From Exhibit 5, Col (8)
- (10) From Exhibit 6, Col (8)

Miami Valley Risk Management Association  
Auto Liability (AB, AD)  
December 31, 2023

Ultimate Loss Based on Bornhuetter-Ferguson Method Using Incurred Loss  
Retained Limits

Accident Year	Number of Vehicles	Selected Loss Cost	Expected Loss	Percent Undeveloped	Undeveloped Loss	Cumulative Incurred Loss	Projected Ultimate Loss	Indicated Loss Cost
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1989	534	\$38	\$20,427	0.0%	\$0	\$111,919	\$111,919	\$210
1990	663	39	25,868	0.0%	0	18,683	18,683	28
1991	797	40	31,719	0.0%	0	13,946	13,946	17
1992	870	41	35,316	0.0%	0	39,293	39,293	45
1993	1,023	41	42,358	0.0%	0	329,494	329,494	322
1994	1,153	42	48,695	0.0%	0	126,181	126,181	109
1995	1,031	43	44,414	0.0%	0	157,537	157,537	153
1996	1,131	44	49,696	0.0%	0	75,097	75,097	66
1997	1,293	45	57,950	0.0%	0	572,332	572,332	443
1998	1,379	46	63,041	0.0%	0	98,687	98,687	72
1999	1,367	47	63,742	0.0%	0	203,725	203,725	149
2000	1,431	48	68,061	0.0%	0	81,660	81,660	57
2001	1,422	49	68,985	0.0%	0	555,168	555,168	390
2002	1,557	49	77,045	0.0%	0	167,747	167,747	108
2003	1,573	50	79,394	0.0%	0	168,870	168,870	107
2004	1,745	51	89,837	0.0%	0	49,417	49,417	28
2005	1,828	53	95,992	0.0%	0	243,966	243,966	133
2006	1,812	54	97,055	0.0%	0	145,431	145,431	80
2007	1,824	55	99,651	0.0%	0	275,826	275,826	151
2008	1,891	56	105,378	0.0%	0	136,527	136,527	72
2009	1,933	57	109,873	0.0%	0	31,122	31,122	16
2010	1,926	58	111,665	0.0%	0	161,512	161,512	84
2011	1,920	59	113,543	0.0%	0	87,731	87,731	46
2012	1,939	60	116,960	0.0%	0	38,269	38,269	20
2013	1,976	62	121,576	0.0%	0	234,785	234,785	119
2014	1,924	63	120,744	0.0%	0	104,340	104,340	54
2015	1,904	64	121,878	0.0%	0	82,316	82,316	43
2016	1,926	65	125,752	0.0%	0	145,899	145,899	76
2017	1,987	67	132,330	0.0%	0	65,054	65,054	33
2018	2,010	68	136,539	0.0%	0	78,866	78,866	39
2019	2,025	69	140,309	0.0%	0	65,140	65,140	32
2020	2,326	71	164,388	0.5%	818	69,079	69,897	30
2021	2,317	72	167,027	4.3%	7,223	120,307	127,530	55
2022	2,260	74	166,176	20.3%	33,685	268,275	301,960	134
2023	2,195	75	164,625	34.6%	57,039	69,536	126,575	58
Total	56,892		\$3,278,008		\$98,765	\$5,193,737	\$5,292,502	\$93

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 7.1, Col (8)
- (4) = (2) x (3)
- (5) Based on Exhibit 12;  
\$500K limits for 1989-2002 and 2010-2023; \$1M limits for 2003-2009
- (6) = (4) x (5)
- (7) Provided by MVRMA
- (8) = (6) + (7)
- (9) = (8) / (2)

Miami Valley Risk Management Association  
Auto Liability (AB, AD)  
December 31, 2023

Ultimate Loss Based on Bornhuetter-Ferguson Method Using Paid Loss  
Retained Limits

Accident Year	Number of Vehicles	Selected Loss Cost	Expected Loss	Percent Undeveloped	Undeveloped Loss	Cumulative Paid Loss	Projected Ultimate Loss	Indicated Loss Cost
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1989	534	\$38	\$20,427	0.0%	\$0	\$111,919	\$111,919	\$210
1990	663	39	25,868	0.0%	0	18,683	18,683	28
1991	797	40	31,719	0.0%	0	13,946	13,946	17
1992	870	41	35,316	0.0%	0	39,293	39,293	45
1993	1,023	41	42,358	0.0%	0	329,494	329,494	322
1994	1,153	42	48,695	0.0%	0	126,181	126,181	109
1995	1,031	43	44,414	0.0%	0	157,537	157,537	153
1996	1,131	44	49,696	0.0%	0	75,097	75,097	66
1997	1,293	45	57,950	0.0%	0	572,332	572,332	443
1998	1,379	46	63,041	0.0%	0	98,687	98,687	72
1999	1,367	47	63,742	0.0%	0	203,725	203,725	149
2000	1,431	48	68,061	0.0%	0	81,660	81,660	57
2001	1,422	49	68,985	0.0%	0	555,168	555,168	390
2002	1,557	49	77,045	0.0%	0	167,747	167,747	108
2003	1,573	50	79,394	0.0%	0	168,870	168,870	107
2004	1,745	51	89,837	0.0%	0	49,417	49,417	28
2005	1,828	53	95,992	0.0%	0	243,966	243,966	133
2006	1,812	54	97,055	0.0%	0	145,431	145,431	80
2007	1,824	55	99,651	0.0%	0	275,826	275,826	151
2008	1,891	56	105,378	0.0%	0	136,527	136,527	72
2009	1,933	57	109,873	0.0%	0	31,122	31,122	16
2010	1,926	58	111,665	0.0%	0	161,512	161,512	84
2011	1,920	59	113,543	0.0%	0	87,731	87,731	46
2012	1,939	60	116,960	0.0%	0	38,269	38,269	20
2013	1,976	62	121,576	0.0%	0	234,785	234,785	119
2014	1,924	63	120,744	0.0%	0	104,340	104,340	54
2015	1,904	64	121,878	0.0%	0	82,316	82,316	43
2016	1,926	65	125,752	0.0%	0	145,899	145,899	76
2017	1,987	67	132,330	0.4%	527	65,054	65,581	33
2018	2,010	68	136,539	0.9%	1,221	78,866	80,086	40
2019	2,025	69	140,309	1.4%	1,946	65,140	67,086	33
2020	2,326	71	164,388	3.8%	6,234	69,079	75,313	32
2021	2,317	72	167,027	10.1%	16,847	120,307	137,153	59
2022	2,260	74	166,176	25.1%	41,663	104,982	146,646	65
2023	2,195	75	164,625	57.2%	94,139	35,807	129,946	59
Total	56,892		\$3,278,008		\$162,577	\$4,996,715	\$5,159,292	\$91

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 7.1, Col (8)
- (4) = (2) x (3)
- (5) Based on Exhibit 12;  
\$500K limits for 1989-2002 and 2010-2023; \$1M limits for 2003-2009
- (6) = (4) x (5)
- (7) Provided by MVRMA
- (8) = (6) + (7)
- (9) = (8) / (2)

Miami Valley Risk Management Association  
Auto Liability (AB, AD)  
December 31, 2023

Initial Expected Loss Cost  
Retained Limits

Accident Year	Number of Vehicles	Initial Ultimate Loss	Indicated Loss Cost	Limits Factor to \$500K	Trend Factor to 2023	Trended \$500K Limits Loss Cost	Expected Loss Cost
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1989	534	\$111,919	\$210	1.000	1.961	\$411	\$38
1990	663	18,683	28	1.000	1.922	54	39
1991	797	13,946	17	1.000	1.885	33	40
1992	870	39,293	45	1.000	1.848	83	41
1993	1,023	329,494	322	1.000	1.811	583	41
1994	1,153	126,181	109	1.000	1.776	194	42
1995	1,031	157,537	153	1.000	1.741	266	43
1996	1,131	75,097	66	1.000	1.707	113	44
1997	1,293	572,332	443	1.000	1.673	741	45
1998	1,379	98,687	72	1.000	1.641	117	46
1999	1,367	203,725	149	1.000	1.608	240	47
2000	1,431	81,660	57	1.000	1.577	90	48
2001	1,422	555,168	390	1.000	1.546	604	49
2002	1,557	167,747	108	1.000	1.516	163	49
2003	1,573	168,870	107	1.000	1.486	160	50
2004	1,745	49,417	28	1.000	1.457	41	51
2005	1,828	243,966	133	1.000	1.428	191	53
2006	1,812	145,431	80	1.000	1.400	112	54
2007	1,824	275,826	151	1.000	1.373	208	55
2008	1,891	136,527	72	1.000	1.346	97	56
2009	1,933	31,122	16	1.000	1.319	21	57
2010	1,926	161,512	84	1.000	1.294	108	58
2011	1,920	87,731	46	1.000	1.268	58	59
2012	1,939	38,269	20	1.000	1.243	25	60
2013	1,976	234,785	119	1.000	1.219	145	62
2014	1,924	104,340	54	1.000	1.195	65	63
2015	1,904	82,316	43	1.000	1.172	51	64
2016	1,926	145,899	76	1.000	1.149	87	65
2017	1,987	65,054	33	1.000	1.126	37	67
2018	2,010	78,866	39	1.000	1.104	43	68
2019	2,025	65,140	32	1.000	1.082	35	69
2020	2,326	69,425	30	1.000	1.061	32	71
2021	2,317	125,745	54	1.000	1.040	56	72
2022	2,260	336,482	149	1.000	1.020	152	74
2023	2,195	106,402	48	1.000	1.000	48	75
Total	56,892	\$5,304,593	\$93				
					Weighted Average Ex. Hi/Lo	\$124	
					10-Year Weighted Avg	61	
					10-Year Weighted Avg Ex. Hi/Lo	53	
					5-Year Weighted Avg	65	
					Selected 2023 Loss Cost	\$75	

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 7.2, Col (5)
- (4) = (3) / (2)
- (5) From Exhibit 7.3, Col (7)
- (6) Based on selected trend of 2.0%
- (7) = (4) x (5) x (6)
- (8) = Selected Loss Cost / [(6) x (5)]

Miami Valley Risk Management Association  
Auto Liability (AB, AD)  
December 31, 2023

Initial Selected Ultimate Loss  
Retained Limits

Accident Year (1)	Projected Ultimate Loss Based on			Initial Ultimate Loss (5)
	Incurred (2)	Paid (3)	Case (4)	
1989	\$111,919	\$111,919	\$111,919	\$111,919
1990	18,683	18,683	18,683	18,683
1991	13,946	13,946	13,946	13,946
1992	39,293	39,293	39,293	39,293
1993	329,494	329,494	329,494	329,494
1994	126,181	126,181	126,181	126,181
1995	157,537	157,537	157,537	157,537
1996	75,097	75,097	75,097	75,097
1997	572,332	572,332	572,332	572,332
1998	98,687	98,687	98,687	98,687
1999	203,725	203,725	203,725	203,725
2000	81,660	81,660	81,660	81,660
2001	555,168	555,168	555,168	555,168
2002	167,747	167,747	167,747	167,747
2003	168,870	168,870	168,870	168,870
2004	49,417	49,417	49,417	49,417
2005	243,966	243,966	243,966	243,966
2006	145,431	145,431	145,431	145,431
2007	275,826	275,826	275,826	275,826
2008	136,527	136,527	136,527	136,527
2009	31,122	31,122	31,122	31,122
2010	161,512	161,512	161,512	161,512
2011	87,731	87,731	87,731	87,731
2012	38,269	38,269	38,269	38,269
2013	234,785	234,785	234,785	234,785
2014	104,340	104,340	104,340	104,340
2015	82,316	82,316	82,316	82,316
2016	145,899	145,899	145,899	145,899
2017	65,054	65,314	65,054	65,054
2018	78,866	79,577	78,866	78,866
2019	65,140	66,056	65,140	65,140
2020	69,425	71,802	69,079	69,425
2021	125,745	133,802	120,307	125,745
2022	336,482	140,110	957,668	336,482
2023	106,402	83,630	121,392	106,402
Total	\$5,304,593	\$5,097,773	\$5,934,987	\$5,304,593

Notes:

- (2) From Exhibit 8, Col (4)
- (3) From Exhibit 9, Col (4)
- (4) From Exhibit 10, Col (8)

Miami Valley Risk Management Association  
Auto Liability (AB, AD)  
December 31, 2023

Estimated Limits Factor

Accident Year	Retention	Incurred Losses at		Incurred Limits Factors	Industry Limits Factors	Selected Limits Factors
		\$500K Limits	Retention Limits			
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1989	\$250,000	\$111,919	\$111,919	1.000		1.000
1990	250,000	18,683	18,683	1.000		1.000
1991	250,000	13,946	13,946	1.000		1.000
1992	250,000	39,293	39,293	1.000		1.000
1993	250,000	329,494	329,494	1.000		1.000
1994	250,000	126,181	126,181	1.000		1.000
1995	250,000	157,537	157,537	1.000		1.000
1996	250,000	75,097	75,097	1.000		1.000
1997	500,000	572,332	572,332	1.000	1.000	1.000
1998	500,000	98,687	98,687	1.000	1.000	1.000
1999	500,000	203,725	203,725	1.000	1.000	1.000
2000	500,000	81,660	81,660	1.000	1.000	1.000
2001	500,000	555,168	555,168	1.000	1.000	1.000
2002	500,000	167,747	167,747	1.000	1.000	1.000
2003	1,000,000	168,870	168,870	1.000	0.899	1.000
2004	1,000,000	49,417	49,417	1.000	0.896	1.000
2005	1,000,000	243,966	243,966	1.000	0.894	1.000
2006	1,000,000	145,431	145,431	1.000	0.891	1.000
2007	1,000,000	275,826	275,826	1.000	0.889	1.000
2008	1,000,000	136,527	136,527	1.000	0.886	1.000
2009	1,000,000	31,122	31,122	1.000	0.884	1.000
2010	500,000	161,512	161,512	1.000	1.000	1.000
2011	500,000	87,731	87,731	1.000	1.000	1.000
2012	500,000	38,269	38,269	1.000	1.000	1.000
2013	500,000	234,785	234,785	1.000	1.000	1.000
2014	500,000	104,340	104,340	1.000	1.000	1.000
2015	500,000	82,316	82,316	1.000	1.000	1.000
2016	500,000	145,899	145,899	1.000	1.000	1.000
2017	500,000	65,054	65,054	1.000	1.000	1.000
2018	500,000	78,866	78,866	1.000	1.000	1.000
2019	500,000	65,140	65,140	1.000	1.000	1.000
2020	500,000	69,079	69,079	1.000	1.000	1.000
2021	500,000	120,307	120,307	1.000	1.000	1.000
2022	500,000	268,275	268,275	1.000	1.000	1.000
2023	500,000	69,536	69,536	1.000	1.000	1.000
Total		\$5,193,737	\$5,193,737			

Notes:

- (2)-(4) Provided by MVRMA
- (5) = (3) / (4)
- (6) Based on insurance industry development

Miami Valley Risk Management Association  
Auto Liability (AB, AD)  
December 31, 2023

Ultimate Loss Based on Incurred Loss Development Method  
Retained Limits

Accident Year <u>(1)</u>	Cumulative Incurred Loss <u>(2)</u>	Loss Development Factors <u>(3)</u>	Projected Ultimate Loss <u>(4)</u>
1989	\$111,919	1.000	\$111,919
1990	18,683	1.000	18,683
1991	13,946	1.000	13,946
1992	39,293	1.000	39,293
1993	329,494	1.000	329,494
1994	126,181	1.000	126,181
1995	157,537	1.000	157,537
1996	75,097	1.000	75,097
1997	572,332	1.000	572,332
1998	98,687	1.000	98,687
1999	203,725	1.000	203,725
2000	81,660	1.000	81,660
2001	555,168	1.000	555,168
2002	167,747	1.000	167,747
2003	168,870	1.000	168,870
2004	49,417	1.000	49,417
2005	243,966	1.000	243,966
2006	145,431	1.000	145,431
2007	275,826	1.000	275,826
2008	136,527	1.000	136,527
2009	31,122	1.000	31,122
2010	161,512	1.000	161,512
2011	87,731	1.000	87,731
2012	38,269	1.000	38,269
2013	234,785	1.000	234,785
2014	104,340	1.000	104,340
2015	82,316	1.000	82,316
2016	145,899	1.000	145,899
2017	65,054	1.000	65,054
2018	78,866	1.000	78,866
2019	65,140	1.000	65,140
2020	69,079	1.005	69,425
2021	120,307	1.045	125,745
2022	268,275	1.254	336,482
2023	69,536	1.530	106,402
Total	\$5,193,737		\$5,304,593

Notes:

- (2) Provided by MVRMA
- (3) Based on Exhibit 12
- (4) = (2) x (3)

Miami Valley Risk Management Association  
Auto Liability (AB, AD)  
December 31, 2023

Ultimate Loss Based on Paid Loss Development Method  
Retained Limits

Accident Year	Cumulative Paid Loss	Loss Development Factors	Projected Ultimate Loss
(1)	(2)	(3)	(4)
1989	\$111,919	1.000	\$111,919
1990	18,683	1.000	18,683
1991	13,946	1.000	13,946
1992	39,293	1.000	39,293
1993	329,494	1.000	329,494
1994	126,181	1.000	126,181
1995	157,537	1.000	157,537
1996	75,097	1.000	75,097
1997	572,332	1.000	572,332
1998	98,687	1.000	98,687
1999	203,725	1.000	203,725
2000	81,660	1.000	81,660
2001	555,168	1.000	555,168
2002	167,747	1.000	167,747
2003	168,870	1.000	168,870
2004	49,417	1.000	49,417
2005	243,966	1.000	243,966
2006	145,431	1.000	145,431
2007	275,826	1.000	275,826
2008	136,527	1.000	136,527
2009	31,122	1.000	31,122
2010	161,512	1.000	161,512
2011	87,731	1.000	87,731
2012	38,269	1.000	38,269
2013	234,785	1.000	234,785
2014	104,340	1.000	104,340
2015	82,316	1.000	82,316
2016	145,899	1.000	145,899
2017	65,054	1.004	65,314
2018	78,866	1.009	79,577
2019	65,140	1.014	66,056
2020	69,079	1.039	71,802
2021	120,307	1.112	133,802
2022	104,982	1.335	140,110
2023	35,807	2.336	83,630
Total	\$4,996,715		\$5,097,773

Notes:

- (2) Provided by MVRMA
- (3) Based on Exhibit 12
- (4) = (2) x (3)



Miami Valley Risk Management Association  
Auto Liability (AB, AD)  
December 31, 2023

Ultimate Loss Based on Case Reserve Development Method  
Retained Limits

Accident Year	Retention	Cumulative Paid Loss	Case Reserves	Loss Development Factors			Projected Ultimate Loss
				Incurred	Paid	Reserve	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1989	\$250,000	\$111,919	\$0	100.0%	100.0%	100.0%	\$111,919
1990	250,000	18,683	0	100.0%	100.0%	100.0%	18,683
1991	250,000	13,946	0	100.0%	100.0%	100.0%	13,946
1992	250,000	39,293	0	100.0%	100.0%	100.0%	39,293
1993	250,000	329,494	0	100.0%	100.0%	100.0%	329,494
1994	250,000	126,181	0	100.0%	100.0%	100.0%	126,181
1995	250,000	157,537	0	100.0%	100.0%	100.0%	157,537
1996	250,000	75,097	0	100.0%	100.0%	100.0%	75,097
1997	500,000	572,332	0	100.0%	100.0%	100.0%	572,332
1998	500,000	98,687	0	100.0%	100.0%	100.0%	98,687
1999	500,000	203,725	0	100.0%	100.0%	100.0%	203,725
2000	500,000	81,660	0	100.0%	100.0%	100.0%	81,660
2001	500,000	555,168	0	100.0%	100.0%	100.0%	555,168
2002	500,000	167,747	0	100.0%	100.0%	100.0%	167,747
2003	1,000,000	168,870	0	100.0%	100.0%	100.0%	168,870
2004	1,000,000	49,417	0	100.0%	100.0%	100.0%	49,417
2005	1,000,000	243,966	0	100.0%	100.0%	100.0%	243,966
2006	1,000,000	145,431	0	100.0%	100.0%	100.0%	145,431
2007	1,000,000	275,826	0	100.0%	100.0%	100.0%	275,826
2008	1,000,000	136,527	0	100.0%	100.0%	100.0%	136,527
2009	1,000,000	31,122	0	100.0%	100.0%	100.0%	31,122
2010	500,000	161,512	0	100.0%	100.0%	100.0%	161,512
2011	500,000	87,731	0	100.0%	100.0%	100.0%	87,731
2012	500,000	38,269	0	100.0%	100.0%	100.0%	38,269
2013	500,000	234,785	0	100.0%	100.0%	100.0%	234,785
2014	500,000	104,340	0	100.0%	100.0%	100.0%	104,340
2015	500,000	82,316	0	100.0%	100.0%	100.0%	82,316
2016	500,000	145,899	0	100.0%	100.0%	100.0%	145,899
2017	500,000	65,054	0	100.0%	99.6%	100.0%	65,054
2018	500,000	78,866	0	100.0%	99.1%	100.0%	78,866
2019	500,000	65,140	0	100.0%	98.6%	100.0%	65,140
2020	500,000	69,079	0	99.5%	96.2%	86.9%	69,079
2021	500,000	120,307	0	95.7%	89.9%	57.1%	120,307
2022	500,000	104,982	163,293	79.7%	74.9%	19.2%	957,668
2023	500,000	35,807	33,729	65.4%	42.8%	39.4%	121,392
Total		\$4,996,715	\$197,022				\$5,934,987

Notes:

- (2)-(4) Provided by MVRMA
- (5)-(6) Based on Exhibit 12
- (7) = [(5) - (6)] / [(1.0 - (6))]
- (8) = (3) + [(4) / (7)]

Miami Valley Risk Management Association  
Auto Liability (AB, AD)  
December 31, 2023

Ultimate Loss Based on Incurred Loss Development Method Using Industry Factors  
Retained Limits

Accident Year	Cumulative Incurred Loss	Industry Loss Development Factors	Projected Ultimate Loss
(1)	(2)	(3)	(4)
1989	\$111,919	1.000	\$111,919
1990	18,683	1.000	18,683
1991	13,946	1.000	13,946
1992	39,293	1.000	39,293
1993	329,494	1.000	329,494
1994	126,181	1.000	126,181
1995	157,537	1.000	157,537
1996	75,097	1.000	75,097
1997	572,332	1.000	572,332
1998	98,687	1.000	98,687
1999	203,725	1.000	203,725
2000	81,660	1.000	81,660
2001	555,168	1.000	555,168
2002	167,747	1.000	167,747
2003	168,870	1.000	168,870
2004	49,417	1.000	49,417
2005	243,966	1.000	243,969
2006	145,431	1.000	145,434
2007	275,826	1.000	275,838
2008	136,527	1.000	136,539
2009	31,122	1.000	31,128
2010	161,512	1.000	161,568
2011	87,731	1.001	87,792
2012	38,269	1.001	38,323
2013	234,785	1.003	235,446
2014	104,340	1.006	104,928
2015	82,316	1.006	82,837
2016	145,899	1.008	147,000
2017	65,054	1.012	65,820
2018	78,866	1.022	80,592
2019	65,140	1.042	67,851
2020	69,079	1.093	75,491
2021	120,307	1.209	145,412
2022	268,275	1.446	388,010
2023	69,536	2.119	147,336
Total	\$5,193,737		\$5,431,071

Notes:

- (2) Provided by MVRMA
- (3) Based on insurance industry development
- (4) = (2) x (3)

Miami Valley Risk Management Association  
Auto Liability (AB, AD)  
December 31, 2023

Ultimate Loss Based on Paid Loss Development Method Using Industry Factors  
Retained Limits

Accident Year	Cumulative Paid Loss	Industry Loss Development Factors	Projected Ultimate Loss
(1)	(2)	(3)	(4)
1989	\$111,919	1.000	\$111,919
1990	18,683	1.000	18,683
1991	13,946	1.000	13,946
1992	39,293	1.000	39,293
1993	329,494	1.000	329,494
1994	126,181	1.000	126,181
1995	157,537	1.000	157,537
1996	75,097	1.000	75,097
1997	572,332	1.000	572,332
1998	98,687	1.000	98,687
1999	203,725	1.000	203,725
2000	81,660	1.000	81,660
2001	555,168	1.000	555,168
2002	167,747	1.000	167,747
2003	168,870	1.000	168,870
2004	49,417	1.000	49,417
2005	243,966	1.000	243,971
2006	145,431	1.000	145,437
2007	275,826	1.000	275,847
2008	136,527	1.000	136,548
2009	31,122	1.000	31,132
2010	161,512	1.001	161,611
2011	87,731	1.001	87,839
2012	38,269	1.002	38,364
2013	234,785	1.005	235,948
2014	104,340	1.010	105,376
2015	82,316	1.013	83,399
2016	145,899	1.019	148,677
2017	65,054	1.032	67,121
2018	78,866	1.060	83,568
2019	65,140	1.122	73,097
2020	69,079	1.276	88,176
2021	120,307	1.627	195,703
2022	104,982	2.470	259,313
2023	35,807	5.923	212,088
Total	\$4,996,715		\$5,442,969

Notes:

- (2) Provided by MVRMA
- (3) Based on insurance industry development
- (4) = (2) x (3)

Miami Valley Risk Management Association  
Auto Liability (AB, AD)  
December 31, 2023

Loss Development Patterns

Month of Development (1)	\$500K Limits % Developed		\$1M Limits % Developed		Industry % Developed	
	Incurred (2)	Paid (3)	Incurred (4)	Paid (5)	Incurred (6)	Paid (7)
420	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
408	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
396	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
384	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
372	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
360	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
348	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
336	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
324	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
312	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
300	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
288	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
276	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
264	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
252	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
240	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
228	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
216	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
204	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
192	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
180	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
168	100.0%	100.0%	100.0%	100.0%	100.0%	99.9%
156	100.0%	100.0%	100.0%	100.0%	99.9%	99.9%
144	100.0%	100.0%	100.0%	100.0%	99.9%	99.8%
132	100.0%	100.0%	100.0%	100.0%	99.7%	99.5%
120	100.0%	100.0%	100.0%	100.0%	99.4%	99.0%
108	100.0%	100.0%	100.0%	100.0%	99.4%	98.7%
96	100.0%	100.0%	100.0%	100.0%	99.3%	98.1%
84	100.0%	99.6%	100.0%	99.4%	98.8%	96.9%
72	100.0%	99.1%	100.0%	98.9%	97.9%	94.4%
60	100.0%	98.6%	100.0%	97.8%	96.0%	89.1%
48	99.5%	96.2%	98.6%	94.0%	91.5%	78.3%
36	95.7%	89.9%	91.1%	84.5%	82.7%	61.5%
24	79.7%	74.9%	74.4%	62.7%	69.1%	40.5%
12	65.4%	42.8%	47.5%	15.8%	47.2%	16.9%

Notes:

- (2) Based on Exhibit 13
- (3) Based on Exhibit 14
- (4) = Col (2) lagged 6 months
- (5) = Col (3) lagged 6 months
- (6)-(7) Based on insurance industry development











Miami Valley Risk Management Association  
Auto Liability (AB, AD)  
December 31, 2023

Summary of Claim Counts

Accident Year	Closed Claims	Open Claims	Reported Claims	Indicated IBNR Claims	Selected Ultimate Claims
(1)	(2)	(3)	(4)	(5)	(6)
1989	43	0	43	0	43
1990	33	0	33	0	33
1991	26	0	26	0	26
1992	38	0	38	0	38
1993	60	0	60	0	60
1994	72	0	72	0	72
1995	85	0	85	0	85
1996	114	0	114	0	114
1997	98	0	98	0	98
1998	86	0	86	0	86
1999	121	0	121	0	121
2000	104	0	104	0	104
2001	86	0	86	0	86
2002	80	0	80	0	80
2003	117	0	117	0	117
2004	86	0	86	0	86
2005	98	0	98	0	98
2006	70	0	70	0	70
2007	98	0	98	0	98
2008	76	0	76	0	76
2009	57	0	57	0	57
2010	78	0	78	0	78
2011	74	0	74	0	74
2012	52	0	52	0	52
2013	46	0	46	0	46
2014	78	0	78	0	78
2015	51	0	51	0	51
2016	76	0	76	0	76
2017	51	0	51	0	51
2018	49	0	49	0	49
2019	49	0	49	0	49
2020	37	0	37	0	37
2021	45	0	45	0	45
2022	68	3	71	0	71
2023	24	17	41	2	43
Total	2,426	20	2,446	2	2,448

Notes:

- (2)-(4) Provided by MVRMA
- (5) = (6) - (4)
- (6) From Exhibit 16, Col (4)

Miami Valley Risk Management Association  
Auto Liability (AB, AD)  
December 31, 2023

Ultimate Claims Based on Reported Claim Development Method

Accident Year	Cumulative Reported Claims	Claim Development Factors	Projected Ultimate Claims
(1)	(2)	(3)	(4)
1989	43	1.000	43
1990	33	1.000	33
1991	26	1.000	26
1992	38	1.000	38
1993	60	1.000	60
1994	72	1.000	72
1995	85	1.000	85
1996	114	1.000	114
1997	98	1.000	98
1998	86	1.000	86
1999	121	1.000	121
2000	104	1.000	104
2001	86	1.000	86
2002	80	1.000	80
2003	117	1.000	117
2004	86	1.000	86
2005	98	1.000	98
2006	70	1.000	70
2007	98	1.000	98
2008	76	1.000	76
2009	57	1.000	57
2010	78	1.000	78
2011	74	1.000	74
2012	52	1.000	52
2013	46	1.000	46
2014	78	1.000	78
2015	51	1.000	51
2016	76	1.000	76
2017	51	1.000	51
2018	49	1.000	49
2019	49	1.000	49
2020	37	1.000	37
2021	45	1.000	45
2022	71	1.005	71
2023	41	1.060	43
Total	2,446		2,448

## Notes:

- (2) Provided by MVRMA  
(3) From Exhibit 17  
(4) = (2) x (3)









Miami Valley Risk Management Association  
Auto Liability (AB, AD)  
December 31, 2023

Loss and Count Summary

Accident Year	Retention	Total Limits		Retention Limits		\$500K Limits		Deductibles		Claim Counts	
		Incurred	Paid	Incurred	Paid	Incurred	Paid	Incurred	Paid	Reported	Closed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1989	\$250,000	\$111,919	\$111,919	\$111,919	\$111,919	\$111,919	\$111,919			43	43
1990	250,000	18,683	18,683	18,683	18,683	18,683	18,683			33	33
1991	250,000	13,946	13,946	13,946	13,946	13,946	13,946			26	26
1992	250,000	39,293	39,293	39,293	39,293	39,293	39,293			38	38
1993	250,000	329,494	329,494	329,494	329,494	329,494	329,494			60	60
1994	250,000	126,181	126,181	126,181	126,181	126,181	126,181			72	72
1995	250,000	157,537	157,537	157,537	157,537	157,537	157,537			85	85
1996	250,000	75,097	75,097	75,097	75,097	75,097	75,097			114	114
1997	500,000	1,018,826	1,018,826	572,332	572,332	572,332	572,332			98	98
1998	500,000	98,687	98,687	98,687	98,687	98,687	98,687			86	86
1999	500,000	203,725	203,725	203,725	203,725	203,725	203,725			121	121
2000	500,000	81,660	81,660	81,660	81,660	81,660	81,660			104	104
2001	500,000	555,168	555,168	555,168	555,168	555,168	555,168			86	86
2002	500,000	167,747	167,747	167,747	167,747	167,747	167,747			80	80
2003	1,000,000	168,870	168,870	168,870	168,870	168,870	168,870			117	117
2004	1,000,000	49,417	49,417	49,417	49,417	49,417	49,417			86	86
2005	1,000,000	243,966	243,966	243,966	243,966	243,966	243,966			98	98
2006	1,000,000	145,431	145,431	145,431	145,431	145,431	145,431	\$48,974	\$48,974	70	70
2007	1,000,000	275,826	275,826	275,826	275,826	275,826	275,826	76,272	76,272	98	98
2008	1,000,000	136,527	136,527	136,527	136,527	136,527	136,527	46,288	46,288	76	76
2009	1,000,000	31,122	31,122	31,122	31,122	31,122	31,122	30,922	30,922	57	57
2010	500,000	161,512	161,512	161,512	161,512	161,512	161,512	43,334	43,334	78	78
2011	500,000	87,731	87,731	87,731	87,731	87,731	87,731	43,911	43,911	74	74
2012	500,000	38,269	38,269	38,269	38,269	38,269	38,269	24,213	24,213	52	52
2013	500,000	234,785	234,785	234,785	234,785	234,785	234,785	40,252	40,252	46	46
2014	500,000	104,340	104,340	104,340	104,340	104,340	104,340	64,282	64,282	78	78
2015	500,000	82,316	82,316	82,316	82,316	82,316	82,316	47,339	47,339	51	51
2016	500,000	145,899	145,899	145,899	145,899	145,899	145,899	71,966	71,966	76	76
2017	500,000	65,054	65,054	65,054	65,054	65,054	65,054	40,684	40,684	51	51
2018	500,000	78,866	78,866	78,866	78,866	78,866	78,866	36,140	36,140	49	49
2019	500,000	65,140	65,140	65,140	65,140	65,140	65,140	40,764	40,764	49	49
2020	500,000	69,079	69,079	69,079	69,079	69,079	69,079	32,317	32,317	37	37
2021	500,000	120,307	120,307	120,307	120,307	120,307	120,307	46,935	46,935	45	45
2022	500,000	268,275	104,982	268,275	104,982	268,275	104,982	45,240	43,467	71	68
2023	500,000	69,536	35,807	69,536	35,807	69,536	35,807	47,394	22,795	41	24
Total		\$5,640,231	\$5,443,209	\$5,193,737	\$4,996,715	\$5,193,737	\$4,996,715	\$827,229	\$800,856	2,446	2,426

Notes:  
(2)-(12) Provided by MVRMA

Miami Valley Risk Management Association  
General Liability  
December 31, 2023

Summary of Loss Reserve Estimates  
Retained Limits

Accident Year	Selected Ultimate Loss	Incurred Loss	Paid Loss	Case Reserves	Indicated IBNR	Estimated Total Reserves
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1989	\$207,853	\$207,853	\$207,853	\$0	\$0	\$0
1990	439,863	439,863	439,863	0	0	0
1991	84,015	84,015	84,015	0	0	0
1992	139,376	139,376	139,376	0	0	0
1993	600,979	600,979	600,979	0	0	0
1994	106,065	106,065	106,065	0	0	0
1995	156,790	156,790	156,790	0	0	0
1996	357,926	357,926	357,926	0	0	0
1997	706,526	706,526	706,526	0	0	0
1998	554,289	554,289	554,289	0	0	0
1999	657,094	657,094	657,094	0	0	0
2000	164,560	164,560	164,560	0	0	0
2001	497,423	497,423	497,423	0	0	0
2002	1,347,177	1,347,177	1,347,177	0	0	0
2003	269,762	269,762	269,762	0	0	0
2004	511,964	511,964	511,964	0	0	0
2005	857,801	857,801	857,801	0	0	0
2006	915,795	915,795	915,795	0	0	0
2007	312,120	312,120	312,120	0	0	0
2008	856,672	856,672	856,672	0	0	0
2009	1,177,813	1,177,813	1,177,813	0	0	0
2010	972,613	972,613	972,613	0	0	0
2011	323,802	323,802	323,802	0	0	0
2012	542,610	542,610	542,610	0	0	0
2013	601,882	601,882	601,882	0	0	0
2014	925,867	925,867	925,867	0	0	0
2015	314,175	314,175	314,175	0	0	0
2016	771,000	751,920	720,040	31,880	19,080	50,960
2017	541,861	541,861	541,861	0	0	0
2018	737,000	715,603	675,778	39,825	21,397	61,222
2019	545,000	492,833	446,564	46,269	52,167	98,436
2020	770,000	643,502	584,419	59,083	126,498	185,581
2021	630,000	419,397	232,536	186,861	210,603	397,464
2022	980,000	314,153	229,978	84,175	665,847	750,022
2023	1,220,000	515,653	395,237	120,417	704,347	824,763
Total	\$20,797,672	\$18,997,733	\$18,429,223	\$568,510	\$1,799,939	\$2,368,449

Notes:

- (2) From Exhibit 4, Col (11)
- (3)-(5) Provided by MVRMA
- (6) = (2) - (3)
- (7) = (5) + (6)



Miami Valley Risk Management Association  
General Liability  
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Ultimate Average Indications  
Retained Limits

Accident Year	Selected Ultimate Loss	Net Operating Funds (\$00,000's)	Selected Ultimate Claims	Ultimate Claims per \$10M NOF	Ultimate Loss per \$100K NOF	Ultimate Loss per Claim
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1989	\$207,853	\$561	89	15.9	\$370	\$2,335
1990	439,863	722	99	13.7	609	4,443
1991	84,015	830	56	6.7	101	1,500
1992	139,376	1,010	72	7.1	138	1,936
1993	600,979	1,255	93	7.4	479	6,462
1994	106,065	1,413	108	7.6	75	982
1995	156,790	1,481	85	5.7	106	1,845
1996	357,926	1,520	121	8.0	235	2,958
1997	706,526	1,903	99	5.2	371	7,137
1998	554,289	2,011	142	7.1	276	3,903
1999	657,094	2,162	142	6.6	304	4,627
2000	164,560	2,269	146	6.4	73	1,127
2001	497,423	2,510	118	4.7	198	4,215
2002	1,347,177	2,741	164	6.0	492	8,214
2003	269,762	2,985	148	5.0	90	1,823
2004	511,964	3,183	119	3.7	161	4,302
2005	857,801	3,450	128	3.7	249	6,702
2006	915,795	3,591	110	3.1	255	8,325
2007	312,120	3,669	143	3.9	85	2,183
2008	856,672	3,954	177	4.5	217	4,840
2009	1,177,813	4,058	117	2.9	290	10,067
2010	972,613	4,063	153	3.8	239	6,357
2011	323,802	4,229	186	4.4	77	1,741
2012	542,610	4,071	137	3.4	133	3,961
2013	601,882	4,071	159	3.9	148	3,785
2014	925,867	4,117	175	4.3	225	5,291
2015	314,175	4,202	147	3.5	75	2,137
2016	771,000	4,346	142	3.3	177	5,430
2017	541,861	4,444	158	3.6	122	3,430
2018	737,000	4,772	174	3.6	154	4,236
2019	545,000	5,120	143	2.8	106	3,811
2020	770,000	6,019	81	1.3	128	9,506
2021	630,000	4,500	79	1.8	140	7,975
2022	980,000	6,121	94	1.5	160	10,426
2023	1,220,000	4,894	70	1.4	249	17,429
Total	\$20,797,672	\$112,245	4,374	3.9	\$185	\$4,755

Notes:

- (2) From Exhibit 4, Col (11)
- (3) Provided by MVRMA
- (4) From Exhibit 15, Col (6)
- (5) = (4) / (3) x 100
- (6) = (2) / (3)
- (7) = (2) / (4)

Miami Valley Risk Management Association  
General Liability  
December 31, 2023

Comparison of Ultimate Loss to Prior Ultimate Loss  
Retained Limits

Accident Year	Selected Ultimate Loss @ 12/31/2022	Selected Ultimate Loss @ 12/31/2023	Difference	Percent Change
(1)	(2)	(3)	(4)	(5)
1989	\$207,853	\$207,853	\$0	0.0%
1990	439,863	439,863	0	0.0%
1991	84,015	84,015	0	0.0%
1992	139,376	139,376	0	0.0%
1993	600,979	600,979	0	0.0%
1994	106,065	106,065	0	0.0%
1995	156,790	156,790	0	0.0%
1996	357,926	357,926	0	0.0%
1997	706,526	706,526	0	0.0%
1998	554,289	554,289	0	0.0%
1999	657,094	657,094	0	0.0%
2000	164,560	164,560	0	0.0%
2001	497,423	497,423	0	0.0%
2002	1,347,177	1,347,177	0	0.0%
2003	269,762	269,762	0	0.0%
2004	511,964	511,964	0	0.0%
2005	857,801	857,801	0	0.0%
2006	915,795	915,795	0	0.0%
2007	312,120	312,120	0	0.0%
2008	856,672	856,672	0	0.0%
2009	1,177,813	1,177,813	0	0.0%
2010	972,613	972,613	0	0.0%
2011	323,802	323,802	0	0.0%
2012	542,610	542,610	0	0.0%
2013	601,882	601,882	0	0.0%
2014	925,867	925,867	0	0.0%
2015	314,175	314,175	0	0.0%
2016	724,000	771,000	47,000	6.5%
2017	541,861	541,861	0	0.0%
2018	752,000	737,000	(15,000)	-2.0%
2019	665,000	545,000	(120,000)	-18.0%
2020	855,000	770,000	(85,000)	-9.9%
2021	650,000	630,000	(20,000)	-3.1%
2022	1,065,000	980,000	(85,000)	-8.0%
Total	\$19,855,672	\$19,577,672	(\$278,000)	-1.4%

Notes:

- (2) From Pinnacle's analysis of unpaid loss & LAE at 12/31/2022
- (3) From Exhibit 4, Col (11)
- (4) = (3) - (2)
- (5) = (4) / (2)

Miami Valley Risk Management Association  
General Liability  
December 31, 2023

Selected Ultimate Loss  
Retained Limits

Accident Year	Retention	Industry Development		MVRMA's Loss Development			MVRMA Expected Loss Method	MVRMA Incurred BF Method	MVRMA Paid BF Method	Selected Ultimate Loss Method
		Incurred Loss Method	Paid Loss Method	Incurred Loss Method	Paid Loss Method	Case Reserve Method				
		(3)	(4)	(5)	(6)	(7)				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1989	\$250,000	\$207,853	\$207,853	\$207,853	\$207,853	\$207,853	\$36,965	\$207,853	\$207,853	\$207,853
1990	250,000	439,863	439,863	439,863	439,863	439,863	48,989	439,863	439,863	439,863
1991	250,000	84,015	84,015	84,015	84,015	84,015	58,042	84,015	84,015	84,015
1992	250,000	139,376	139,376	139,376	139,376	139,376	72,734	139,376	139,376	139,376
1993	250,000	600,979	600,979	600,979	600,979	600,979	65,703	600,979	600,979	600,979
1994	250,000	106,065	106,065	106,065	106,065	106,065	107,946	106,065	106,065	106,065
1995	250,000	156,790	156,790	156,790	156,790	156,790	116,528	156,790	156,790	156,790
1996	250,000	357,926	357,926	357,926	357,926	357,926	123,194	357,926	357,926	357,926
1997	500,000	706,526	706,526	706,526	706,526	706,526	158,816	706,526	706,526	706,526
1998	500,000	554,289	554,289	554,289	554,289	554,289	172,914	554,289	554,289	554,289
1999	500,000	657,094	657,094	657,094	657,094	657,094	191,400	657,094	657,094	657,094
2000	500,000	164,560	164,560	164,560	164,560	164,560	206,960	164,560	164,560	164,560
2001	500,000	497,423	497,423	497,423	497,423	497,423	235,757	497,423	497,423	497,423
2002	500,000	1,347,177	1,347,177	1,347,177	1,347,177	1,347,177	265,179	1,347,177	1,347,177	1,347,177
2003	1,000,000	269,771	269,775	269,762	269,762	269,762	297,519	269,762	269,762	269,762
2004	1,000,000	511,997	512,014	511,964	511,964	511,964	326,748	511,964	511,964	511,964
2005	1,000,000	857,911	857,968	857,801	857,801	857,801	364,730	857,801	857,801	857,801
2006	1,000,000	916,030	916,152	915,795	915,795	915,795	391,040	915,795	915,795	915,795
2007	1,000,000	312,280	312,364	312,120	312,120	312,120	411,520	312,120	312,120	312,120
2008	1,000,000	857,553	858,010	856,672	856,672	856,672	456,862	856,672	856,672	856,672
2009	1,000,000	1,180,236	1,181,493	1,177,813	1,177,813	1,177,813	499,999	1,177,813	1,177,813	1,177,813
2010	500,000	976,620	978,701	972,613	972,613	972,613	498,021	972,613	972,613	972,613
2011	500,000	326,476	327,868	323,802	323,802	323,802	533,915	323,802	323,802	323,802
2012	500,000	551,608	556,324	542,610	542,610	542,610	529,379	542,610	542,610	542,610
2013	500,000	622,010	632,693	601,882	601,882	601,882	545,260	601,882	601,882	601,882
2014	500,000	988,826	1,023,083	925,867	925,867	925,867	567,919	925,867	925,867	925,867
2015	500,000	340,404	355,495	314,175	314,489	314,175	597,027	314,175	314,771	314,175
2016	500,000	829,766	841,626	751,920	724,364	751,920	636,024	751,920	723,837	771,000
2017	500,000	612,910	666,295	552,699	558,743	541,861	669,963	554,998	562,104	541,861
2018	500,000	843,428	896,610	737,214	717,737	755,659	740,891	737,322	719,090	737,000
2019	500,000	622,978	672,479	525,487	545,434	516,968	818,783	543,712	594,984	545,000
2020	500,000	921,622	1,091,293	737,599	799,468	696,800	991,423	769,980	851,102	770,000
2021	500,000	741,815	629,616	576,869	413,533	729,088	763,467	627,806	566,694	630,000
2022	500,000	783,485	1,071,026	756,190	879,317	633,874	1,069,606	939,400	1,019,837	980,000
2023	500,000	2,488,445	5,061,784	2,854,798	4,684,657	1,540,666	880,976	1,237,501	1,201,886	1,220,000
Total		\$22,576,107	\$25,732,606	\$22,095,585	\$23,926,378	\$20,769,647	\$14,452,198	\$20,765,449	\$20,842,942	\$20,797,672

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 11.1, Col (4)
- (4) From Exhibit 11.2, Col (4)
- (5) From Exhibit 8, Col (4)
- (6) From Exhibit 9, Col (4)
- (7) From Exhibit 10, Col (8)
- (8) From Exhibit 5, Col (4)
- (9) From Exhibit 5, Col (8)
- (10) From Exhibit 6, Col (8)

Miami Valley Risk Management Association  
General Liability  
December 31, 2023

Ultimate Loss Based on Bornhuetter-Ferguson Method Using Exposures and Incurred Loss  
Retained Limits

Accident Year	Net Operating Funds (\$00,000's)	Selected Loss Cost	Expected Loss	Percent Undeveloped	Undeveloped Loss	Cumulative Incurred Loss	Projected Ultimate Loss	Indicated Loss Cost
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1989	\$561	\$66	\$36,965	0.0%	\$0	\$207,853	\$207,853	\$370
1990	722	68	48,989	0.0%	0	439,863	439,863	609
1991	830	70	58,042	0.0%	0	84,015	84,015	101
1992	1,010	72	72,734	0.0%	0	139,376	139,376	138
1993	1,255	52	65,703	0.0%	0	600,979	600,979	479
1994	1,413	76	107,946	0.0%	0	106,065	106,065	75
1995	1,481	79	116,528	0.0%	0	156,790	156,790	106
1996	1,520	81	123,194	0.0%	0	357,926	357,926	235
1997	1,903	83	158,816	0.0%	0	706,526	706,526	371
1998	2,011	86	172,914	0.0%	0	554,289	554,289	276
1999	2,162	89	191,400	0.0%	0	657,094	657,094	304
2000	2,269	91	206,960	0.0%	0	164,560	164,560	73
2001	2,510	94	235,757	0.0%	0	497,423	497,423	198
2002	2,741	97	265,179	0.0%	0	1,347,177	1,347,177	492
2003	2,985	100	297,519	0.0%	0	269,762	269,762	90
2004	3,183	103	326,748	0.0%	0	511,964	511,964	161
2005	3,450	106	364,730	0.0%	0	857,801	857,801	249
2006	3,591	109	391,040	0.0%	0	915,795	915,795	255
2007	3,669	112	411,520	0.0%	0	312,120	312,120	85
2008	3,954	116	456,862	0.0%	0	856,672	856,672	217
2009	4,058	123	499,999	0.0%	0	1,177,813	1,177,813	290
2010	4,063	123	498,021	0.0%	0	972,613	972,613	239
2011	4,229	126	533,915	0.0%	0	323,802	323,802	77
2012	4,071	130	529,379	0.0%	0	542,610	542,610	133
2013	4,071	134	545,260	0.0%	0	601,882	601,882	148
2014	4,117	138	567,919	0.0%	0	925,867	925,867	225
2015	4,202	142	597,027	0.0%	0	314,175	314,175	75
2016	4,346	146	636,024	0.0%	0	751,920	751,920	173
2017	4,444	151	669,963	2.0%	13,137	541,861	554,998	125
2018	4,772	155	740,891	2.9%	21,719	715,603	737,322	155
2019	5,120	160	818,783	6.2%	50,879	492,833	543,712	106
2020	6,019	165	991,423	12.8%	126,478	643,502	769,980	128
2021	4,500	170	763,467	27.3%	208,409	419,397	627,806	140
2022	6,121	175	1,069,606	58.5%	625,247	314,153	939,400	153
2023	4,894	180	880,976	81.9%	721,848	515,653	1,237,501	253
Total	\$112,245		\$14,452,198		\$1,767,716	\$18,997,733	\$20,765,449	\$185

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 7.1, Col (8)
- (4) = (2) x (3)
- (5) Based on Exhibit 12;  
\$500K limits for 1989-2002 and 2010-2023; \$1M limits for 2003-2009
- (6) = (4) x (5)
- (7) Provided by MVRMA
- (8) = (6) + (7)
- (9) = (8) / (2)

Miami Valley Risk Management Association  
General Liability  
December 31, 2023

Ultimate Loss Based on Bornhuetter-Ferguson Method Using Exposures and Paid Loss  
Retained Limits

Accident Year	Net Operating Funds (\$00,000's)	Selected Loss Cost	Expected Loss	Percent Unpaid	Undeveloped Loss	Cumulative Paid Loss	Projected Ultimate Loss	Indicated Loss Cost
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1989	\$561	\$66	\$36,965	0.0%	\$0	\$207,853	\$207,853	\$370
1990	722	68	48,989	0.0%	0	439,863	439,863	609
1991	830	70	58,042	0.0%	0	84,015	84,015	101
1992	1,010	72	72,734	0.0%	0	139,376	139,376	138
1993	1,255	52	65,703	0.0%	0	600,979	600,979	479
1994	1,413	76	107,946	0.0%	0	106,065	106,065	75
1995	1,481	79	116,528	0.0%	0	156,790	156,790	106
1996	1,520	81	123,194	0.0%	0	357,926	357,926	235
1997	1,903	83	158,816	0.0%	0	706,526	706,526	371
1998	2,011	86	172,914	0.0%	0	554,289	554,289	276
1999	2,162	89	191,400	0.0%	0	657,094	657,094	304
2000	2,269	91	206,960	0.0%	0	164,560	164,560	73
2001	2,510	94	235,757	0.0%	0	497,423	497,423	198
2002	2,741	97	265,179	0.0%	0	1,347,177	1,347,177	492
2003	2,985	100	297,519	0.0%	0	269,762	269,762	90
2004	3,183	103	326,748	0.0%	0	511,964	511,964	161
2005	3,450	106	364,730	0.0%	0	857,801	857,801	249
2006	3,591	109	391,040	0.0%	0	915,795	915,795	255
2007	3,669	112	411,520	0.0%	0	312,120	312,120	85
2008	3,954	116	456,862	0.0%	0	856,672	856,672	217
2009	4,058	123	499,999	0.0%	0	1,177,813	1,177,813	290
2010	4,063	123	498,021	0.0%	0	972,613	972,613	239
2011	4,229	126	533,915	0.0%	0	323,802	323,802	77
2012	4,071	130	529,379	0.0%	0	542,610	542,610	133
2013	4,071	134	545,260	0.0%	0	601,882	601,882	148
2014	4,117	138	567,919	0.0%	0	925,867	925,867	225
2015	4,202	142	597,027	0.1%	596	314,175	314,771	75
2016	4,346	146	636,024	0.6%	3,797	720,040	723,837	167
2017	4,444	151	669,963	3.0%	20,242	541,861	562,104	126
2018	4,772	155	740,891	5.8%	43,312	675,778	719,090	151
2019	5,120	160	818,783	18.1%	148,420	446,564	594,984	116
2020	6,019	165	991,423	26.9%	266,684	584,419	851,102	141
2021	4,500	170	763,467	43.8%	334,158	232,536	566,694	126
2022	6,121	175	1,069,606	73.8%	789,859	229,978	1,019,837	167
2023	4,894	180	880,976	91.6%	806,649	395,237	1,201,886	246
Total	\$112,245		\$14,452,198		\$2,413,719	\$18,429,223	\$20,842,942	\$186

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 7.1, Col (8)
- (4) = (2) x (3)
- (5) Based on Exhibit 12;  
\$500K limits for 1989-2002 and 2010-2023; \$1M limits for 2003-2009
- (6) = (4) x (5)
- (7) Provided by MVRMA
- (8) = (6) + (7)
- (9) = (8) / (2)

Miami Valley Risk Management Association  
General Liability  
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Initial Expected Loss Cost  
Retained Limits

Accident Year	Net Operating Funds (\$00,000's)	Initial Ultimate Loss	Indicated Loss Cost	Limits Factor to \$500K	Trend Factor to 2023	Trended \$500K Limits Loss Cost	Expected Loss Cost
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1989	\$561	\$207,853	\$370	1.000	2.732	\$1,012	\$66
1990	722	439,863	609	1.000	2.652	1,616	68
1991	830	84,015	101	1.000	2.575	261	70
1992	1,010	139,376	138	1.000	2.500	345	72
1993	1,255	600,979	479	1.416	2.427	1,646	52
1994	1,413	106,065	75	1.000	2.357	177	76
1995	1,481	156,790	106	1.000	2.288	242	79
1996	1,520	357,926	235	1.000	2.221	523	81
1997	1,903	706,526	371	1.000	2.157	801	83
1998	2,011	554,289	276	1.000	2.094	577	86
1999	2,162	657,094	304	1.000	2.033	618	89
2000	2,269	164,560	73	1.000	1.974	143	91
2001	2,510	497,423	198	1.000	1.916	380	94
2002	2,741	1,347,177	492	1.000	1.860	914	97
2003	2,985	269,762	90	1.000	1.806	163	100
2004	3,183	511,964	161	1.000	1.754	282	103
2005	3,450	857,801	249	1.000	1.702	423	106
2006	3,591	915,795	255	1.000	1.653	422	109
2007	3,669	312,120	85	1.000	1.605	137	112
2008	3,954	856,672	217	1.000	1.558	338	116
2009	4,058	1,177,813	290	0.966	1.513	424	123
2010	4,063	972,613	239	1.000	1.469	352	123
2011	4,229	323,802	77	1.000	1.426	109	126
2012	4,071	542,610	133	1.000	1.384	184	130
2013	4,071	601,882	148	1.000	1.344	199	134
2014	4,117	925,867	225	1.000	1.305	293	138
2015	4,202	314,175	75	1.000	1.267	95	142
2016	4,346	751,920	173	1.000	1.230	213	146
2017	4,444	552,699	124	1.000	1.194	148	151
2018	4,772	737,214	154	1.000	1.159	179	155
2019	5,120	525,487	103	1.000	1.126	116	160
2020	6,019	737,599	123	1.000	1.093	134	165
2021	4,500	576,869	128	1.000	1.061	136	170
2022	6,121	756,190	124	1.000	1.030	127	175
2023	4,894	1,869,199	382	1.000	1.000	382	180
Total	\$112,245	\$21,109,986	\$188				
					Weighted Average Ex. Hi/Lo	\$292	
					10-Year Weighted Avg	179	
					10-Year Weighted Avg Ex. Hi/Lo	163	
					5-Year Weighted Avg	175	
					Selected 2023 Loss Cost	\$180	

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 7.2, Col (5)
- (4) = (3) / (2)
- (5) From Exhibit 7.3, Col (7)
- (6) Based on selected trend of 3.0%
- (7) = (4) x (5) x (6)
- (8) = Selected Loss Cost / [(6) x (5)]

Miami Valley Risk Management Association  
General Liability  
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Initial Selected Ultimate Loss  
Retained Limits

Accident Year (1)	Projected Ultimate Loss Based on			Initial Ultimate Loss (5)
	Incurred (2)	Paid (3)	Case (4)	
1989	\$207,853	\$207,853	\$207,853	\$207,853
1990	439,863	439,863	439,863	439,863
1991	84,015	84,015	84,015	84,015
1992	139,376	139,376	139,376	139,376
1993	600,979	600,979	600,979	600,979
1994	106,065	106,065	106,065	106,065
1995	156,790	156,790	156,790	156,790
1996	357,926	357,926	357,926	357,926
1997	706,526	706,526	706,526	706,526
1998	554,289	554,289	554,289	554,289
1999	657,094	657,094	657,094	657,094
2000	164,560	164,560	164,560	164,560
2001	497,423	497,423	497,423	497,423
2002	1,347,177	1,347,177	1,347,177	1,347,177
2003	269,762	269,762	269,762	269,762
2004	511,964	511,964	511,964	511,964
2005	857,801	857,801	857,801	857,801
2006	915,795	915,795	915,795	915,795
2007	312,120	312,120	312,120	312,120
2008	856,672	856,672	856,672	856,672
2009	1,177,813	1,177,813	1,177,813	1,177,813
2010	972,613	972,613	972,613	972,613
2011	323,802	323,802	323,802	323,802
2012	542,610	542,610	542,610	542,610
2013	601,882	601,882	601,882	601,882
2014	925,867	925,867	925,867	925,867
2015	314,175	314,489	314,175	314,175
2016	751,920	724,364	751,920	751,920
2017	552,699	558,743	541,861	552,699
2018	737,214	717,737	755,659	737,214
2019	525,487	545,434	516,968	525,487
2020	737,599	799,468	696,800	737,599
2021	576,869	413,533	729,088	576,869
2022	756,190	879,317	633,874	756,190
2023	2,854,798	4,684,657	1,540,666	1,869,199
Total	\$22,095,585	\$23,926,378	\$20,769,647	\$21,109,986

Notes:

- (2) From Exhibit 8, Col (4)
- (3) From Exhibit 9, Col (4)
- (4) From Exhibit 10, Col (8)

Miami Valley Risk Management Association  
General Liability  
December 31, 2023

Estimated Limits Factor

Accident Year	Retention	Incurred Losses at		Incurred Limits Factors	Industry Limits Factors	Selected Limits Factors
		\$500K Limits	Retention Limits			
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1989	\$250,000	\$207,853	\$207,853	1.000		1.000
1990	250,000	439,863	439,863	1.000		1.000
1991	250,000	84,015	84,015	1.000		1.000
1992	250,000	139,376	139,376	1.000		1.000
1993	250,000	850,979	600,979	1.416		1.416
1994	250,000	106,065	106,065	1.000		1.000
1995	250,000	156,790	156,790	1.000		1.000
1996	250,000	357,926	357,926	1.000		1.000
1997	500,000	706,526	706,526	1.000	1.000	1.000
1998	500,000	554,289	554,289	1.000	1.000	1.000
1999	500,000	657,094	657,094	1.000	1.000	1.000
2000	500,000	164,560	164,560	1.000	1.000	1.000
2001	500,000	497,423	497,423	1.000	1.000	1.000
2002	500,000	1,347,177	1,347,177	1.000	1.000	1.000
2003	1,000,000	269,762	269,762	1.000	0.914	1.000
2004	1,000,000	511,964	511,964	1.000	0.911	1.000
2005	1,000,000	857,801	857,801	1.000	0.909	1.000
2006	1,000,000	915,795	915,795	1.000	0.906	1.000
2007	1,000,000	312,120	312,120	1.000	0.904	1.000
2008	1,000,000	856,672	856,672	1.000	0.901	1.000
2009	1,000,000	1,137,677	1,177,813	0.966	0.898	0.966
2010	500,000	972,613	972,613	1.000	1.000	1.000
2011	500,000	323,802	323,802	1.000	1.000	1.000
2012	500,000	542,610	542,610	1.000	1.000	1.000
2013	500,000	601,882	601,882	1.000	1.000	1.000
2014	500,000	925,867	925,867	1.000	1.000	1.000
2015	500,000	314,175	314,175	1.000	1.000	1.000
2016	500,000	751,920	751,920	1.000	1.000	1.000
2017	500,000	541,861	541,861	1.000	1.000	1.000
2018	500,000	715,603	715,603	1.000	1.000	1.000
2019	500,000	492,833	492,833	1.000	1.000	1.000
2020	500,000	643,502	643,502	1.000	1.000	1.000
2021	500,000	419,397	419,397	1.000	1.000	1.000
2022	500,000	314,153	314,153	1.000	1.000	1.000
2023	500,000	515,653	515,653	1.000	1.000	1.000
Total		\$19,207,597	\$18,997,733			

Notes:

- (2)-(4) Provided by MVRMA
- (5) = (3) / (4)
- (6) Based on insurance industry development



Miami Valley Risk Management Association  
General Liability  
December 31, 2023

Ultimate Loss Based on Incurred Loss Development Method  
Retained Limits

Accident Year <u>(1)</u>	Cumulative Incurred Loss <u>(2)</u>	Loss Development Factors <u>(3)</u>	Projected Ultimate Loss <u>(4)</u>
1989	\$207,853	1.000	\$207,853
1990	439,863	1.000	439,863
1991	84,015	1.000	84,015
1992	139,376	1.000	139,376
1993	600,979	1.000	600,979
1994	106,065	1.000	106,065
1995	156,790	1.000	156,790
1996	357,926	1.000	357,926
1997	706,526	1.000	706,526
1998	554,289	1.000	554,289
1999	657,094	1.000	657,094
2000	164,560	1.000	164,560
2001	497,423	1.000	497,423
2002	1,347,177	1.000	1,347,177
2003	269,762	1.000	269,762
2004	511,964	1.000	511,964
2005	857,801	1.000	857,801
2006	915,795	1.000	915,795
2007	312,120	1.000	312,120
2008	856,672	1.000	856,672
2009	1,177,813	1.000	1,177,813
2010	972,613	1.000	972,613
2011	323,802	1.000	323,802
2012	542,610	1.000	542,610
2013	601,882	1.000	601,882
2014	925,867	1.000	925,867
2015	314,175	1.000	314,175
2016	751,920	1.000	751,920
2017	541,861	1.020	552,699
2018	715,603	1.030	737,214
2019	492,833	1.066	525,487
2020	643,502	1.146	737,599
2021	419,397	1.375	576,869
2022	314,153	2.407	756,190
2023	515,653	5.536	2,854,798
Total	\$18,997,733		\$22,095,585

Notes:

- (2) Provided by MVRMA
- (3) Based on Exhibit 12
- (4) = (2) x (3)

Miami Valley Risk Management Association  
General Liability  
December 31, 2023

Ultimate Loss Based on Paid Loss Development Method  
Retained Limits

Accident Year	Cumulative Paid Loss	Loss Development Factors	Projected Ultimate Loss
(1)	(2)	(3)	(4)
1989	\$207,853	1.000	\$207,853
1990	439,863	1.000	439,863
1991	84,015	1.000	84,015
1992	139,376	1.000	139,376
1993	600,979	1.000	600,979
1994	106,065	1.000	106,065
1995	156,790	1.000	156,790
1996	357,926	1.000	357,926
1997	706,526	1.000	706,526
1998	554,289	1.000	554,289
1999	657,094	1.000	657,094
2000	164,560	1.000	164,560
2001	497,423	1.000	497,423
2002	1,347,177	1.000	1,347,177
2003	269,762	1.000	269,762
2004	511,964	1.000	511,964
2005	857,801	1.000	857,801
2006	915,795	1.000	915,795
2007	312,120	1.000	312,120
2008	856,672	1.000	856,672
2009	1,177,813	1.000	1,177,813
2010	972,613	1.000	972,613
2011	323,802	1.000	323,802
2012	542,610	1.000	542,610
2013	601,882	1.000	601,882
2014	925,867	1.000	925,867
2015	314,175	1.001	314,489
2016	720,040	1.006	724,364
2017	541,861	1.031	558,743
2018	675,778	1.062	717,737
2019	446,564	1.221	545,434
2020	584,419	1.368	799,468
2021	232,536	1.778	413,533
2022	229,978	3.823	879,317
2023	395,237	11.853	4,684,657
Total	\$18,429,223		\$23,926,378

Notes:

- (2) Provided by MVRMA
- (3) Based on Exhibit 12
- (4) = (2) x (3)

Miami Valley Risk Management Association  
General Liability  
December 31, 2023

Ultimate Loss Based on Case Reserve Development Method  
Retained Limits

Accident Year	Retention	Cumulative Paid Loss	Case Reserves	Percent Developed			Projected Ultimate Loss
				Incurred	Paid	Reserve	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1989	\$250,000	\$207,853	\$0	100.0%	100.0%	100.0%	\$207,853
1990	250,000	439,863	0	100.0%	100.0%	100.0%	439,863
1991	250,000	84,015	0	100.0%	100.0%	100.0%	84,015
1992	250,000	139,376	0	100.0%	100.0%	100.0%	139,376
1993	250,000	600,979	0	100.0%	100.0%	100.0%	600,979
1994	250,000	106,065	0	100.0%	100.0%	100.0%	106,065
1995	250,000	156,790	0	100.0%	100.0%	100.0%	156,790
1996	250,000	357,926	0	100.0%	100.0%	100.0%	357,926
1997	500,000	706,526	0	100.0%	100.0%	100.0%	706,526
1998	500,000	554,289	0	100.0%	100.0%	100.0%	554,289
1999	500,000	657,094	0	100.0%	100.0%	100.0%	657,094
2000	500,000	164,560	0	100.0%	100.0%	100.0%	164,560
2001	500,000	497,423	0	100.0%	100.0%	100.0%	497,423
2002	500,000	1,347,177	0	100.0%	100.0%	100.0%	1,347,177
2003	1,000,000	269,762	0	100.0%	100.0%	100.0%	269,762
2004	1,000,000	511,964	0	100.0%	100.0%	100.0%	511,964
2005	1,000,000	857,801	0	100.0%	100.0%	100.0%	857,801
2006	1,000,000	915,795	0	100.0%	100.0%	100.0%	915,795
2007	1,000,000	312,120	0	100.0%	100.0%	100.0%	312,120
2008	1,000,000	856,672	0	100.0%	100.0%	100.0%	856,672
2009	1,000,000	1,177,813	0	100.0%	100.0%	100.0%	1,177,813
2010	500,000	972,613	0	100.0%	100.0%	100.0%	972,613
2011	500,000	323,802	0	100.0%	100.0%	100.0%	323,802
2012	500,000	542,610	0	100.0%	100.0%	100.0%	542,610
2013	500,000	601,882	0	100.0%	100.0%	100.0%	601,882
2014	500,000	925,867	0	100.0%	100.0%	100.0%	925,867
2015	500,000	314,175	0	100.0%	99.9%	100.0%	314,175
2016	500,000	720,040	31,880	100.0%	99.4%	100.0%	751,920
2017	500,000	541,861	0	98.0%	97.0%	35.1%	541,861
2018	500,000	675,778	39,825	97.1%	94.2%	49.9%	755,659
2019	500,000	446,564	46,269	93.8%	81.9%	65.7%	516,968
2020	500,000	584,419	59,083	87.2%	73.1%	52.6%	696,800
2021	500,000	232,536	186,861	72.7%	56.2%	37.6%	729,088
2022	500,000	229,978	84,175	41.5%	26.2%	20.8%	633,874
2023	500,000	395,237	120,417	18.1%	8.4%	10.5%	1,540,666
Total		\$18,429,223	\$568,510				\$20,769,647

Notes:

- (2)-(4) Provided by MVRMA
- (5)-(6) Based on Exhibit 12
- (7) = [(5) - (6)] / [(1.0 - (6))]
- (8) = (3) + [(4) / (7)]

Miami Valley Risk Management Association  
General Liability  
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Ultimate Loss Based on Incurred Loss Development Method Using Industry Factors  
Retained Limits

Accident Year	Cumulative Incurred Loss	Industry Loss Development Factors	Projected Ultimate Loss
(1)	(2)	(3)	(4)
1989	\$207,853	1.000	\$207,853
1990	439,863	1.000	439,863
1991	84,015	1.000	84,015
1992	139,376	1.000	139,376
1993	600,979	1.000	600,979
1994	106,065	1.000	106,065
1995	156,790	1.000	156,790
1996	357,926	1.000	357,926
1997	706,526	1.000	706,526
1998	554,289	1.000	554,289
1999	657,094	1.000	657,094
2000	164,560	1.000	164,560
2001	497,423	1.000	497,423
2002	1,347,177	1.000	1,347,177
2003	269,762	1.000	269,771
2004	511,964	1.000	511,997
2005	857,801	1.000	857,911
2006	915,795	1.000	916,030
2007	312,120	1.001	312,280
2008	856,672	1.001	857,553
2009	1,177,813	1.002	1,180,236
2010	972,613	1.004	976,620
2011	323,802	1.008	326,476
2012	542,610	1.017	551,608
2013	601,882	1.033	622,010
2014	925,867	1.068	988,826
2015	314,175	1.083	340,404
2016	751,920	1.104	829,766
2017	541,861	1.131	612,910
2018	715,603	1.179	843,428
2019	492,833	1.264	622,978
2020	643,502	1.432	921,622
2021	419,397	1.769	741,815
2022	314,153	2.494	783,485
2023	515,653	4.826	2,488,445
Total	\$18,997,733		\$22,576,107

Notes:

- (2) Provided by MVRMA
- (3) Based on insurance industry development
- (4) = (2) x (3)

Miami Valley Risk Management Association  
General Liability  
December 31, 2023

Ultimate Loss Based on Paid Loss Development Method Using Industry Factors  
Retained Limits

Accident Year	Cumulative Paid Loss	Industry Loss Development Factors	Projected Ultimate Loss
(1)	(2)	(3)	(4)
1989	\$207,853	1.000	\$207,853
1990	439,863	1.000	439,863
1991	84,015	1.000	84,015
1992	139,376	1.000	139,376
1993	600,979	1.000	600,979
1994	106,065	1.000	106,065
1995	156,790	1.000	156,790
1996	357,926	1.000	357,926
1997	706,526	1.000	706,526
1998	554,289	1.000	554,289
1999	657,094	1.000	657,094
2000	164,560	1.000	164,560
2001	497,423	1.000	497,423
2002	1,347,177	1.000	1,347,177
2003	269,762	1.000	269,775
2004	511,964	1.000	512,014
2005	857,801	1.000	857,968
2006	915,795	1.000	916,152
2007	312,120	1.001	312,364
2008	856,672	1.002	858,010
2009	1,177,813	1.003	1,181,493
2010	972,613	1.006	978,701
2011	323,802	1.013	327,868
2012	542,610	1.025	556,324
2013	601,882	1.051	632,693
2014	925,867	1.105	1,023,083
2015	314,175	1.132	355,495
2016	720,040	1.169	841,626
2017	541,861	1.230	666,295
2018	675,778	1.327	896,610
2019	446,564	1.506	672,479
2020	584,419	1.867	1,091,293
2021	232,536	2.708	629,616
2022	229,978	4.657	1,071,026
2023	395,237	12.807	5,061,784
Total	\$18,429,223		\$25,732,606

Notes:

- (2) Provided by MVRMA
- (3) Based on insurance industry development
- (4) = (2) x (3)

Miami Valley Risk Management Association  
General Liability  
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Loss Development Patterns

Month of Development (1)	\$500K Limits % Developed		\$1M Limits % Developed		Industry % Developed	
	Incurred (2)	Paid (3)	Incurred (4)	Paid (5)	Incurred (6)	Paid (7)
420	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
408	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
396	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
384	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
372	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
360	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
348	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
336	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
324	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
312	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
300	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
288	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
276	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
264	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
252	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
240	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
228	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
216	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
204	100.0%	100.0%	100.0%	100.0%	99.9%	99.9%
192	100.0%	100.0%	100.0%	100.0%	99.9%	99.8%
180	100.0%	100.0%	100.0%	100.0%	99.8%	99.7%
168	100.0%	100.0%	100.0%	100.0%	99.6%	99.4%
156	100.0%	100.0%	100.0%	100.0%	99.2%	98.8%
144	100.0%	100.0%	100.0%	100.0%	98.4%	97.5%
132	100.0%	100.0%	100.0%	100.0%	96.8%	95.1%
120	100.0%	100.0%	100.0%	100.0%	93.6%	90.5%
108	100.0%	99.9%	100.0%	99.8%	92.3%	88.4%
96	100.0%	99.4%	100.0%	98.7%	90.6%	85.6%
84	98.0%	97.0%	97.6%	95.8%	88.4%	81.3%
72	97.1%	94.2%	95.8%	89.8%	84.8%	75.4%
60	93.8%	81.9%	91.2%	78.0%	79.1%	66.4%
48	87.2%	73.1%	81.5%	65.7%	69.8%	53.6%
36	72.7%	56.2%	59.5%	41.9%	56.5%	36.9%
24	41.5%	26.2%	30.4%	16.8%	40.1%	21.5%
12	18.1%	8.4%	6.4%	2.3%	20.7%	7.8%

Notes:

- (2) Based on Exhibit 13
- (3) Based on Exhibit 14
- (4) = Col (2) lagged 6 months
- (5) = Col (3) lagged 6 months
- (6)-(7) Based on insurance industry development











Miami Valley Risk Management Association  
General Liability  
December 31, 2023

Summary of Claim Counts

Accident Year	Closed Claims	Open Claims	Reported Claims	Indicated IBNR Claims	Selected Ultimate Claims
(1)	(2)	(3)	(4)	(5)	(6)
1989	89	0	89	0	89
1990	99	0	99	0	99
1991	56	0	56	0	56
1992	72	0	72	0	72
1993	93	0	93	0	93
1994	108	0	108	0	108
1995	85	0	85	0	85
1996	121	0	121	0	121
1997	99	0	99	0	99
1998	142	0	142	0	142
1999	142	0	142	0	142
2000	146	0	146	0	146
2001	118	0	118	0	118
2002	164	0	164	0	164
2003	148	0	148	0	148
2004	119	0	119	0	119
2005	128	0	128	0	128
2006	110	0	110	0	110
2007	143	0	143	0	143
2008	177	0	177	0	177
2009	117	0	117	0	117
2010	153	0	153	0	153
2011	186	0	186	0	186
2012	137	0	137	0	137
2013	159	0	159	0	159
2014	175	0	175	0	175
2015	147	0	147	0	147
2016	141	1	142	0	142
2017	158	0	158	0	158
2018	172	2	174	0	174
2019	141	2	143	0	143
2020	79	2	81	0	81
2021	70	8	78	1	79
2022	88	2	90	4	94
2023	50	11	61	9	70
Total	4,332	28	4,360	14	4,374

Notes:

- (2)-(4) Provided by MVRMA
- (5) = (6) - (4)
- (6) From Exhibit 16, Col (4)

Miami Valley Risk Management Association  
General Liability  
December 31, 2023

Ultimate Claims Based on Reported Claim Development Method

Accident Year	Cumulative Reported Claims	Claim Development Factors	Projected Ultimate Claims
(1)	(2)	(3)	(4)
1989	89	1.000	89
1990	99	1.000	99
1991	56	1.000	56
1992	72	1.000	72
1993	93	1.000	93
1994	108	1.000	108
1995	85	1.000	85
1996	121	1.000	121
1997	99	1.000	99
1998	142	1.000	142
1999	142	1.000	142
2000	146	1.000	146
2001	118	1.000	118
2002	164	1.000	164
2003	148	1.000	148
2004	119	1.000	119
2005	128	1.000	128
2006	110	1.000	110
2007	143	1.000	143
2008	177	1.000	177
2009	117	1.000	117
2010	153	1.000	153
2011	186	1.000	186
2012	137	1.000	137
2013	159	1.000	159
2014	175	1.000	175
2015	147	1.000	147
2016	142	1.000	142
2017	158	1.000	158
2018	174	1.000	174
2019	143	1.002	143
2020	81	1.005	81
2021	78	1.013	79
2022	90	1.043	94
2023	61	1.148	70
Total	4,360		4,374

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 17
- (4) = (2) x (3)











Miami Valley Risk Management Association  
General Liability  
December 31, 2023

Loss and Count Summary

Accident Year	Retention	Total Limits		Retention Limits		\$500K Limits		Deductibles		Claim Counts	
		Incurred	Paid	Incurred	Paid	Incurred	Paid	Incurred	Paid	Reported	Closed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1989	\$250,000	\$207,853	\$207,853	\$207,853	\$207,853	\$207,853	\$207,853			89	89
1990	250,000	439,863	439,863	439,863	439,863	439,863	439,863			99	99
1991	250,000	84,015	84,015	84,015	84,015	84,015	84,015			56	56
1992	250,000	139,376	139,376	139,376	139,376	139,376	139,376			72	72
1993	250,000	1,207,079	1,207,079	600,979	600,979	850,979	850,979			93	93
1994	250,000	106,065	106,065	106,065	106,065	106,065	106,065			108	108
1995	250,000	156,790	156,790	156,790	156,790	156,790	156,790			85	85
1996	250,000	357,926	357,926	357,926	357,926	357,926	357,926			121	121
1997	500,000	1,331,066	1,331,066	706,526	706,526	706,526	706,526			99	99
1998	500,000	554,289	554,289	554,289	554,289	554,289	554,289			142	142
1999	500,000	657,094	657,094	657,094	657,094	657,094	657,094			142	142
2000	500,000	164,560	164,560	164,560	164,560	164,560	164,560			146	146
2001	500,000	497,423	497,423	497,423	497,423	497,423	497,423			118	118
2002	500,000	1,566,330	1,566,330	1,347,177	1,347,177	1,347,177	1,347,177			164	164
2003	1,000,000	269,762	269,762	269,762	269,762	269,762	269,762			148	148
2004	1,000,000	511,964	511,964	511,964	511,964	511,964	511,964			119	119
2005	1,000,000	857,801	857,801	857,801	857,801	857,801	857,801			128	128
2006	1,000,000	915,795	915,795	915,795	915,795	915,795	915,795	\$55,888	\$55,888	110	110
2007	1,000,000	312,120	312,120	312,120	312,120	312,120	312,120	54,069	54,069	143	143
2008	1,000,000	856,672	856,672	856,672	856,672	856,672	856,672	71,826	71,826	177	177
2009	1,000,000	1,177,813	1,177,813	1,177,813	1,177,813	1,137,677	1,137,677	58,683	58,683	117	117
2010	500,000	1,036,784	1,036,784	972,613	972,613	972,613	972,613	68,618	68,618	153	153
2011	500,000	323,802	323,802	323,802	323,802	323,802	323,802	67,033	67,033	186	186
2012	500,000	542,610	542,610	542,610	542,610	542,610	542,610	48,604	48,604	137	137
2013	500,000	601,882	601,882	601,882	601,882	601,882	601,882	54,455	54,455	159	159
2014	500,000	2,440,030	2,440,030	925,867	925,867	925,867	925,867	72,415	72,415	175	175
2015	500,000	314,175	314,175	314,175	314,175	314,175	314,175	64,046	64,046	147	147
2016	500,000	751,920	720,040	751,920	720,040	751,920	720,040	64,852	64,852	142	141
2017	500,000	541,861	541,861	541,861	541,861	541,861	541,861	49,966	49,966	158	158
2018	500,000	715,603	675,778	715,603	675,778	715,603	675,778	63,974	61,488	174	172
2019	500,000	492,833	446,564	492,833	446,564	492,833	446,564	74,963	74,963	143	141
2020	500,000	643,502	584,419	643,502	584,419	643,502	584,419	41,258	41,258	81	79
2021	500,000	419,397	232,536	419,397	232,536	419,397	232,536	45,406	42,191	78	70
2022	500,000	314,153	229,978	314,153	229,978	314,153	229,978	59,929	57,429	90	88
2023	500,000	515,653	395,237	515,653	395,237	515,653	395,237	39,403	26,459	61	50
Total		\$22,025,860	\$21,457,350	\$18,997,733	\$18,429,223	\$19,207,597	\$18,639,087	\$1,055,388	\$1,034,243	4,360	4,332

Notes:  
(2)-(12) Provided by MVRMA

Property and Auto Physical Damage  
Exhibit 1

Miami Valley Risk Management Association  
Property and Auto Physical Damage  
December 31, 2023

Summary of Loss Reserve Estimates  
Retained Limits

Accident Year	Selected Ultimate Loss	Incurred Loss	Paid Loss	Case Reserves	Indicated IBNR	Estimated Total Reserves
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1989	\$124,141	\$124,141	\$124,141	\$0	\$0	\$0
1990	32,734	32,734	32,734	0	0	0
1991	75,626	75,626	75,626	0	0	0
1992	63,858	63,858	63,858	0	0	0
1993	63,660	63,660	63,660	0	0	0
1994	96,833	96,833	96,833	0	0	0
1995	85,639	85,639	85,639	0	0	0
1996	92,901	92,901	92,901	0	0	0
1997	225,205	225,205	225,205	0	0	0
1998	135,150	135,150	135,150	0	0	0
1999	392,466	392,466	392,466	0	0	0
2000	130,204	130,204	130,204	0	0	0
2001	505,931	505,931	505,931	0	0	0
2002	369,496	369,496	369,496	0	0	0
2003	265,463	265,463	265,463	0	0	0
2004	229,621	229,621	229,621	0	0	0
2005	369,470	369,470	369,470	0	0	0
2006	497,206	497,206	497,206	0	0	0
2007	405,891	405,891	405,891	0	0	0
2008	654,562	654,562	654,562	0	0	0
2009	324,515	324,515	324,515	0	0	0
2010	389,384	389,384	389,384	0	0	0
2011	879,940	879,940	879,940	0	0	0
2012	559,108	559,108	559,108	0	0	0
2013	582,706	582,706	582,706	0	0	0
2014	1,162,693	1,162,693	1,162,693	0	0	0
2015	651,268	651,268	651,268	0	0	0
2016	448,203	448,203	448,203	0	0	0
2017	607,680	607,680	607,680	0	0	0
2018	571,312	571,312	571,312	0	0	0
2019	839,639	839,639	839,639	0	0	0
2020	1,058,832	1,058,832	1,058,832	0	0	0
2021	958,000	957,921	952,501	5,419	79	5,499
2022	1,455,000	1,433,709	1,248,947	184,762	21,291	206,053
2023	1,300,000	1,035,919	703,113	332,805	264,081	596,887
Total	\$16,604,338	\$16,318,887	\$15,795,900	\$522,987	\$285,452	\$808,438

Notes:

- (2) From Exhibit 4, Col (8)
- (3)-(5) Provided by MVRMA
- (6) = (2) - (3)
- (7) = (5) + (6)

Property and Auto Physical Damage  
Exhibit 2

Miami Valley Risk Management Association  
Property and Auto Physical Damage  
December 31, 2023

Ultimate Average Indications  
Retained Limits

Accident Year	Selected Ultimate Loss	Property Values (\$00,000's)	Selected Ultimate Claims	Ultimate Claims per \$10M Prop.	Ultimate Loss per \$100K Prop.	Ultimate Loss per Claim
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1989	\$124,141		17			\$7,302
1990	32,734		22			1,488
1991	75,626		27			2,801
1992	63,858		24			2,661
1993	63,660		28			2,274
1994	96,833	\$1,446	44	3.0	\$67	2,201
1995	85,639	1,578	68	4.3	54	1,259
1996	92,901	1,824	92	5.0	51	1,010
1997	225,205	2,140	88	4.1	105	2,559
1998	135,150	2,648	114	4.3	51	1,186
1999	392,466	2,482	154	6.2	158	2,548
2000	130,204	2,679	159	5.9	49	819
2001	505,931	3,002	131	4.4	169	3,862
2002	369,496	3,429	150	4.4	108	2,463
2003	265,463	4,680	185	4.0	57	1,435
2004	229,621	5,300	178	3.4	43	1,290
2005	369,470	6,898	169	2.4	54	2,186
2006	497,206	7,692	173	2.2	65	2,874
2007	405,891	8,105	163	2.0	50	2,490
2008	654,562	8,444	176	2.1	78	3,719
2009	324,515	9,250	173	1.9	35	1,876
2010	389,384	9,251	137	1.5	42	2,842
2011	879,940	10,188	184	1.8	86	4,782
2012	559,108	10,479	180	1.7	53	3,106
2013	582,706	10,778	170	1.6	54	3,428
2014	1,162,693	11,074	169	1.5	105	6,880
2015	651,268	11,132	171	1.5	59	3,809
2016	448,203	11,808	172	1.5	38	2,606
2017	607,680	12,352	168	1.4	49	3,617
2018	571,312	13,185	194	1.5	43	2,945
2019	839,639	13,876	119	0.9	61	7,056
2020	1,058,832	15,366	143	0.9	69	7,404
2021	958,000	16,278	159	1.0	59	6,025
2022	1,455,000	16,777	154	0.9	87	9,448
2023	1,300,000	18,243	117	0.6	71	11,111
Total	\$16,604,338		4,572			\$3,632
1994-2023	16,244,319	\$252,381	4,454	1.8	\$64	3,647

Notes:

- (2) From Exhibit 4, Col (8)
- (3) Provided by MVRMA
- (4) From Exhibit 11, Col (6)
- (5) = (4) / (3) x 100
- (6) = (2) / (3)
- (7) = (2) / (4)

Miami Valley Risk Management Association  
Property and Auto Physical Damage  
December 31, 2023

Comparison of Ultimate Loss to Prior Ultimate Loss  
Retained Limits

Accident Year	Selected Ultimate Loss @ 12/31/2022	Selected Ultimate Loss @ 12/31/2023	Difference	Percent Change
(1)	(2)	(3)	(4)	(5)
1989	\$124,141	\$124,141	\$0	0.0%
1990	32,734	32,734	0	0.0%
1991	75,626	75,626	0	0.0%
1992	63,858	63,858	0	0.0%
1993	63,660	63,660	0	0.0%
1994	96,833	96,833	0	0.0%
1995	85,639	85,639	0	0.0%
1996	92,901	92,901	0	0.0%
1997	225,205	225,205	0	0.0%
1998	135,150	135,150	0	0.0%
1999	392,466	392,466	0	0.0%
2000	130,204	130,204	0	0.0%
2001	505,931	505,931	0	0.0%
2002	369,496	369,496	0	0.0%
2003	265,463	265,463	0	0.0%
2004	229,621	229,621	0	0.0%
2005	369,470	369,470	0	0.0%
2006	497,206	497,206	0	0.0%
2007	405,891	405,891	0	0.0%
2008	654,562	654,562	0	0.0%
2009	324,515	324,515	0	0.0%
2010	389,384	389,384	0	0.0%
2011	879,940	879,940	0	0.0%
2012	559,108	559,108	0	0.0%
2013	582,706	582,706	0	0.0%
2014	1,162,693	1,162,693	0	0.0%
2015	651,268	651,268	0	0.0%
2016	448,203	448,203	0	0.0%
2017	607,680	607,680	0	0.0%
2018	594,000	571,312	(22,688)	-3.8%
2019	839,639	839,639	0	0.0%
2020	1,074,816	1,058,832	(15,984)	-1.5%
2021	1,054,000	958,000	(96,000)	-9.1%
2022	1,071,000	1,455,000	384,000	35.9%
Total	\$15,055,010	\$15,304,338	\$249,328	1.7%

Notes:

- (2) From Pinnacle's analysis of unpaid loss & LAE at 12/31/2022
- (3) From Exhibit 4, Col (8)
- (4) = (3) - (2)
- (5) = (4) / (2)

Miami Valley Risk Management Association  
Property and Auto Physical Damage  
December 31, 2023

Selected Ultimate Loss  
Retained Limits

Accident Year	Retention	Industry Development		MVRMA's Loss Development			Selected Ultimate Loss
		Incurred Loss Method	Paid Loss Method	Incurred Loss Method	Paid Loss Method	Case Reserve Method	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1989	\$250,000	\$124,141	\$124,141	\$124,141	\$124,141	\$124,141	\$124,141
1990	250,000	32,734	32,734	32,734	32,734	32,734	32,734
1991	250,000	75,626	75,626	75,626	75,626	75,626	75,626
1992	250,000	63,858	63,858	63,858	63,858	63,858	63,858
1993	250,000	63,660	63,660	63,660	63,660	63,660	63,660
1994	100,000	96,833	96,833	96,833	96,833	96,833	96,833
1995	150,000	85,639	85,639	85,639	85,639	85,639	85,639
1996	250,000	92,901	92,901	92,901	92,901	92,901	92,901
1997	250,000	225,205	225,205	225,205	225,205	225,205	225,205
1998	250,000	135,150	135,150	135,150	135,150	135,150	135,150
1999	150,000	392,466	392,466	392,466	392,466	392,466	392,466
2000	150,000	130,204	130,204	130,204	130,204	130,204	130,204
2001	150,000	505,931	505,931	505,931	505,931	505,931	505,931
2002	250,000	369,496	369,496	369,496	369,496	369,496	369,496
2003	250,000	265,463	265,463	265,463	265,463	265,463	265,463
2004	250,000	229,621	229,621	229,621	229,621	229,621	229,621
2005	200,000	369,470	369,470	369,470	369,470	369,470	369,470
2006	200,000	497,206	497,206	497,206	497,206	497,206	497,206
2007	200,000	405,891	405,891	405,891	405,891	405,891	405,891
2008	200,000	654,564	654,564	654,562	654,562	654,562	654,562
2009	200,000	324,517	324,521	324,515	324,515	324,515	324,515
2010	250,000	389,388	389,398	389,384	389,384	389,384	389,384
2011	250,000	879,959	880,005	879,940	879,940	879,940	879,940
2012	250,000	559,133	559,191	559,108	559,108	559,108	559,108
2013	250,000	582,757	582,879	582,706	582,706	582,706	582,706
2014	250,000	1,162,897	1,163,385	1,162,693	1,162,693	1,162,693	1,162,693
2015	250,000	651,496	652,044	651,268	651,268	651,268	651,268
2016	250,000	448,517	449,272	448,203	448,203	448,203	448,203
2017	250,000	608,531	610,580	607,680	607,680	607,680	607,680
2018	250,000	572,915	576,779	571,312	571,312	571,312	571,312
2019	250,000	844,357	855,786	839,639	839,639	839,639	839,639
2020	250,000	1,070,765	1,099,946	1,058,832	1,058,832	1,058,832	1,058,832
2021	250,000	979,634	1,027,908	957,921	952,501	957,921	958,000
2022	250,000	1,499,442	1,454,526	1,440,878	1,286,416	1,471,770	1,455,000
2023	250,000	1,257,872	1,215,485	1,301,373	1,267,362	1,317,328	1,300,000
Total		\$16,648,241	\$16,657,771	\$16,591,510	\$16,397,617	\$16,638,357	\$16,604,338

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 8.1, Col (4)
- (4) From Exhibit 8.2, Col (4)
- (5) From Exhibit 5, Col (4)
- (6) From Exhibit 6, Col (4)
- (7) From Exhibit 7, Col (8)

Property and Auto Physical Damage  
Exhibit 5

Miami Valley Risk Management Association  
Property and Auto Physical Damage  
December 31, 2023

Ultimate Loss Based on Incurred Loss Development Method  
Retained Limits

Accident Year	Cumulative Incurred Loss	Loss Development Factors	Projected Ultimate Loss
(1)	(2)	(3)	(4)
1989	\$124,141	1.000	\$124,141
1990	32,734	1.000	32,734
1991	75,626	1.000	75,626
1992	63,858	1.000	63,858
1993	63,660	1.000	63,660
1994	96,833	1.000	96,833
1995	85,639	1.000	85,639
1996	92,901	1.000	92,901
1997	225,205	1.000	225,205
1998	135,150	1.000	135,150
1999	392,466	1.000	392,466
2000	130,204	1.000	130,204
2001	505,931	1.000	505,931
2002	369,496	1.000	369,496
2003	265,463	1.000	265,463
2004	229,621	1.000	229,621
2005	369,470	1.000	369,470
2006	497,206	1.000	497,206
2007	405,891	1.000	405,891
2008	654,562	1.000	654,562
2009	324,515	1.000	324,515
2010	389,384	1.000	389,384
2011	879,940	1.000	879,940
2012	559,108	1.000	559,108
2013	582,706	1.000	582,706
2014	1,162,693	1.000	1,162,693
2015	651,268	1.000	651,268
2016	448,203	1.000	448,203
2017	607,680	1.000	607,680
2018	571,312	1.000	571,312
2019	839,639	1.000	839,639
2020	1,058,832	1.000	1,058,832
2021	957,921	1.000	957,921
2022	1,433,709	1.005	1,440,878
2023	1,035,919	1.256	1,301,373
Total	\$16,318,887		\$16,591,510

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 9
- (4) = (2) x (3)

Property and Auto Physical Damage  
Exhibit 6

Miami Valley Risk Management Association  
Property and Auto Physical Damage  
December 31, 2023

Ultimate Loss Based on Paid Loss Development Method  
Retained Limits

Accident Year <u>(1)</u>	Cumulative Paid Loss <u>(2)</u>	Loss Development Factors <u>(3)</u>	Projected Ultimate Loss <u>(4)</u>
1989	\$124,141	1.000	\$124,141
1990	32,734	1.000	32,734
1991	75,626	1.000	75,626
1992	63,858	1.000	63,858
1993	63,660	1.000	63,660
1994	96,833	1.000	96,833
1995	85,639	1.000	85,639
1996	92,901	1.000	92,901
1997	225,205	1.000	225,205
1998	135,150	1.000	135,150
1999	392,466	1.000	392,466
2000	130,204	1.000	130,204
2001	505,931	1.000	505,931
2002	369,496	1.000	369,496
2003	265,463	1.000	265,463
2004	229,621	1.000	229,621
2005	369,470	1.000	369,470
2006	497,206	1.000	497,206
2007	405,891	1.000	405,891
2008	654,562	1.000	654,562
2009	324,515	1.000	324,515
2010	389,384	1.000	389,384
2011	879,940	1.000	879,940
2012	559,108	1.000	559,108
2013	582,706	1.000	582,706
2014	1,162,693	1.000	1,162,693
2015	651,268	1.000	651,268
2016	448,203	1.000	448,203
2017	607,680	1.000	607,680
2018	571,312	1.000	571,312
2019	839,639	1.000	839,639
2020	1,058,832	1.000	1,058,832
2021	952,501	1.000	952,501
2022	1,248,947	1.030	1,286,416
2023	703,113	1.803	1,267,362
Total	\$15,795,900		\$16,397,617

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 10
- (4) = (2) x (3)

Miami Valley Risk Management Association  
Property and Auto Physical Damage  
December 31, 2023

Ultimate Loss Based on Case Reserve Development Method  
Retained Limits

Accident Year	Retention	Cumulative Paid Loss	Case Reserves	Percent Developed			Projected Ultimate Loss
				Incurred	Paid	Reserve	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1989	\$250,000	\$124,141	\$0	100.0%	100.0%	100.0%	\$124,141
1990	250,000	32,734	0	100.0%	100.0%	100.0%	32,734
1991	250,000	75,626	0	100.0%	100.0%	100.0%	75,626
1992	250,000	63,858	0	100.0%	100.0%	100.0%	63,858
1993	250,000	63,660	0	100.0%	100.0%	100.0%	63,660
1994	100,000	96,833	0	100.0%	100.0%	100.0%	96,833
1995	150,000	85,639	0	100.0%	100.0%	100.0%	85,639
1996	250,000	92,901	0	100.0%	100.0%	100.0%	92,901
1997	250,000	225,205	0	100.0%	100.0%	100.0%	225,205
1998	250,000	135,150	0	100.0%	100.0%	100.0%	135,150
1999	150,000	392,466	0	100.0%	100.0%	100.0%	392,466
2000	150,000	130,204	0	100.0%	100.0%	100.0%	130,204
2001	150,000	505,931	0	100.0%	100.0%	100.0%	505,931
2002	250,000	369,496	0	100.0%	100.0%	100.0%	369,496
2003	250,000	265,463	0	100.0%	100.0%	100.0%	265,463
2004	250,000	229,621	0	100.0%	100.0%	100.0%	229,621
2005	200,000	369,470	0	100.0%	100.0%	100.0%	369,470
2006	200,000	497,206	0	100.0%	100.0%	100.0%	497,206
2007	200,000	405,891	0	100.0%	100.0%	100.0%	405,891
2008	200,000	654,562	0	100.0%	100.0%	100.0%	654,562
2009	200,000	324,515	0	100.0%	100.0%	100.0%	324,515
2010	250,000	389,384	0	100.0%	100.0%	100.0%	389,384
2011	250,000	879,940	0	100.0%	100.0%	100.0%	879,940
2012	250,000	559,108	0	100.0%	100.0%	100.0%	559,108
2013	250,000	582,706	0	100.0%	100.0%	100.0%	582,706
2014	250,000	1,162,693	0	100.0%	100.0%	100.0%	1,162,693
2015	250,000	651,268	0	100.0%	100.0%	100.0%	651,268
2016	250,000	448,203	0	100.0%	100.0%	100.0%	448,203
2017	250,000	607,680	0	100.0%	100.0%	100.0%	607,680
2018	250,000	571,312	0	100.0%	100.0%	100.0%	571,312
2019	250,000	839,639	0	100.0%	100.0%	100.0%	839,639
2020	250,000	1,058,832	0	100.0%	100.0%	100.0%	1,058,832
2021	250,000	952,501	5,419	100.0%	100.0%	100.0%	957,921
2022	250,000	1,248,947	184,762	99.5%	97.1%	82.9%	1,471,770
2023	250,000	703,113	332,805	79.6%	55.5%	54.2%	1,317,328
Total		\$15,795,900	\$522,987				\$16,638,357

Notes:

- (2)-(4) Provided by MVRMA
- (5) Based on Exhibit 5, Col (3)
- (6) Based on Exhibit 6, Col (3)
- (7) = [(5) - (6)] / [(1.0 - (6))]
- (8) = (3) + [(4) / (7)]



Property and Auto Physical Damage  
Exhibit 8.1

Miami Valley Risk Management Association  
Property and Auto Physical Damage  
December 31, 2023

Ultimate Loss Based on Incurred Loss Development Method Using Industry Factors  
Retained Limits

Accident Year	Cumulative Incurred Loss	Industry Loss Development Factors	Projected Ultimate Loss
(1)	(2)	(3)	(4)
1989	\$124,141	1.000	\$124,141
1990	32,734	1.000	32,734
1991	75,626	1.000	75,626
1992	63,858	1.000	63,858
1993	63,660	1.000	63,660
1994	96,833	1.000	96,833
1995	85,639	1.000	85,639
1996	92,901	1.000	92,901
1997	225,205	1.000	225,205
1998	135,150	1.000	135,150
1999	392,466	1.000	392,466
2000	130,204	1.000	130,204
2001	505,931	1.000	505,931
2002	369,496	1.000	369,496
2003	265,463	1.000	265,463
2004	229,621	1.000	229,621
2005	369,470	1.000	369,470
2006	497,206	1.000	497,206
2007	405,891	1.000	405,891
2008	654,562	1.000	654,564
2009	324,515	1.000	324,517
2010	389,384	1.000	389,388
2011	879,940	1.000	879,959
2012	559,108	1.000	559,133
2013	582,706	1.000	582,757
2014	1,162,693	1.000	1,162,897
2015	651,268	1.000	651,496
2016	448,203	1.001	448,517
2017	607,680	1.001	608,531
2018	571,312	1.003	572,915
2019	839,639	1.006	844,357
2020	1,058,832	1.011	1,070,765
2021	957,921	1.023	979,634
2022	1,433,709	1.046	1,499,442
2023	1,035,919	1.214	1,257,872
Total	\$16,318,887		\$16,648,241

Notes:

- (2) Provided by MVRMA
- (3) Based on insurance industry development
- (4) = (2) x (3)

Miami Valley Risk Management Association  
Property and Auto Physical Damage  
December 31, 2023

Ultimate Loss Based on Paid Loss Development Method Using Industry Factors  
Retained Limits

Accident Year	Cumulative Paid Loss	Industry Loss Development Factors	Projected Ultimate Loss
(1)	(2)	(3)	(4)
1989	\$124,141	1.000	\$124,141
1990	32,734	1.000	32,734
1991	75,626	1.000	75,626
1992	63,858	1.000	63,858
1993	63,660	1.000	63,660
1994	96,833	1.000	96,833
1995	85,639	1.000	85,639
1996	92,901	1.000	92,901
1997	225,205	1.000	225,205
1998	135,150	1.000	135,150
1999	392,466	1.000	392,466
2000	130,204	1.000	130,204
2001	505,931	1.000	505,931
2002	369,496	1.000	369,496
2003	265,463	1.000	265,463
2004	229,621	1.000	229,621
2005	369,470	1.000	369,470
2006	497,206	1.000	497,206
2007	405,891	1.000	405,891
2008	654,562	1.000	654,568
2009	324,515	1.000	324,521
2010	389,384	1.000	389,398
2011	879,940	1.000	880,005
2012	559,108	1.000	559,191
2013	582,706	1.000	582,879
2014	1,162,693	1.001	1,163,385
2015	651,268	1.001	652,044
2016	448,203	1.002	449,272
2017	607,680	1.005	610,580
2018	571,312	1.010	576,779
2019	839,639	1.019	855,786
2020	1,058,832	1.039	1,099,946
2021	952,501	1.079	1,027,908
2022	1,248,947	1.165	1,454,526
2023	703,113	1.729	1,215,485
Total	\$15,795,900		\$16,657,771

Notes:

- (2) Provided by MVRMA
- (3) Based on insurance industry development
- (4) = (2) x (3)









Miami Valley Risk Management Association  
Property and Auto Physical Damage  
December 31, 2023

Summary of Claim Counts

Accident Year	Closed Claims	Open Claims	Reported Claims	Indicated IBNR Claims	Selected Ultimate Claims
(1)	(2)	(3)	(4)	(5)	(6)
1989	17	0	17	0	17
1990	22	0	22	0	22
1991	27	0	27	0	27
1992	24	0	24	0	24
1993	28	0	28	0	28
1994	44	0	44	0	44
1995	68	0	68	0	68
1996	92	0	92	0	92
1997	88	0	88	0	88
1998	114	0	114	0	114
1999	154	0	154	0	154
2000	159	0	159	0	159
2001	131	0	131	0	131
2002	150	0	150	0	150
2003	185	0	185	0	185
2004	178	0	178	0	178
2005	169	0	169	0	169
2006	173	0	173	0	173
2007	163	0	163	0	163
2008	176	0	176	0	176
2009	173	0	173	0	173
2010	137	0	137	0	137
2011	184	0	184	0	184
2012	180	0	180	0	180
2013	170	0	170	0	170
2014	169	0	169	0	169
2015	171	0	171	0	171
2016	172	0	172	0	172
2017	168	0	168	0	168
2018	194	0	194	0	194
2019	118	1	119	0	119
2020	143	0	143	0	143
2021	157	2	159	0	159
2022	137	16	153	1	154
2023	48	59	107	10	117
Total	4,483	78	4,561	11	4,572

## Notes:

- (2)-(4) Provided by MVRMA  
(5) = (6) - (4)  
(6) From Exhibit 12, Col (4)

Miami Valley Risk Management Association  
Property and Auto Physical Damage  
December 31, 2023

Ultimate Claims Based on Reported Claim Development Method

Accident Year	Cumulative Reported Claims	Claim Development Factors	Projected Ultimate Claims
(1)	(2)	(3)	(4)
1989	17	1.000	17
1990	22	1.000	22
1991	27	1.000	27
1992	24	1.000	24
1993	28	1.000	28
1994	44	1.000	44
1995	68	1.000	68
1996	92	1.000	92
1997	88	1.000	88
1998	114	1.000	114
1999	154	1.000	154
2000	159	1.000	159
2001	131	1.000	131
2002	150	1.000	150
2003	185	1.000	185
2004	178	1.000	178
2005	169	1.000	169
2006	173	1.000	173
2007	163	1.000	163
2008	176	1.000	176
2009	173	1.000	173
2010	137	1.000	137
2011	184	1.000	184
2012	180	1.000	180
2013	170	1.000	170
2014	169	1.000	169
2015	171	1.000	171
2016	172	1.000	172
2017	168	1.000	168
2018	194	1.000	194
2019	119	1.000	119
2020	143	1.000	143
2021	159	1.000	159
2022	153	1.005	154
2023	107	1.095	117
Total	4,561		4,572

## Notes:

- (2) Provided by MVRMA  
(3) From Exhibit 13  
(4) = (2) x (3)











Miami Valley Risk Management Association  
Property and Auto Physical Damage  
December 31, 2023

Loss and Count Summary

Accident Year	Retention	Total Limits		Retention Limits		Deductibles		Claim Counts	
		Incurred	Paid	Incurred	Paid	Incurred	Paid	Reported	Closed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1989	\$250,000	\$124,141	\$124,141	\$124,141	\$124,141			17	17
1990	250,000	32,734	32,734	32,734	32,734			22	22
1991	250,000	75,626	75,626	75,626	75,626			27	27
1992	250,000	63,858	63,858	63,858	63,858			24	24
1993	250,000	63,660	63,660	63,660	63,660			28	28
1994	100,000	96,833	96,833	96,833	96,833			44	44
1995	150,000	85,639	85,639	85,639	85,639			68	68
1996	250,000	92,901	92,901	92,901	92,901			92	92
1997	250,000	225,205	225,205	225,205	225,205			88	88
1998	250,000	135,150	135,150	135,150	135,150			114	114
1999	150,000	541,763	541,763	392,466	392,466			154	154
2000	150,000	130,204	130,204	130,204	130,204			159	159
2001	150,000	505,931	505,931	505,931	505,931			131	131
2002	250,000	369,496	369,496	369,496	369,496			150	150
2003	250,000	265,463	265,463	265,463	265,463			185	185
2004	250,000	229,621	229,621	229,621	229,621			178	178
2005	200,000	369,470	369,470	369,470	369,470			169	169
2006	200,000	497,206	497,206	497,206	497,206	\$103,904	\$103,904	173	173
2007	200,000	405,891	405,891	405,891	405,891	101,827	101,827	163	163
2008	* 200,000	774,978	774,978	654,562	654,562	134,525	134,525	176	176
2009	200,000	324,515	324,515	324,515	324,515	119,127	119,127	173	173
2010	250,000	389,384	389,384	389,384	389,384	87,270	87,270	137	137
2011	* 250,000	2,092,816	2,092,816	879,940	879,940	127,474	127,474	184	184
2012	250,000	559,108	559,108	559,108	559,108	92,085	92,085	180	180
2013	250,000	582,706	582,706	582,706	582,706	112,692	112,692	170	170
2014	250,000	1,176,859	1,176,859	1,162,693	1,162,693	103,333	103,333	169	169
2015	250,000	651,268	651,268	651,268	651,268	94,439	94,439	171	171
2016	250,000	448,203	448,203	448,203	448,203	124,197	124,197	172	172
2017	250,000	607,680	607,680	607,680	607,680	101,811	101,811	168	168
2018	250,000	571,312	571,312	571,312	571,312	131,858	131,858	194	194
2019	250,000	1,289,139	1,288,559	839,639	839,639	130,981	130,981	119	118
2020	250,000	1,139,991	1,139,991	1,058,832	1,058,832	141,235	141,235	143	143
2021	250,000	957,921	952,501	957,921	952,501	204,614	204,614	159	157
2022	250,000	1,433,709	1,248,947	1,433,709	1,248,947	226,239	217,737	153	137
2023	250,000	1,133,562	800,747	1,035,919	703,113	208,987	123,766	107	48
Total		\$18,443,944	\$17,920,368	\$16,318,887	\$15,795,900	\$2,346,596	\$2,252,873	4,561	4,483

Notes: Retentions apply to indemnity and ALAE; the deductible is \$2,500 per occurrence  
(2)-(10) Provided by MVRMA  
(\*) 2008 retained losses reflect capping a wind storm totaling \$320,356  
2011 retained losses reflect capping a hail storm totaling \$628,004