MVRMA

Miami Valley Risk Management Association

ANNUAL COMPREHENSIVE FINANCIAL REPORT

YEAR ENDED DECEMBER 31, 2021

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, 2021

Published June 30, 2022
Prepared by:
Thomas L. Judy, Executive Director

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June 27, 2022
President Emily Christian & the Board of Trustees
Miami Valley Risk Management Association

Re: **MVRMA Annual Comprehensive Financial Report for the Period Ended December 31, 2021**

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, 2021, 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 prepared all statements, schedules and other presentations in this report except the actuarial report included in the Required Supplemental Information (RSI) 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, 2021. 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, 2020, 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 Corridor" 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, but also I-70, I-71 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 Area Chamber of Commerce's Research Advisory Council (RAC) indicated the Dayton region described the regional economy as "a tale of two cities", acknowledging that different parts of the community were impacted significantly more than others due to the pandemic. The Committee's 2021 Dayton Region Economic Outlook included the following:

- Restaurants and bars shuttered from the Governor's stay-at home orders and many struggled to break even or stay in business. REOPEN Dayton grants were provided to many downtown businesses to assist with many using the money to invest in mobile ordering software and better take-out processes, which could help them in the long term.
- Manufacturing remains the third largest industry in the Dayton MSA accounting for nearly 50,000 jobs. Yet, that industry is still recovering from the 2007 recession in which the region lost around 34,000 jobs. In 2019 the RAC predicted it would be 2024 until all those jobs returned but that is now in doubt after the pandemic's impact.
- Healthcare remained steady, neither growing nor decreasing in aggregate jobs. While many hospitals increased staffing levels due to COVID-19 most elective and non-emergency procedures were cancelled and more patients relied on tele-health instead of in-person visits. As a result, networks shifted roles, eliminated positions and restructured its financial strategy.
- Downtown Dayton Development continues with the projects such as the Fire Blocks, Arcade, Water Street and OnMain.

The unemployment rate for the Dayton MSA was 3.5 % for 2021 which is a decrease of 1.5% from 2020.

Cincinnati Area

Cincinnati has been one of the few major metros to escape more severe impacts from the onset of COVID-19. Fannie Mae , Moody's Analytics and University of Cincinnati included the following regarding Cincinnati's economic outlook:

- The Cincinnati metro has both business and living costs that are below the national averages. As a result, Cincinnati is ranked No. 1 in fastest-selling homes. Therefore, many people working from home are leaving bigger cities and relocating to the Midwest.
- The Healthcare industry was a major boon for the local economy. Several local healthcare employers such as the Cincinnati Children's Medical Center are expanding with the plan to hire an additional 700 new employees.
- The recovery is accelerating and is outpacing those of every other major Ohio Metro area. Payroll employment has surged in recent months, drive by gains in professional/business services and leisure/hospitality.
- The manufacturing sector which was hit hard in 2020, is recovering at a torrid pace. Auto manufacturing employment has soared as the demand for cars has reached a historic level nationwide

The unemployment rate for the Cincinnati area was 3.0% for 2021 which is a decrease of 1.7% from 2020.

Insurance/Reinsurance Market Outlook Insurance/Reinsurance Market Outlook

MVRMA is impacted by the insurance and reinsurance markets due to the Association's purchase of excess insurance and reinsurance. We are experiencing one of the most challenging insurance markets we've seen in over 30 years for both property and liability reinsurance. The property market is being driven by natural catastrophes. Insured catastrophic losses in 2021 are estimated at $112 billion, the 4th highest on record, in large part a result of wildfires in the West, the winter freeze in the South, hurricanes and convective storms in the Midwest. A low-interest environment and COVID-19 have made an already challenging market even more challenging. The liability reinsurance market is being driven by "social inflation" (nuclear jury verdicts and high settlements); law enforcement liability and sexual misconduct are areas of particular concern for underwriters. Looking ahead, we expect to continue to see upward pressure on the insurance rates for both property and liability.

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 2021 was $2,200,000 while the Shock Loss Fund balance as of 12/31/21 was $2,748,269.

- 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 $4.5 million in 2021 and will increase to $6.5 million in 2022.

- MVRMA's investment policy is primarily allocated to high-grade corporate bonds and federal agency bonds. MVRMA continued to contract with SJS Investment Consulting, Inc. for investment advisory services in 2021. The investment portfolios outperformed established benchmarks.

- The pool has a policy of returning unused loss funds to its members when a loss year is closed. The pool closed one loss year in 2021 resulting in a refund, or dividend, of $1,471,074 for loss year 2017. MVRMA has refunded nearly $24 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 2021

Among the Association's achievements during the fiscal period ending December 31, 2021 were the following:

- Received member approval of the revised Member Agreement and Bylaws;
- Converted claims management operations from in-house to a third party administrator;
- Over 720 participants attended 18 MVRMA-sponsored training courses throughout the year;
- Completed reviews of all members per the standards of the pool's new Risk Management Best Practices program.

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, 2020. This was the 28th consecutive year MVRMA has achieved this prestigious award. In order 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, 2021 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.

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,

Thomas L. Judy, CPA
Executive Director

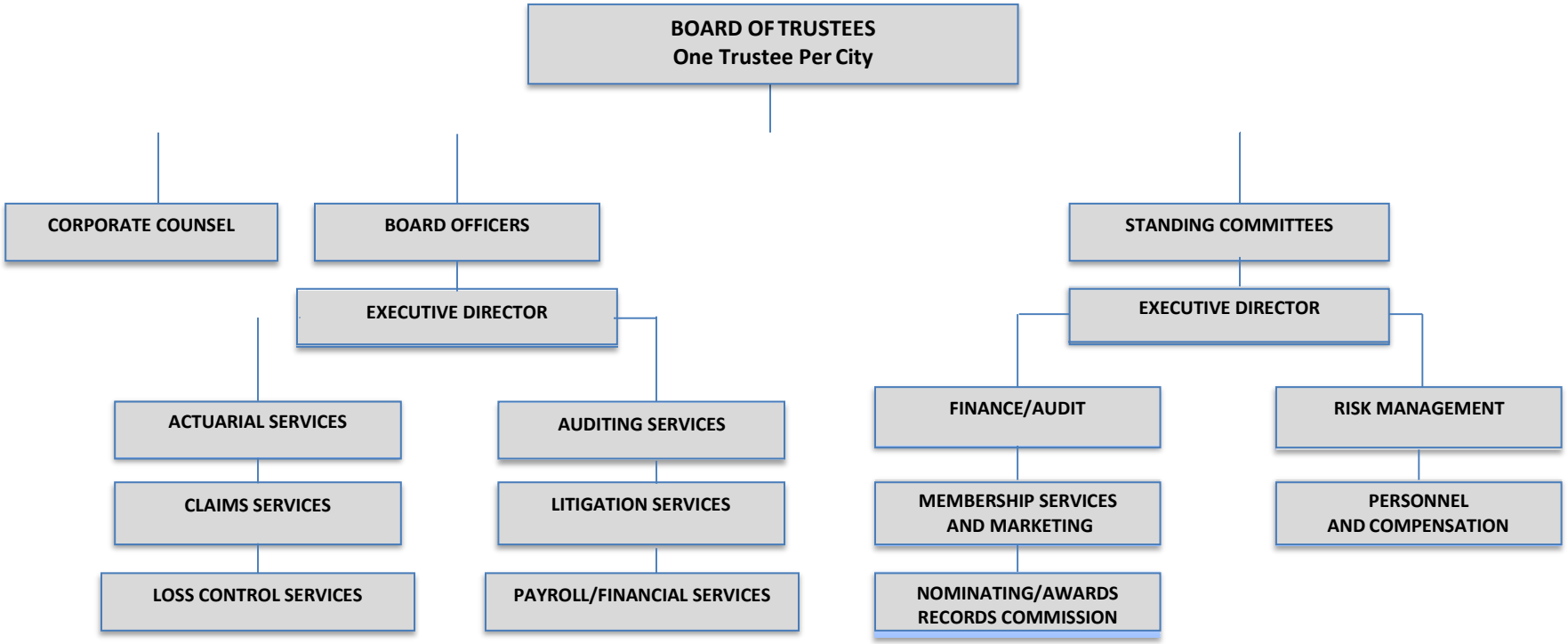
MIAMI VALLEY RISK MANAGEMENT ASSOCIATION
MEMBERS OF THE BOARD OF TRUSTEES
As of December 31, 2021

Member City	Trustee	Alternate
Beavercreek	Bill Kucera	Jill Bissinger
Bellbrook	Rob Schomer	Melissa Jones
Blue Ash	Sherry Poppe	Natasha Dempsey
Centerville	Tyler Roark	Mariah Vogelgesang
Englewood	Eric A. Smith	Barbara McCormick
Fairfield	Jacob Burton	Carol Mayhall
Indian Hill	Dina Minneci	Jessica Chaney
Kettering	Nancy Gregory	Estelle Gibson
Madeira	Lori Thompson	Thomas Moeller
Mason	Jennifer Heft	Mary Mueller
Miamisburg	Keith Johnson	Emily Christian
Montgomery	John Crowell	Katie Smiddy
Piqua	Catherine Bogan	Ben Goodin
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	Thomas Reilly	Teresa Brooks
Wilmington	Greg Muenchen	Ron Craven
Wyoming	Rusty Herzog	Rachel Leininger

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION
OFFICERS OF THE BOARD OF TRUSTEES
As of December 31, 2021

Board Office	**Office Holder**	**Member City**
President	Bill Kucera	City of Beavercreek
Vice-President	Emily Christian	City of Miamisburg
Treasurer	Katie Smiddy	City of Montgomery
Secretary	Sandra Caudill	MVRMA

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION
ORGANIZATIONAL CHART



2021 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, 2020

Christopher P. Morrill

Executive Director/CEO

Opinion - p. 1

Opinion - p. 2

Opinion letter place holder page 3

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, 2021. 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 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 Governmental Accounting Standards Board Statement Number 10, 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 2021 and 2020, respectively.

The Statement of Net Position

This statement reports all of the Association's assets and liabilities as of December 31, 2021 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, 2021 compared to December 31, 2020.

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Condensed Statement of Net Position

	2021	2020
CURRENT ASSETS		
Cash and cash equivalents	$2,502,609	$2,192,965
Accounts receivable	691,846	104,048
Prepaid Expenses	673,115	471,414
Investments	2,275,795	5,973,890
NONCURRENT ASSETS		
Investments	13,070,116	10,164,315
Net pension asset	1,957	403
Net OPEB asset	43,809	0
Capital assets less depreciation	5,058	1,544
Total assets	19,264,305	18,908,579
DEFERRED OUTFLOWS OF RESOURCES		
Deferred outflows of resources related to pension	48,129	77,035
Deferred outflows of resources related to OPEB	33,205	62,213
Total deferred outflows of resources	81,334	139,248
CURRENT LIABILITIES		
Unpaid claim losses and loss adjustment expenses	662,727	484,640
Members' dividends payable	6,518,291	5,700,213
Accounts payable and accrued liabilities	179,759	11,227
Total current liabilties	7,360,777	6,196,080
NONCURRENT LIABILITIES		
Unpaid claim losses and loss adjustment expenses	3,784,330	2,712,280
Net pension liability	323,255	419,625
Net OPEB liability	0	338,088
Total noncurrent liabilities	4,107,585	3,469,993
Total Liabilities	11,468,362	9,666,073
DEFERRED INFLOWS OF RESOURCES		
Deferred inflows of resources related to pension	139,730	89,133
Deferred inflows of resources related to OPEB	133,858	47,395
Total deferred inflows of resources	273,588	136,528
TOTAL NET POSITION		
Invested in capital assets	5,058	1,544
Unrestricted	7,598,631	9,250,682
Total net position	$7,603,689	$9,252,226

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, 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. In the event that 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 2021, the unpaid claims liability increased by about $1,250,000, or 39%, due to increases in the estimates of ultimate losses for prior years, particularly property losses due to a weather event. This follows decreases of about $232,000 in 2020 and $257,000 in 2019.

% Claims Reserves by Line of Business
As of December 31

Line of Business	2021	2020
Auto Liability	4%	4%
General Liability	73%	87%
Property	23%	8%

The liability for members' dividends 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 liability increased in 2021 due to the closure of a loss year near yearend.

Net position is divided into two categories, net investment in capital assets and unrestricted. The net investment in capital assets represents the net book value of capital assets, while the remaining net position amount is unrestricted for future use by the Association. Net position invested in

capital assets increased from $1,544 to $5,058 during 2021 due to the purchase of computer equipment during the year. Total net position decreased in 2021 by $1,648,537, or 18%, due to member dividends of over $1.7 million .

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 18% from 2020 to 2021.

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

	2021	2020
Operating Revenue	$5,416,717	$5,014,788
Operating Expenses:		
Incurred claims and claims adjustment expenses	2,467,648	1,431,084
Reinsurance premiums	1,808,446	1,473,388
General and administrative expenses	885,455	854,427
Total Operating Expenses	5,161,549	3,758,899
Operating Income (Loss)	255,168	1,255,889
Nonoperating Revenue (Expense):		
Interest income and realized and unrealized gains (losses) on investments	-179,063	525,087
Members' dividends	-1,724,642	-2,859,421
Changes in Net Position	(1,648,537)	(1,078,445)
Net position, beginning of year	9,252,226	10,330,671
Net position, end of year	$7,603,689	$9,252,226

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.

Member contributions made up 92% and 96% of the Association's operating revenues in 2021 and 2020, respectively.

1. Members' contributions are determined by an underwriting formula that takes into account claim losses over a rolling four-year period and risk exposure factors such as 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. The reduction in net position during 2021 was attributable to members' dividends resulting from the closure of the 2017 loss year.

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 $309,644 in 2021 due to proceeds of investment maturities near yearend being held as cash.

	2021	2020
Cash flows from operating activities	($393,480)	($547,215)
Cash flows used in capital and related financing activities	(5,885)	0
Cash flows from (used in) investing activities	709,009	289,722
Net change in cash and cash equivalents	309,644	(257,493)
Cash and Cash Equivalents - Beginning of year	2,192,965	2,450,458
Cash and Cash Equivalents - End of year	$2,502,609	$2,192,965

2022 Projects and Future Plans

For 2022, the Association's liability limits of coverage will remain $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 7/1/21-7/1/22 was again placed with the Alliant Property Insurance Program (APIP). MVRMA's premium rate effective 7/1/21 increased by about 40% following increases of 22% in 2020 and 17% in 2019. These increases were due to the impact upon the property insurance market of large weather-related claims. At this time, MVRMA is preparing for its 7/1/22 renewal and is anticipating a rate increase of approximately 15%.

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
DECEMBER 31, 2021

ASSETS	
CURRENT ASSETS:	
Cash and cash equivalents	$2,502,609
Accounts receivable:	
Claims deductibles	59,488
Reinsurance	561,788
Interest and Other	70,570
Prepaid items	673,115
Investments	2,275,795
Total current assets	6,143,365
NONCURRENT ASSETS:	
Investments	13,070,116
Net pension asset	1,957
Net OPEB asset	43,809
Capital Assets:	
Equipment	23,653
Office furniture	11,923
Total capital assets	35,576
Accumulated depreciation	(30,518)
Capital assets - net	5,058
Total noncurrent assets	13,120,940
Total Assets	19,264,305
DEFERRED OUTFLOWS OF RESOURCES	
Deferred outflows of resources related to pension	48,129
Deferred outflows of resources related to OPEB	33,205
Total Deferred Outflows	81,334
LIABILITIES	
CURRENT LIABILITIES:	
Unpaid claims losses and loss adjustment expenses	662,727
Members' dividends payable	6,518,291
Accounts payable and accrued liabilities	179,759
Total current liabilities	7,360,777
NONCURRENT LIABILITIES:	
Unpaid claims losses and loss adjustment expenses	3,784,330
Net pension liability	323,255
Total noncurrent liabilities	4,107,585
Total Liabilities	11,468,362
DEFERRED INFLOWS OF RESOURCES	
Deferred inflows of resources related to pension	139,730
Deferred inflows of resources related to OPEB	133,858
Total Deferred Inflows	273,588
NET POSITION	
Investment in capital assets	5,058
Unrestricted	7,598,631
Total net position	$7,603,689

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, 2021

OPERATING REVENUES:	
Members' contributions	$4,991,737
Claim deductibles	270,126
Other	154,854
Total operating revenues	5,416,717
OPERATING EXPENSES:	
Claim expenses:	
Incurred claims and claim adjustment expenses	2,467,648
Reinsurance/insurance premiums	1,808,446
Total claim expenses	4,276,094
General and administrative expenses:	
Professional fees	362,843
Salaries and benefits	146,407
Depreciation	2,371
Rent	34,073
Other	339,761
Total general and administrative fees	885,455
Total operating expenses	5,161,549
OPERATING INCOME (LOSS)	255,168
NON-OPERATING REVENUE (EXPENSE):	
Interest income	191,594
Gain/(loss) on investments	(370,657)
Members' Dividends	(1,724,642)
Total Non-operating Revenue (Expense)	(1,903,705)
CHANGE IN NET POSITION	(1,648,537)
NET POSITION	
Beginning of year	9,252,226
End of year	$7,603,689

See notes to the basic financial statements

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.
STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED DECEMBER 31, 2021

CASH FLOWS FROM OPERATING ACTIVITIES:	
Cash received for member contributions	$4,991,737
Cash received for deductible reimbursements	251,714
Cash received from insurance proceeds	396,113
Cash received from other sources	59,261
Cash payments for claims	(2,175,412)
Cash payments for general reserve fund payouts	(996,872)
Cash payments for reinsurance premiums	(2,018,347)
Cash payments for professional fees	(323,181)
Cash payments for employment expenses	(424,153)
Cash payments for rent	(34,130)
Cash payments for other expenses	(120,210)
Net cash provided by (used in) operating activities	(393,480)
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES:	
Purchase of capital assets	(5,885)
Net cash provided by (used in) capital and related financing activities	(5,885)
CASH FLOWS FROM INVESTING ACTIVITIES:	
Investment purchases	(5,942,750)
Investment sales/maturities	6,340,018
Interest and dividends on investments	311,741
Net cash provided by (used in) investing activities	709,009
NET CHANGE IN CASH AND CASH EQUIVALENTS	309,644
CASH AND CASH EQUIVALENTS:	
Beginning of Year	2,192,965
End of Year	$2,502,609

See notes to the basic financial statements

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.
STATEMENT OF CASH FLOWS (Continued)
FOR THE YEAR ENDED DECEMBER 31, 2021

RECONCILIATION OF OPERATING INCOME (LOSS) TO NET CASH PROVIDED BY (USED IN) OPERATING ACTIVITIES	
Operating Income (Loss)	$255,168
Adjustments to reconcile change in net position to net cash provided by (used in) operating activities:	
Depreciation	2,371
Member dividends declared	(1,724,642)
(Increase) / decrease in assets:	
Claims deductibles receivable	(18,412)
Reinsurance receivable	(561,788)
Other receivables	(11,680)
Prepaid items	(201,701)
Net pension asset	(1,554)
Net OPEB Asset	(43,809)
(Increase) / decrease in deferred outflows:	
Deferred outflows of resources related to pension	28,906
Deferred outflows of resources related to OPEB	29,008
Increase / (decrease) in liabilities:	
Unpaid claims losses and loss adjustment expenses	1,250,137
Accounts payable, accrued liabilities, members' credits and members' refunds	894,914
Net pension liability	(96,370)
Net OPEB liability	(331,088)
Increase / (decrease) in deferred inflows:	
Deferred inflows of resources related to pension	50,597
Deferred inflows of resources related to OPEB	86,463
Net cash provided by (used in) operating activities	($393,480)

NON-CASH INVESTING ACTIVITIES:

- Miami Valley Risk Management Association, Inc. had a decrease in the fair value of investments in the amount $792,294 during 2021.

See notes to the basic financial statements

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 and villages 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 2021.

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.

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 five years.

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 subsequent 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, 2021, member contributions are presented net of a credit of $0.

Member Dividends – Dividends to members consist of refunds of the residual cash from closed loss years and refunds from the Shock Loss Fund. The 2017 loss year was closed in 2021 and the remaining cash, in the amount of $1,471,075, was 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 $253,567 in 2021.

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."

As of December 31, 2021, the Association had no "restricted" net position. 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

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 position 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 position 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, 2021

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, 2021, the carrying amount of the Association's deposits was $2,502,609. The bank balance was $2,599,486, and of this amount, $2,083,045 was insured by federal depository

insurance. Based on the criteria described in GASB Statement No. 40, "Deposit and Investment Risk Disclosures", $516,441 of the Association's bank balance was exposed to custodial risk.

Investments as of December 31, 2021

At December 31, 2021, the Association had the following investments:

		Investment Maturities			
Investment	Measurement Value	Less than 6 months	6 mo. to 1 year	1 to 3 years	Greater than 3 years
FHLB	$2,574,192	$301,207	$201,984		$2,071,001
FFCB	$2,090,164	$200,884		$297,540	$1,591,740
FHLMC	$682,810				$682,810
FNMA	$400,620				$400,620
Corporate Bonds	$8,436,130	$837,141	734,579	$4,894,858	$1,969,552
Negotiable Certificates of Deposit	$411,995			$411,995	
Government Entities Mutual, Inc. (see Note 6)	$750,000				$750,000
Total	$15,345,911	$1,339,232	$936,563	$5,604,393	$7,465,723

The Association's investments in negotiable certificates of deposit, 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 12/31/21, 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 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, 2021:

Investment	**% as of 12/31/21**
Federal Home Loan Bank	16.8%
Federal Farm Credit Bank	13.6%

NOTE 3 – CAPITAL ASSETS

Capital assets activity for the year ended December 31, 2021, was as follows:

	Balance 01/01/21	Additions	Transfers/ Disposals	Balance 12/31/21
Capital Assets Being Depreciated:				
Equipment	22,816	5,885	(5,048)	$23,653
Office Furniture	12,499	0	(576)	$11,923
Total Property and Equipment	35,315	5,885	(5,624)	35,576
Less: Accumulated Depreciation				
Equipment	(21,602)	(2,262)	5,048	($18,816)
Office Furniture	(12,169)	(109)	576	($11,702)
Total Accumulated Depreciation	(33,771)	(2,371)	5,624	(30,518)
Total Capital Assets Being Depreciated, net	$1,544	$3,514	$0	$5,058

NOTE 4 – NONCURRENT LIABILITIES

Noncurrent liability activity for the year ended December 31, 2021 was as follows:

	Beginning Balance	Additions	Reductions	Ending Balance
Net Pension Liability	$419,625	$0	$96,370	$323,255
Net OPEB Liability	$331,088	$0	$331,088	$0

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 in 2021. Property claims had an all-risk per-occurrence retention limit of $250,000 for 2021. Boiler and machinery had a per occurrence retention limit from $10,000 to $350,000 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, 2021, the Association purchased the following types of insurance/reinsurance in excess of the Association's self-insured retention:

Excess Insurance / Reinsurance	**Limits of Coverage**
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

In 2021, MVRMA reinsured its liability program with Government Entities Mutual (a protected cell reinsurance captive domiciled in the District of Columbia) for $4.5 million excess of MVRMA's $500,000 self-insured retention and with General Reinsurance Corporation for $7 million excess of $5 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 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 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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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 2021	December 31 2020
Unpaid claims and claim adjustment expenses - Beginning of Year	$3,196,920	$3,428,442
Incurred claims and claim adjustment expenses:		
Provision for insured events of the current year	2,277,913	1,809,815
Change in provision for insured events of prior years	499,001	(664,549)
Total incurred claims and claim adjustment expenses	2,776,914	1,145,266
Payments:		
Claims and claim adjustment expenses attributable to insured events of the current year	567,935	545,603
Claims and claim adjustment expenses attributable to insured events of prior years	958,842	831,185
Aggregate Adjustment		
Total Payments	1,526,777	1,376,788
Unpaid claims and claim adjustment expenses - End of Year	$4,447,057	$3,196,920

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 Asset

Pensions and OPEB are a component of exchange transactions – between an employer and its employees – of salaries and benefits for employee services. Pensions 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 net pension liability/asset and the net OPEB liability/asset 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.

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 in accounts payable and accrued liabilities on the accrual basis 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 administers three separate pension plans. The 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 Report referenced above for additional information, including requirements for reduced and unreduced benefits):

Group A Eligible to retire prior to January 7, 2013 or five years after January 7, 2013	**Group B** 20 years of service credit prior to January 7, 2013 or eligible to retire ten years after January 7, 2013	**Group C** Members not in other Groups and members hired on or after January 7, 2013
State and Local	**State and Local**	**State and Local**
Age and Service Requirements: Age 60 with 60 months of service credit or Age 55 with 25 years of service credit	**Age and Service Requirements:** Age 60 with 60 months of service credit or Age 55 with 25 years of service credit	**Age and Service Requirements:** Age 57 with 25 years of service credit or Age 62 with 5 years of service credit
Traditional Plan Formula: 2.2% of FAS multiplied by years of service for the first 30 years and 2.5% for service years in excess of 30	**Traditional Plan Formula:** 2.2% of FAS multiplied by years of service for the first 30 years and 2.5% for service years in excess of 30	**Traditional Plan Formula:** 2.2% of FAS multiplied by years of service for the first 35 years and 2.5% for service years in excess of 35
Combined Plan Formula: 1% of FAS multiplied by years of service for the first 30 years and 1.25% for service years in excess of 30	**Combined Plan Formula:** 1% of FAS multiplied by years of service for the first 30 years and 1.25% for service years in excess of 30	**Combined Plan Formula:** 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 unreduced benefits receive a percentage reduction in the benefit amount. The initial amount of a member's pension benefit is vested upon receipt of the initial benefit payment for calculation of an annual cost-of-living adjustment.

When a traditional plan benefit recipient has received benefits for 12 months, current law provides 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 percent. For those retiring subsequent to January 7, 2013, beginning in calendar year 2019, current law provides that the COLA will be 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. 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 percent 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), 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.

Beginning in 2022, the Combined Plan will be consolidated under the Traditional Pension Plan (defined benefit plan) and the Combined Plan option will no longer be available for new hires beginning in 2022.

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

	State and Local
2021 Statutory Maximum Contribution Rates	
Employer	14.0 %
Employee *	10.0 %
2021 Actual Contribution Rates	
Employer:	
Pension	14.0 %
Post-employment Health Care Benefits **	0.0 %
Total Employer	14.0 %
Employee	10.0 %

* This rate is determined by OPERS' Board and has no maxim

** This employer health care rate is for the traditional and com contribution for the member-directed plan is 4.00%.

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

The Association's contractually required contribution for the Traditional Plan and the Member-Directed Plan was $39,047 for 2021. Of this amount, $763 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, 2020, 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.

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

	OPERS - Traditional	OPERS - Member-Directed	Total
Proportion of the net pension liability/asset prior measurement date	0.00212300%	0.01066800%	
Proportion of the net pension liability/asset current measurement date	0.00218300%	0.01073300%	
Change in proportionate share	0.00006000%	0.00006500%	
Proportionate share of the net pension liability	$ 323,255	$ -	$ 323,255
Proportionate share of the net pension asset	-	(1,957)	(1,957)
Pension expense	22,029	(1,403)	20,626

At December 31, 2021, the Association reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	OPERS - Traditional	Member-Directed	Total
Deferred outflows of resources			
Differences between expected and actual experience	$ -	$ 1,348	$ 1,348
Changes of assumptions	-	55	55
Changes in employer's proportionate percentage/ difference between employer contributions	7,679	-	7,679
Contributions subsequent to the measurement date	32,435	6,612	39,047
Total deferred outflows of resources	$ 40,114	$ 8,015	$ 48,129

	OPERS - Traditional	OPERS - Member-Directed	Total
Deferred inflows of resources			
Differences between expected and actual experience	$ 13,522	$ -	$ 13,522
Net difference between projected and actual earnings on pension plan investments	125,994	214	126,208
Total deferred inflows of resources	$ 139,516	$ 214	$ 139,730

$39,047 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/addition to the net pension liability/asset in the year ending December 31, 2022.

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:			
2022	$ (46,978)	$ 149	$ (46,829)
2023	(16,317)	179	(16,138)
2024	(51,359)	134	(51,225)
2025	(17,183)	163	(17,020)
2026	-	167	167
Thereafter	-	397	397
Total	$ (131,837)	$ 1,189	$ (130,648)

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, 2020, using the following actuarial assumptions applied to all periods included in the measurement in accordance with the requirements of GASB 67. Key methods and assumptions used in the latest actuarial valuation, reflecting experience study results, prepared as of December 31, 2020, are presented below.

Wage inflation	3.25%
Future salary increases, including inflati	3.25% to 10.75% including wage inflation
COLA or ad hoc COLA	Pre 1/7/2013 retirees: 3.00%, simple Post 1/7/2013 retirees: 0.50%, simple through 2021, then 2.15% simple
Investment rate of return	
Current measurement date	7.20%
Prior measurement date	7.20%
Actuarial cost method	Individual entry age

In October 2020, the OPERS Board adopted a change in COLA for Post-January 7, 2013 retirees, changing it from 1.40% simple through 2020 then 2.15% simple to 0.50% simple through 2021 then 2.15% simple.

Pre-retirement mortality rates are based on the RP-2014 Employees mortality table for males and females, adjusted for mortality improvement back to the observation period base year of 2006. The base year for males and females was then established to be 2015 and 2010, respectively. Post-retirement mortality rates are based on the RP-2014 Healthy Annuitant mortality table for males and females, adjusted for mortality improvement back to the observation period base year of 2006. The base year for males and females was then established to be 2015 and 2010, respectively. Post-retirement mortality rates for disabled retirees are based on the RP-2014 Disabled mortality table for males and females, adjusted for mortality improvement back to the observation period base year of 2006. The base year for males and females was then established to be 2015 and 2010, respectively. Mortality rates for a particular calendar year are determined by applying the MP-2015 mortality improvement scale to all of the above-described tables.

The most recent experience study was completed for the five-year period ended December 31, 2015.

During 2020, 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 for 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 performance, net of investment expenses and adjusted for the changing amounts actually

invested, for the Defined Benefit portfolio was 11.70% for 2020.

The allocation of investment assets with the Defined Benefit portfolio is approved by the Board of Trustees 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 real rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adjusted for inflation. Best estimates of arithmetic 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, 2020, these best estimates are summarized in the following table:

Asset Class	Target Allocation	Weighted Average Long-Term Expected Real Rate of Return (Arithmetic)
Fixed income	25.00 %	1.32 %
Domestic equities	21.00	5.64
Real estate	10.00	5.39
Private equity	12.00	10.42
International equities	23.00	7.36
Other investments	9.00	4.75
Total	100.00 %	5.43 %

Discount Rate **–** The discount rate used to measure the total pension liability/asset was 7.20%, 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, 2020 was 7.20%. 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 benefits 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.

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 7.20%, 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 (6.20%) or one-percentage-point higher (8.20%) than the current rate:

	1% Decrease	Current Discount Rate	1% Increase
Association's proportionate share of the net pension liability (asset):			
Traditional Plan	$ 616,610	$ 323,255	$ 79,330
Member-Directed Plan	(1,717)	(1,957)	(2,147)

NOTE 9 – DEFINED BENEFIT OPEB PLANS

Net OPEB Asset

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

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, which funds multiple health care plans including medical coverage, prescription drug coverage and deposits to a Health Reimbursement Arrangement to qualifying benefit recipients of both the traditional pension and the combined plans. Currently, Medicare-eligible retirees are able to select medical and prescription drug plans from a range of options and may elect optional vision and dental plans. Retirees and eligible dependents enrolled in Medicare Parts A and B have the option to enroll in a Medicare supplemental plan with the assistance of the OPERS Medicare Connector. The OPERS Medicare Connector is a relationship with a vendor selected by OPERS to assist retirees, spouses and dependents with selecting a medical and pharmacy plan. Monthly allowances, based on years of service and the age at which the retiree first enrolled in OPERS coverage, are deposited into an HRA. For non-Medicare retirees and eligible dependents, OPERS sponsors medical and prescription coverage through a professionally managed self-insured plan. An allowance to offset a portion of the monthly premium is offered to retirees and eligible dependents. The allowance is based on the retiree's years of service and age when they first enrolled in OPERS coverage.

Medicare-eligible retirees who choose to become re-employed or survivors who become employed in an OPERS-covered position are prohibited from participating in an HRA. For this group of retirees, OPERS sponsors secondary coverage through a professionally managed self-insured program. Retirees who enroll in this plan are provided with a

monthly allowance to offset a portion of the monthly premium. Medicare-eligible spouses and dependents can also enroll in this plan as long as the retiree is enrolled.

OPERS provides a monthly allowance for health care coverage for eligible retirees and their eligible dependents. The base allowance is determined by OPERS.

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.

Effective January 1, 2022, OPERS will discontinue the group plans currently offered to non-Medicare retirees and re-employed retirees. Instead, eligible non-Medicare retirees will select an individual medical plan. OPERS will provide a subsidy or allowance via an HRA allowance to those retirees who meet health care eligibility requirements. Retirees will be able to seek reimbursement for plan premiums and other qualified medical expenses.

In order to qualify for postemployment health care coverage, age and service retirees under the traditional pension and combined plans must have twenty or more years of qualifying Ohio service credit with a minimum age of 60, or generally 30 years of qualifying service at any age. Health care coverage for disability benefit recipients and qualified survivor benefit recipients is available. Current retirees eligible (or who become eligible prior to January 1, 2022) to participate in the OPERS health care program will continue to be eligible after January 1, 2022. Eligibility requirements will change for those retiring after January 1, 2022, with differing eligibility requirements for Medicare retirees and non-Medicare retirees. The health care coverage provided by OPERS meets the definition of an Other Post Employment Benefit (OPEB) as described in GASB Statement 75. See OPERS' Annual Comprehensive Financial Report referenced below for additional information.

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 and the combined plan.

Employer contribution rates are expressed as a percentage of the earnable salary of active members. In 2021, 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 2021, OPERS did not allocate any employer contribution to health care for members in the Traditional Pension Plan and 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 2021 was 4.00%.

Employer contribution rates are actuarially determined and are expressed as a percentage of covered payroll. The Association's contractually required contribution was $2,645 for 2021. Of this amount, $52 is reported as accounts payable and accrued liabilities.

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

The net OPEB liability/asset and total OPEB liability/asset for OPERS were determined by an actuarial valuation as of December 31, 2019, rolled forward to the measurement date of December 31, 2020, 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:

	OPERS
Proportion of the net OPEB liability prior measurement date	0.00239700%
Proportion of the net OPEB liability/asset current measurement date	0.00245900%
Change in proportionate share	0.00006200%
Proportionate share of the net OPEB asset	$ (43,809)
OPEB expense	(256,781)

At December 31, 2021, the Association reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

	OPERS
Deferred outflows of resources	
Changes of assumptions	$ 21,539
Changes in employer's proportionate percentage/ difference between employer contributions	9,021
Contributions subsequent to the measurement date	2,645
Total deferred outflows of resources	$ 33,205

	OPERS
Deferred inflows of resources	
Differences between expected and actual experience	$ 39,539
Net difference between projected and actual earnings on OPEB plan investments	23,335
Changes of assumptions	70,984
Total deferred inflows of resources	$ 133,858

$2,645 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/addition to the net OPEB liability/asset in the year ending December 31, 2022.

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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:

	OPERS
Year Ending December 31:	
2022	$ (52,124)
2023	(38,282)
2024	(10,139)
2025	(2,753)
Total	$ (103,298)

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, 2019, rolled forward to the measurement date of December 31, 2020.

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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	3.25%
Projected Salary Increases, including inflation	3.25 to 10.75% including wage inflation
Single Discount Rate:	
Current measurement date	6.00%
Prior Measurement date	3.16%
Investment Rate of Return	
Current measurement date	6.00%
Prior Measurement date	6.00%
Municipal Bond Rate	
Current measurement date	2.00%
Prior Measurement date	2.75%
Health Care Cost Trend Rate	
Current measurement date	8.50% initial, 3.50% ultimate in 2035
Prior Measurement date	10.50%, initial 3.50%, ultimate in 2030
Actuarial Cost Method	Individual Entry Age Normal

Pre-retirement mortality rates are based on the RP-2014 Employees mortality table for males and females, adjusted for mortality improvement back to the observation period base year of 2006. The base year for males and females was then established to be 2015 and 2010, respectively. Post-retirement mortality rates are based on the RP-2014 Healthy Annuitant mortality table for males and females, adjusted for mortality improvement back to the observation period base year of 2006. The base year for males and females was then established to be 2015 and 2010, respectively. Post-retirement mortality rates for disabled retirees are based on the RP-2014 Disabled mortality table for males and females, adjusted for mortality improvement back to the observation period base year of 2006. The base year for males and females was then established to be 2015 and 2010, respectively. Mortality rates for a particular calendar year are determined by applying the MP-2015 mortality improvement scale to all of the above described tables.

The most recent experience study was completed for the five-year period ended December 31, 2015.

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

the long-term expected real rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adjusted for inflation.

During 2020, 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, if any contribution are made into the plans, the contributions are assumed to be received continuously throughout the year based on the actual payroll payable at the time contributions are made. 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 10.50% for 2020.

The allocation of investment assets within the Health Care portfolio is approved by the Board of Trustees 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. OPERS' primary goal is to achieve and maintain a fully funded status for the benefits provided through the defined 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 real rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adjusted for inflation.

For each major asset class that is included in the Health Care's portfolio's target asset allocation as of December 31, 2020, these best estimates are summarized in the following table:

Asset Class	Target Allocation	Weighted Average Long-Term Expected Real Rate of Return (Arithmetic)
Fixed Income	34.00 %	1.07 %
Domestic Equities	25.00	5.64
Real Estate Investment Trust	7.00	6.48
International Equities	25.00	7.36
Other investments	9.00	4.02
Total	100.00 %	4.43 %

Discount Rate **-** A single discount rate of 6.00% was used to measure the total OPEB liability on the measurement date of December 31, 2020. Projected benefit payments are

required to be discounted to their actuarial present value using a single discount rate that reflects (1) a long-term expected rate of return on OPEB plan investments (to the extent that the health care fiduciary net position is projected to be sufficient to pay benefits), and (2) 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 2.00%. 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 2120. As a result, the actuarial assumed long-term expected rate of return on health care investments was applied to projected costs through the year 2120, the duration of the projection period through which projected health care payments are fully funded.

Change in Benefit Terms - On January 15, 2020, 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 not reflected in the current year financial statements, however, they 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.

Sensitivity of the Association's Proportionate Share of the Net OPEB Asset to Changes in the Discount Rate - The following table presents the proportionate share of the net OPEB asset calculated using the single discount rate of 6.00%, 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 (5.00%) or one-percentage-point higher (7.00%) than the current rate:

	1% Decrease	Current Discount Rate	1% Increase
Association's proportionate share of the net OPEB asset	$ 10,893	$ 43,809	$ 70,868

Sensitivity of the Association's Proportionate Share of the Net OPEB Asset 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 asset. The following table presents the net OPEB asset calculated using the assumed trend rates, and the expected net OPEB asset 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 that changes over several years built into the assumption. The near-term rates reflect increases in the current cost of health care; the trend starting in 2021 is 8.50%. If this trend continues for future years, the projection indicates that years from now virtually all expenditures will be for health care. A more reasonable alternative is that in the not-too-distant future, the health plan cost trend will decrease to a level at, or near, wage inflation. On this basis, the actuaries project premium rate increases will continue to exceed wage inflation for approximately the next decade, but by less each year, until leveling off at an ultimate rate, assumed to be 3.50% in the most recent valuation.

	1% Decrease	Current Health Care Trend Rate Assumption	1% Increase
Association's proportionate share of the net OPEB asset	$ 44,877	$ 43,809	$ 42,614

NOTE 10 – COMMITMENTS

Leases - The Association leases office space under a five-year lease effective July 1, 2019. Rental expense totaled $34,073 in 2021. Future minimum annual lease payments are $34,755 in 2022 and $35,450 in 2023.

NOTE 11 – 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.

NOTE 12 – COVID-19

The United States and the State of Ohio declared a state of emergency in March of 2020 due to the COVID-19 pandemic. Ohio's state of emergency ended in June, 2021 while the national state of emergency continues. The financial impact of COVID-19 and the continuing emergency measures may impact subsequent periods of the Association. The impact on the Association's future operating costs, revenues, and additional recovery from emergency funding, either federal or state, cannot be estimated.

NOTE 13 – CHANGES IN ACCOUNTING PRINCIPLE

For 2021, the Association implemented the Governmental Accounting Standards Board's (GASB) Statement No. 98, *The Annual Comprehensive Financial Report.* GASB 98 establishes the term annual comprehensive financial report and its acronym ACFR. That new term and acronym replace instances of comprehensive annual financial report and its acronym in generally accepted accounting principles for state and local governments.

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, 2021, 2020, 2019, 2018, 2017, 2016, 2015, 2014, 2013 AND 2012

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Earned assessments and interest income:										
Earned	$5,237,654	$5,539,875	$5,167,149	$4,551,986	$4,487,270	$4,243,039	$4,223,535	$4,908,192	$4,316,800	$4,433,255
Ceded	1,808,446	1,473,388	1,125,633	988,162	947,406	864,407	885,468	878,317	870,249	807,647
Net	$3,429,208	$4,066,487	$4,041,516	$3,563,824	$3,539,864	$3,378,632	$3,338,067	$4,029,875	$3,446,551	$3,625,608
Unallocated loss expenses	$885,455	$854,427	$987,998	$881,436	$835,464	$826,140	$758,871	$757,719	$751,099	$733,355
Original estimates ultimate incurred claims and expenses for the policy year, including members' deductibles (1)	$2,623,000	$1,970,000	$1,893,000	$2,051,000	$2,055,000	$1,413,000	$1,459,000	$2,771,000	$1,798,849	$2,032,756
Cummulative incurred claims, net of reinsurance, including members' deductibles, as of:										
End of policy year	$1,395,759	$871,063	$787,282	$972,843	$963,801	$577,160	$626,239	$1,480,995	$729,736	$664,220
One year later		1,453,639	1,148,413	973,592	1,113,265	998,670	947,321	1,626,822	952,440	810,718
Two years later			1,703,674	1,161,171	1,237,785	1,090,294	1,018,542	2,130,715	1,180,592	889,541
Three years later				1,526,381	1,213,084	1,143,625	1,049,615	2,119,389	1,421,688	964,041
Four years later					959,287	1,297,611	1,059,615	2,209,389	1,435,920	1,003,672
Five years later						1,346,174	1,059,615	2,513,402	1,428,162	1,139,987
Six years later							1,059,615	2,207,065	1,428,162	1,139,987
Seven years later								2,207,065	1,428,162	1,139,987
Eight years later									1,428,162	1,139,987
Nine years later										1,139,987
Re-estimated ultimate incurred claims and expenses, including members' deductibles:										
End of policy year	$2,623,000	$1,970,000	$1,893,000	$2,051,000	$2,055,000	$1,413,000	$1,459,000	$2,771,000	$1,798,849	$2,032,756
One year later		$2,440,000	1,778,000	1,649,419	1,827,000	1,769,000	1,502,478	2,334,000	1,621,700	1,587,710
Two years later			1,796,000	1,482,656	1,621,901	1,475,758	1,277,747	2,637,033	1,431,006	1,167,878
Three years later				1,718,312	1,433,233	1,384,103	1,223,584	2,417,033	1,547,491	1,137,378
Four years later					1,214,595	1,369,103	1,133,584	2,327,033	1,506,279	1,067,378
Five years later						1,440,103	1,047,759	2,227,033	1,419,374	1,139,987
Six years later							1,047,759	2,192,900	1,419,374	1,139,987
Seven years later								2,192,900	1,419,374	1,139,987
Eight years later									1,419,374	1,139,987
Nine years later										1,139,987
Increase (decrease) in estimate incurred claims and expenses from original estimate		$470,000	($97,000)	($332,688)	($840,405)	$27,103	($411,241)	($578,100)	($379,475)	($892,769)

(1) Ceded losses are not expected to be significant.

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION, INC.

Reconciliation of Claim Liabilities by Type of Contract

For the Year Ended December 31, 2021

	General Liability	Automobile Liability	Property	Total
Unpaid claims and claim adjustment expenses - Beginning of Year - including Aggregate Adjustment	$2,791,860	$140,759	$264,300	$3,196,919
Incurred claims and claim adjustment expenses:				
Provision for insured events of the current year	999,828	114,865	1,163,220	$2,277,913
Change in provision for insured events of prior years	174,449	3,416	321,136	499,001
Total incurred claims and claim adjustment expenses	1,174,277	118,281	1,484,356	2,776,914
Payments:				
Claims and claim adjustment expenses attributable to insured events of the current year	29,907	46,699	491,328	$567,934
Claims and claim adjustment expenses attributable to insured events of prior years	669,270	37,559	252,013	958,842
Total Payments	699,177	84,258	743,341	1,526,776
Unpaid claims and claim adjustment expenses - End of Year	$3,266,960	$174,782	$1,005,315	$4,447,057

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 EIGHT YEARS (1)

	2021	2020	2019	2018	2017	2016	2015	2014
Traditional Plan:								
Association's proportion of the net pension liability	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	$ 323,255	$ 419,625	$ 570,218	$ 324,586	$ 488,683	$ 362,534	$ 289,865	$ 283,973
Association's covered payroll	$ 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	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	86.88%	82.17%	74.70%	84.66%	77.25%	81.08%	86.45%	86.36%
Member Directed Plan:								
Association's proportion of the net pension asset	0.010733%	0.010668%	0.009958%	0.010132%	0.011055%	0.010468%		
Association's proportionate share of the net pension asset	$ 1,957	$ 403	$ 227	$ 354	$ 46	$ 40		
Association's covered payroll	$ 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	3.04%	0.64%	40.00%	0.64%	0.08%	0.05%		
Plan fiduciary net position as a percentage of the total pension asset	188.21%	118.84%	113.42%	124.45%	103.40%	103.91%		

(1) Information prior to 2014 was unavailable for the Traditional Plan.
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)

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Traditional Plan:										
Contractually required contribution	$ 32,435	$ 36,813	$ 48,543	$ 39,452	$ 35,494	$ 31,989	$ 34,302	$ 36,212	$ 43,861	$ 31,306
Contributions in relation to the contractually required contribution	(32,435)	(36,813)	(48,543)	(39,452)	(35,494)	(31,989)	(34,302)	(36,212)	(43,861)	(31,306)
Contribution deficiency (excess)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Association's covered payroll	$ 231,679	$ 262,950	$ 346,736	$ 303,477	$ 295,786	$ 266,571	$ 285,854	$ 278,558	$ 438,608	$ 312,937
Contributions as a percentage of covered payroll	14.00%	14.00%	14.00%	13.00%	12.00%	12.00%	12.00%	13.00%	10.00%	10.00%
Member Directed Plan:										
Contractually required contribution	$ 6,612	$ 6,446	$ 6,341	$ 5,692	$ 5,554	$ 5,452	$ 6,996			
Contributions in relation to the contractually required contribution	(6,612)	(6,341)	(6,341)	(5,692)	(5,554)	(5,452)	(6,996)			
Contribution deficiency (excess)	$ -	$ 105	$ -	$ -	$ -	$ -	$ -			
Association's covered payroll	$ 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%	9.50%	9.50%	9.50%			

(1) Information prior to 2015 was unavilable 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 FIVE YEARS (1)

	2021	2020	2019	2018	2017
Association's proportion of the net OPEB liability	0.002459%	0.002397%	0.002331%	0.002320%	0.002420%
Association's proportionate share of the net OPEB (asset) liability	$ (43,809)	$ 331,088	$ 303,907	$ 251,935	$ 244,379
Association's covered payroll	$ 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	13.38%	80.72%	89.72%	76.68%	75.43%
Plan fiduciary net position as a percentage of the total OPEB asset/liability	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

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Contractually required contribution	$ 2,645	$ 2,578	$ 2,537	$ 2,277	$ 4,951	$ 7,913	$ 6,157	$ 6,116	$ 3,174	$ 12,567
Contributions in relation to the contractually required contribution	(2,645)	(2,578)	(2,537)	(2,277)	(4,951)	(7,913)	(6,157)	(6,116)	(3,174)	(12,567)
Contribution deficiency (excess)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Association's covered payroll	$ 297,799	$ 327,410	$ 410,146	$ 360,397	$ 354,249	$ 323,960	$ 359,496	$ 278,558	$ 438,608	$ 312,937
Contributions as a percentage of covered payroll	0.89%	0.79%	0.62%	0.63%	1.40%	2.44%	1.71%	2.20%	0.72%	4.02%

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, 2021

PENSION

OHIO PUBLIC EMPLOYEES RETIREMENT SYSTEM (OPERS)

Changes in benefit terms :

- There were no changes in benefit terms from the amounts reported for 2014-2021.

Changes in assumptions :

- There were no changes in methods and assumptions used in the calculation of actuarial determined contributions for 2014-2016.
- 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.

OHIO PUBLIC EMPLOYEES RETIREMENT SYSTEM (OPERS)

Changes in benefit terms :

- There were no changes in benefit terms from the amounts reported for 2017-2020.
- 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 not reflected in the current year financial statements, however, they 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.

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 10.00%, initial/3.50%, ultimate in 2030 down to 8.50%, initial/3.50% ultimate in 2035.

STATISTICAL SECTION

Miami Valley Risk Management Association
Statistical Section
December 31, 2021

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.

Contents	Page
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.	53-55
Revenue Capacity Information (Schedule 4) This schedule contains information to help the reader understand the sources of the Association's revenues.	56
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.	57-84
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.	85

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

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Invested in capital assets	$ 19,641	$ 17,192	$ 11,747	$ 8,756	$ 6,395	$ 2,839	$ 3,890	$ 5,051	$ 1,544	$ 5,058
Unrestricted	12,783,463	$ 11,216,080	$ 11,275,275	$ 10,575,137	$ 11,187,936	$ 10,274,966	$ 8,382,738	$ 10,325,620	$ 9,250,682	$ 7,598,631
Total Net Position	$ 12,803,104	$ 11,233,272	$ 11,287,022	$ 10,583,893	$ 11,194,331	$ 10,277,805	$ 8,386,628	$ 10,330,671	$ 9,252,226	$ 7,603,689

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 2012-2021

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

Schedule 2

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
EXPENSES:										
Claim expenses										
Incurred claims and claim adjustment expenses	$1,182,409	$1,010,964	$1,892,603	$651,209	$1,890,342	$1,984,627	$1,298,832	$1,011,172	$1,431,084	$2,467,648
Reinsurance/insurance premiums	807,647	870,249	878,317	885,468	864,407	947,406	988,162	1,125,633	1,473,388	1,808,446
Members' dividends	1,276,154	3,254,320	1,325,803	2,389,527	51,712	1,636,299	3,035,305	98,303	2,859,421	1,724,642
Total claim expense	3,266,210	5,135,533	4,096,723	3,926,204	2,806,461	4,568,332	5,322,299	2,235,108	5,763,893	6,000,736
Total general and administrative expenses	733,355	751,099	757,719	758,871	826,140	835,464	881,436	987,998	854,427	885,455
Total operating expenses	3,999,565	5,886,632	4,854,442	4,685,075	3,632,601	5,403,796	6,203,735	3,223,106	6,618,320	6,886,191
REVENUES:										
Operating revenues										
Members' contributions	3,965,398	4,139,860	4,173,334	4,208,593	4,211,279	4,039,646	4,124,647	4,215,860	4,807,293	4,991,737
Claims deductibles	169,168	195,194	251,166	214,597	188,899	229,033	205,147	197,056	188,172	270,126
Other	36,482	24,862	37,437	39,109	93,488	35,770	48,670	111,011	19,323	154,854
Total operating revenues	4,171,048	4,359,916	4,461,937	4,462,299	4,493,666	4,304,449	4,378,464	4,523,927	5,014,788	5,416,717
Non-operating revenues										
Gain/Loss on disposal of capital assets	(580)	(265)	-	166	(304)	-	-	176	-	-
Interest income	75,136	55,996	119,888	151,016	201,828	245,259	245,073	265,620	228,822	191,594
Realized gain/loss on sale of investment	-	-	-	-	-	-	-	-	50,100	25,757
Unrealized gain/loss on investment	187,651	(98,847)	326,367	(389,946)	(452,151)	(62,438)	(71,551)	377,426	246,165	(396,414)
Total non-operating revenues	262,207	(43,116)	446,255	(238,764)	(250,627)	182,821	173,522	643,222	525,087	(179,063)
Total revenues	4,433,255	4,316,800	4,908,192	4,223,535	4,243,039	4,487,270	4,551,986	5,167,149	5,539,875	5,237,654
CHANGES IN NET POSITION:										
Increase (decrease) in net position	433,690	(1,569,832)	53,750	(461,540)	610,438	(916,526)	(1,651,749)	1,944,043	(1,078,445)	(1,648,537)

Source: Audited Financial Statements for the years 2012-2021

Miami Valley Risk Management Association Schedule 3

Loss Development Report-Comparison of Dollar Losses and Claims Counts by Loss Year - As of December 31, 2021

Last 10 Years

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/Members' Loss Fund Contribution	Total amount incurred followed by number of claims/open claims (1)										Balance in Loss Fund 12/31/21	Paid to Date 12/31/21
Loss Year 24 12/31/11-12/31/12 20 Member Cities	$664,220 (337/57)	$855,718 (366/2)	$889,541 (368/3)	$964,041 (368/2)	$1,003,672 (368/2)	$1,139,987 (368/0)	$1,139,987 (368/0)	$1,139,987 (368/0)	$1,139,987 (368/0)	$1,139,987 (368/0)	LY 24 = $0 Closed	$1,139,987
Loss Year 25 12/31/12-12/31/13 20 Member Cities	$764,655 (363/25)	$952,440 (371/9)	$1,180,592 (374/6)	$1,421,688 (374/5)	$1,435,920 (375/3)	$1,428,162 (375/0)	$1,428,162 (375/0)	$1,428,162 (375/0)	$1,428,162 (375/0)		LY 25 = $0 Closed	$1,428,162
Loss Year 26 12/31/13-12/31/14 20 Member Cities	$1,480,995 (395/46)	$1,626,822 (421/8)	$3,431,215 (422/3)	$3,419,889 (422/2)	$3,509,889 (422/2)	$3,721,229 (422/0)	$2,025,685 (422/0)	$2,025,685 (422/0)			LY 26 = 40 Closed	$2,025,685
Loss Year 27 12/31/14-12/31/15 20 Member Cities	$626,239 (344/53)	$947,321 (364/7)	$1,018,542 (369/3)	$1,049,615 (369/1)	$1,059,615 (369/1)	$1,056,156 (369/0)	$1,056,156 (369/0)				LY 27 = $0 Closed	$1,056,165
Loss Year 28 12/31/15-12/31/16 20 Member Cities	$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)					LY 28 = $1,765,643	$1,159,371
Loss Year 29 12/31/16-12/31/17 20 Member Cities	$643,802 (352/74)	$860,632 (374/10)	$979,562 (376/4)	$944,777 (377/2)	$959,287 (377/0)						LY 29 = $0 Closed	$959,287
Loss Year 30 12/31/17-12/31/18 20 Member Cities	$960,849 (370/78)	$938,593 (413/9)	$1,149,365 (415/6)	$1,526,381 (416/4)							LY 30 = $1,378,154	$1,311,611
Loss Year 31 12/31/18-12/31/19 20 Member Cities	$768,547 (279/46)	$1,055,943 (304/10)	$1,703,674, (311/13)								LY 31 = $1,407,420	$1,282,154
Loss Year 32 12/31/19-12/31/20 21 Member Cities	$345,736 (235/56)	$1,453,639 (259/32)									LY 32 = $1,717,256	$1,083,331
Loss Year 32 12/31/20-12/31/21 21 Member Cities	$1,395,759 (260/93)										LY 33 = $1,557,425	$807,243

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

Miami Valley Risk Management Association
Annual Contributions by Member and Year
Last Ten Years

Schedule 4

Year Ended December 31

Member	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Beavercreek	$247,239	$243,516	$272,287	$252,044	$404,225	$396,331	$376,481	$386,335	$290,474	$275,125
Bellbrook	$54,946	$74,118	$77,140	$69,985	$58,945	$43,586	$41,654	$41,772	$42,823	$40,886
Blue Ash	$240,172	$256,961	$274,384	$242,578	$270,782	$305,552	$272,335	$273,513	$270,323	$324,875
Centerville	$192,074	$198,140	$182,291	$183,871	$194,763	$165,657	$163,297	$172,091	$180,592	$193,841
Englewood	$145,508	$157,223	$142,257	$143,500	$122,470	$110,777	$121,263	$121,449	$119,708	$125,852
Fairfield	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	$447,380	$472,932
Indian Hill	$116,972	$114,673	$135,918	$124,962	$102,159	$96,127	$92,846	$97,660	$116,852	$110,656
Kettering	$488,029	$527,445	$569,468	$504,942	$510,029	$483,326	$482,101	$531,091	$554,768	$615,648
Madeira	$50,156	$51,720	$37,293	$37,718	$35,798	$43,778	$53,754	$65,887	$78,629	$50,743
Mason	$316,748	$358,149	$346,946	$304,519	$252,994	$258,915	$297,685	$314,490	$377,074	$377,781
Miamisburg	$204,148	$232,959	$214,458	$227,484	$248,201	$218,238	$234,983	$267,148	$255,813	$284,008
Montgomery	$123,881	$131,749	$114,304	$120,712	$104,255	$104,963	$110,282	$106,442	$102,692	$114,897
NAWA[1]	$26,426	$7,939	$12,481	$11,835	$11,018	$7,807	$7,630	$7,999	$7,919	$20,756
Piqua	$321,935	$308,575	$370,336	$342,528	$312,389	$286,932	$326,311	$309,951	$380,083	$329,733
Sidney	$274,799	$297,323	$275,604	$291,276	$267,186	$248,446	$268,006	$261,609	$288,514	$285,384
Springdale	$133,556	$150,283	$142,950	$157,690	$155,822	$147,329	$144,919	$140,075	$137,851	$136,838
Tipp City	$113,611	$132,256	$148,587	$194,349	$263,477	$188,514	$203,316	$234,869	$201,495	$209,290
Troy	$253,633	$271,031	$272,050	$276,511	$304,759	$288,345	$282,197	$313,352	$300,246	$315,609
Vandalia	$210,005	$213,809	$208,679	$186,839	$165,571	$181,551	$163,633	$184,439	$193,224	$179,944
West Carrollton	$87,456	$104,785	$104,806	$149,097	$152,266	$114,605	$121,320	$106,134	$108,407	$109,333
Wilmington	$229,142	$230,042	$237,165	$257,999	$199,029	$204,166	$180,841	$187,724	$253,712	$323,806
Wyoming	$144,962	$137,163	$123,930	$93,154	$99,813	$119,701	$134,793	$81,830	$98,714	$93,490
Total	$3,975,398	$4,199,859	$4,263,334	$4,173,593	$4,235,951	$4,014,646	$4,079,647	$4,205,860	$4,807,293	$4,991,427

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 Schedule 5
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.

DAYTON MSA	**2021**	**2020**
Population:	*	809,248
Total Personal Income (thousands $):	*	$42,377,993
Per Capita Personal Income:	*	$52,367
GDP (million $):	*	$45,157,246
Wage and Salary Jobs:	*	382,864
Unemployment Rate:	3.50%	5.00%

* This information is not yet available

Ten Largest Employers (employee count and %):

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

CINCINNATI MSA	**2021**	**2020**
Population:	*	2,232,907
Total Personal Income (thousands $):	*	$133,097,872
Per Capita Personal Income:	*	$59,607
GDP (million $):	*	$152,618,516
Wage and Salary Jobs:	*	1,084,005
Unemployment Rate:	3%	4.70%

* This information is not yet available

Ten Largest Employers (employee count and %):

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

Miami Valley Risk Management Association Schedule 5
Demographic Statistics
Last 10 Years

DAYTON MSA	**2019**	**2018**
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	**2019**	**2018**
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%
Universityof 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%	Universityof 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 Schedule 5
Demographic Statistics
Last 10 Years

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

Ten Largest Employers (employee count and %):

	Count	**%**		**Count**	**%**
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%
Montgomerty 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%

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

Ten Largest Employers (employee count and %):

	Count	**%**		**Count**	**%**
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 Schedule 5
Demographic Statistics
Last 10 Years

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

Ten Largest Employers (employee count and %):

	Count	**%**		**Count**	**%**
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%

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

Ten Largest Employers (employee count and %):

	Count	**%**		**Count**	**%**
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%
Proctor & 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%

Miami Valley Risk Management Association Schedule 5
Demographic Statistics
Last 10 Years

DAYTON MSA	**2013**	**2012**
Population:	802,489	803,185
Total Personal Income (thousands $):	$32,382,822	$31,933,183
Per Capita Personal Income:	$40,353	$39,758
GDP (thousands $):	$37,534,000	$37,211,000
Wage and Salary Jobs:	378,185	378,169
Unemployment Rate:	7.8%	7.8%

Ten Largest Employers (employee count and %):

	Count	**%**		**Count**	**%**
Wright Patterson Air Force Base	29,000	7.67%	Wright Patterson Air Force Base	27,400	7.25%
Premier Health Partners	14,765	3.90%	Premier Health Partners	14,548	3.85%
Kettering Health Network	7,000	1.85%	Kettering Health Network	5,496	1.45%
Kroger Company	4,950	1.31%	Kroger Co.	4,950	1.31%
Montgomery County	3,884	1.03%	Montgomery County	4,363	1.15%
LexisNexis	3,600	0.95%	LexisNexis	3,400	0.90%
Miami University	3,313	0.88%	Sinclair Community College	2,726	0.72%
Sinclair College	2,613	0.69%	Dayton City Schools	2,574	0.68%
Honda of America	2,500	0.66%	AK Steel Holding Corp.	2,400	0.63%
Wright State University	2,403	0.64%	Honda of America Manufacturing	2,400	0.63%

CINCINNATI MSA	**2013**	**2012**
Population:	2,150,524	2,128,603
Total Personal Income (thousands $):	$93,882,332	92,431,519
Per Capita Personal Income:	$43,923	$43,454
GDP (thousands $):	$119,090,000	$115,124,000
Wage and Salary Jobs:	$1,040,070	1,027,637
Unemployment Rate:	7.2%	7.4%

Ten Largest Employers (employee count and %):

	Count	**%**		**Count**	**%**
Kroger Company	17,000	1.63%	Kroger Company	20,646	2.01%
University of Cincinnati	15,162	1.46%	University of Cincinnati	15,329	1.49%
Procter & Gamble Co.	14,000	1.35%	Cincinnati Children's Hospital	12,564	1.22%
Cincinnati Children's Hospital	12,057	1.16%	Procter & Gamble Co.	12,000	1.17%
TriHealth Inc.	8,898	0.86%	TriHealth Inc.	10,400	1.01%
Mercy Health Partners	8,550	0.82%	Mercy Heath Partners	8,940	0.87%
Archdiocese of Cincinnati	8,000	0.77%	UC Health	8,670	0.84%
GE Aviation	7,300	0.70%	GE Aviation	7,500	0.73%
Wal-Mart Stores	6,932	0.67%	St. Elizabeth Healthcare	7,251	0.71%
St. Elizabeth Healthcare	6,839	0.66%	Fifth Third Bancorp	7,180	0.70%

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 -- 2021 / Loss Year 33
2021 MVRMA Budget

Member City	2010 Population	# Sworn FT Police	# Other Full-Time	# Titled Vehicles	Insurable Property Values	NOE	Avg. Annual Adjusted Losses	Pool Contribution Factors
Beavercreek	45,193	68	81	148	$43,358,980	$18,083,165	$39,895	5.56411%
Bellbrook	6,943	12	21	33	$15,645,922	$2,763,959	$448	0.82688%
Blue Ash	12,114	34	108	113	$126,361,440	$25,329,457	$87,544	6.57027%
Centerville	23,999	34	89	130	$44,493,221	$17,813,739	$26,075	3.92024%
Englewood	13,465	21	74	60	$50,223,936	$10,425,343	$16,744	2.54523%
Fairfield	42,613	63	215	211	$113,086,436	$46,650,598	$70,000	8.64434%
Indian Hill	5,785	21	59	71	$30,991,521	$14,006,258	$15,722	2.23790%
Kettering	56,163	81	337	237	$182,701,883	$54,811,490	$118,849	12.45086%
Madeira	8,726	14	11	19	$5,754,721	$3,177,565	$8,611	1.02622%
Mason	30,712	50	156	179	$151,009,644	$33,096,301	$71,077	7.64024%
Miamisburg	20,181	36	106	105	$100,777,341	$24,394,278	$64,527	5.74378%
Montgomery	10,251	22	64	54	$29,531,227	$11,470,634	$17,931	2.32368%
NAWA	-	0	4	2	$16,012,021	$1,337,640	$6,162	0.39348%
Piqua	20,522	34	155	153	$192,648,005	$45,211,920	$46,030	6.66851%
Sidney	21,229	36	161	161	$96,951,816	$20,058,856	$53,230	5.77160%
Springdale	11,223	34	91	74	$44,445,359	$10,698,055	$15,671	2.76740%
Tipp City	9,689	20	51	76	$45,585,223	$25,608,347	$58,348	4.23266%
Troy	25,058	43	153	149	$114,842,219	$25,141,395	$60,130	6.38287%
Vandalia	15,246	27	108	104	$66,802,205	$19,528,185	$23,298	3.63919%
West Carrollton	13,143	21	52	64	$34,246,229	$9,901,609	$13,571	2.21115%
Wilmington	12,520	22	124	136	$84,552,649	$20,334,591	$97,941	6.54865%
Wyoming	8,428	19	35	38	$37,756,374	$10,135,719	$14,024	1.89075%
TOTALS	413,203	712	2255	2317	$1,627,778,372	$449,979,104	$925,830	100.00000%

Notes:

1. The data is as of 8/31/20 unless otherwise noted.

2. "Avg. Annual Adjusted Losses" are calculated by averaging each member's losses for the years 2016, 2017, 2018 & 2019. 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 5, 2020

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 the above table:

$$\frac{(3 \times \%AAAL) + (\%Population + \%FT\ Police + \%\ Other\ FT + \%Titled\ Vehicles + \%\ IRPRV + \%NOE)}{9}$$

Miami Valley Risk Management Association

Risk Exposure Worksheet: MVRMA (Summary) Schedule 7

Last Ten Years

	Risk Exposure							
Membership Year	Average Annual Losses	Population	(Non-Police) Full-Time Employees	Full-Time Sworn Police	Titled Vehicles	PP/RP Values	Net Operating Expenditures	Pool Contribution Factors
2012	$696,716	370,590	1,888	612	1,939	$1,047,889,231	$407,102,311	**100.00%**
2013	$763,825	370,590	1,825	611	1,976	$1,077,777,731	$420,844,315	**100.00%**
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%**

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 co factors were calculated for each member of the pool. Calculating a separate contribution factor for NAWA was simply a means of separating its from the cities of Tipp City and Vandalia. The totals above include the following information submitted for NAWA:

NAWA - 2012	$8,750	0	4	0	1	$13,103,413	$897,199	**0.61%**
NAWA - 2013	$0	0	4	0	1	$13,512,950	$922,993	**0.19%**
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%**

Source: Association's internal records

Miami Valley Risk Management Association

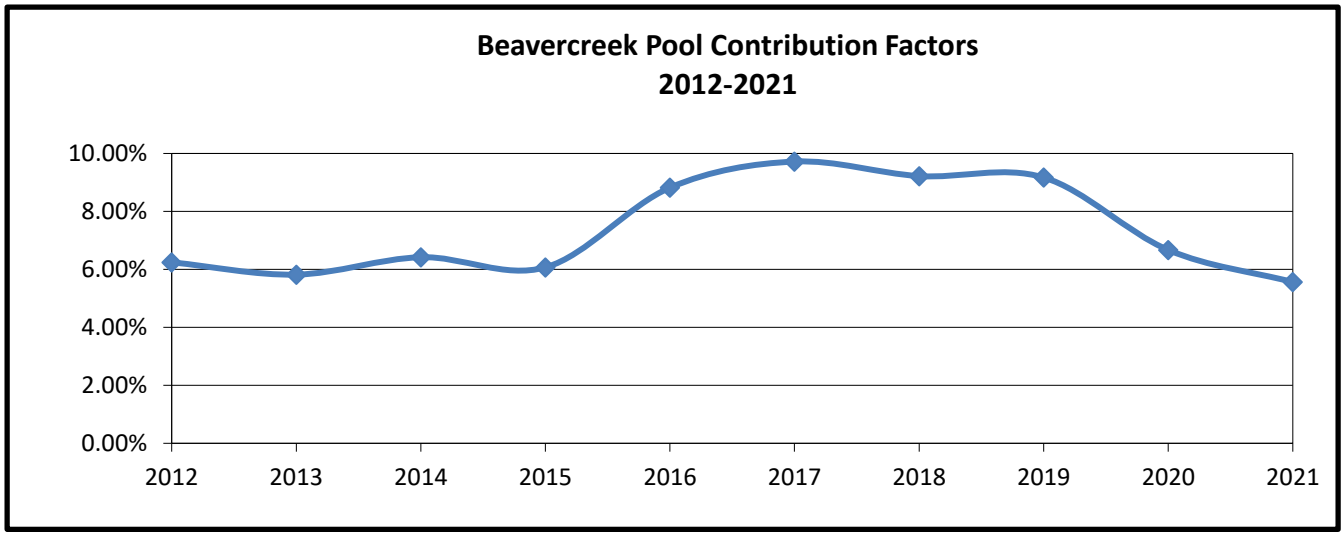
Risk Exposure Worksheet: City of Beavercreek

Schedule 8

Last Ten Years

	Risk Exposure							
				(Non-Police)				Pool
Membership Year	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	Contribution Factors
2012	$45,434	45,193	46	88	95	$28,306,520	$18,979,561	**6.24%**
2013	$40,172	45,193	47	86	97	$28,996,673	$18,579,197	**5.82%**
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%**

Source: Association's internal records



Miami Valley Risk Management Association

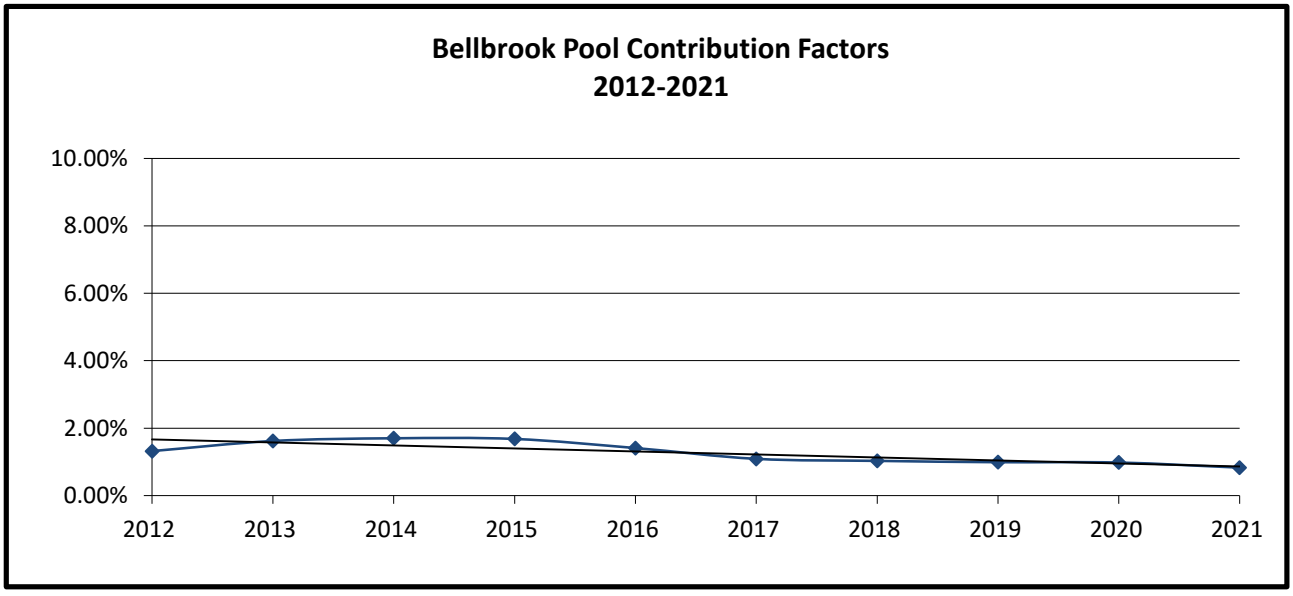
Risk Exposure Worksheet: City of Bellbrook

Schedule 9

Last Ten Years

	Risk Exposure							
				(Non-Police)				Pool
Membership Year	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	Contribution Factors
2012	$5,533	6,943	12	26	34	$13,671,866	$5,016,924	**1.32%**
2013	$13,621	6,943	12	25	32	$14,013,239	$4,731,637	**1.62%**
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%**

Source: Association's internal records



Miami Valley Risk Management Association

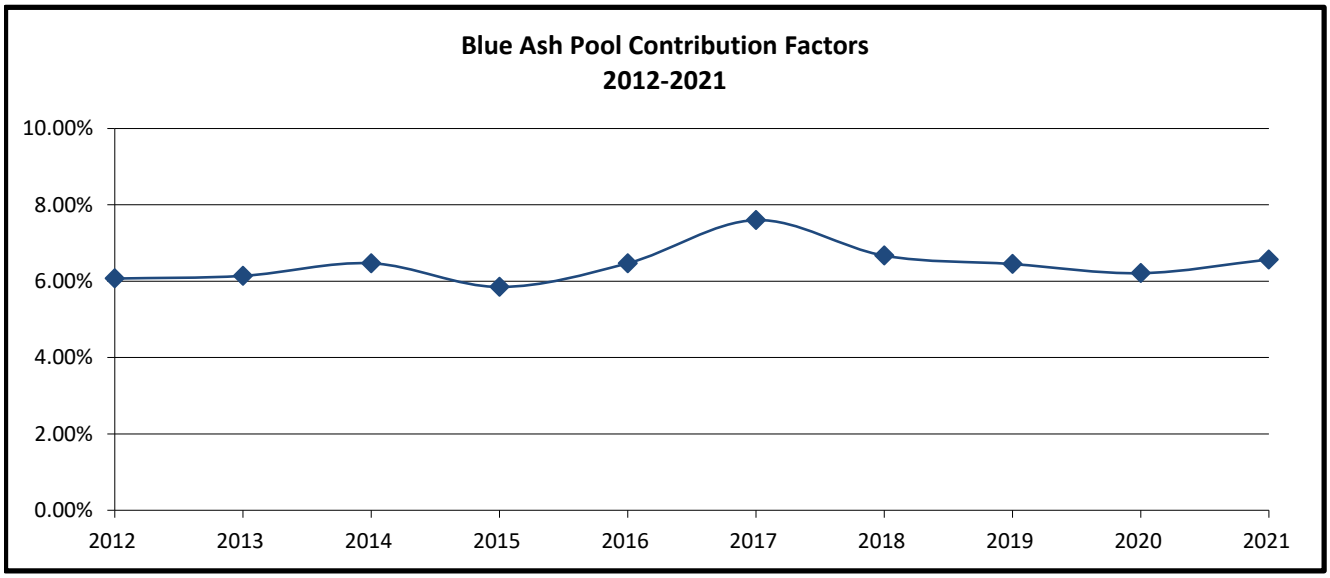
Risk Exposure Worksheet: City of Blue Ash

Schedule 10

Last Ten Years

	Risk Exposure							
			(Non-Police)					Pool
Membership Year	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	Contribution Factors
2012	$45,820	12,114	35	96	108	$89,042,698	$27,369,113	**6.07%**
2013	$47,171	12,114	35	97	109	$90,720,934	$35,631,783	**6.14%**
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%**

Source: Association's internal records



Miami Valley Risk Management Association

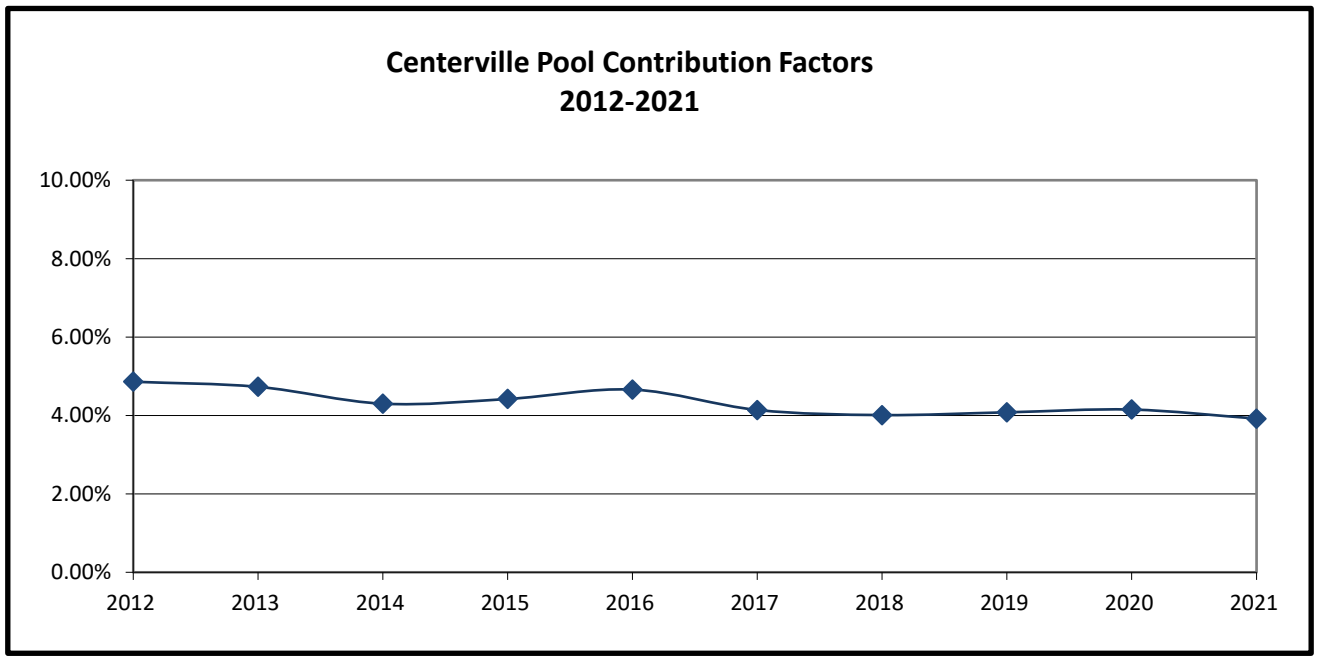
Risk Exposure Worksheet: City of Centerville

Schedule 11

Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	Average Annual Losses	Population	Full-Time Sworn Police (Non-Police)	Full-Time Employees (Non-Police)	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2012	$32,719	23,999	41	78	92	$34,472,337	$17,525,689	**4.86%**
2013	$32,731	23,999	40	79	96	$35,377,779	$17,939,284	**4.73%**
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%**

Source: Association's internal records



Miami Valley Risk Management Association

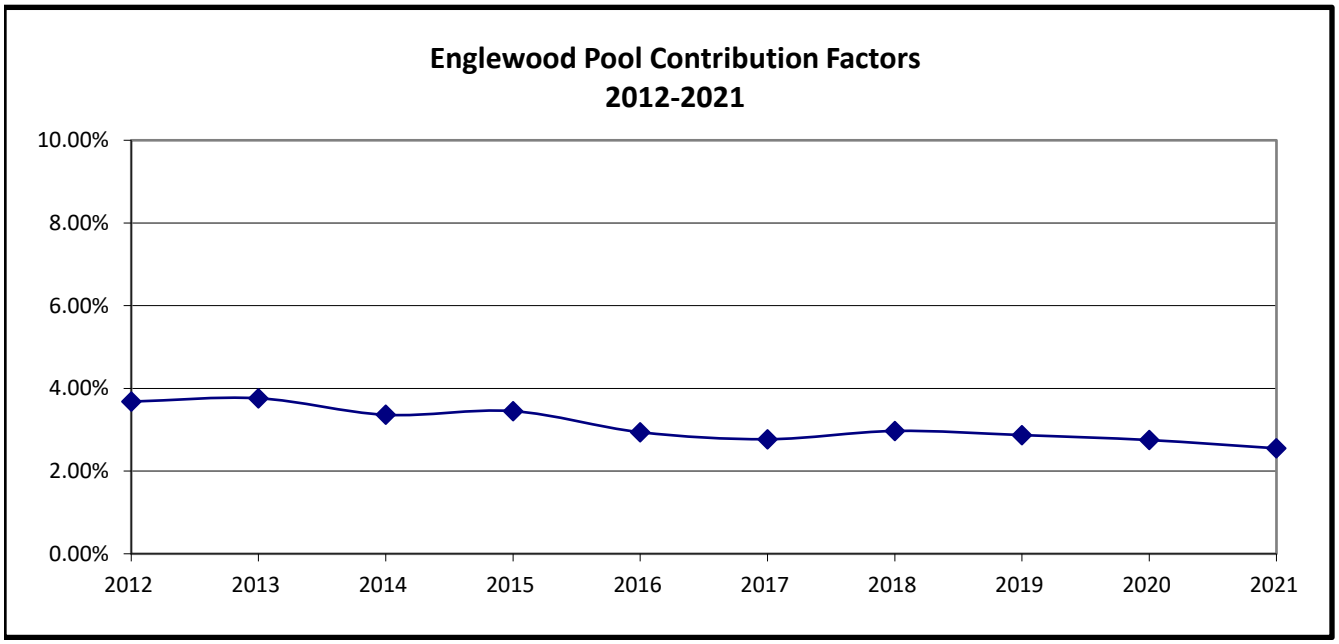
Risk Exposure Worksheet: City of Englewood

Schedule 12

Last Ten Fiscal Years

	Risk Exposure							
				(Non-Police)				Pool
Membership Year	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	Contribution Factors
2012	$35,031	13,465	20	46	63	$30,371,950	$10,553,408	**3.68%**
2013	$40,326	13,465	20	45	63	$31,084,042	$10,576,634	**3.76%**
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	$50,223,936	$10,425,343	**2.55%**

Source: Association's internal records



Miami Valley Risk Management Association

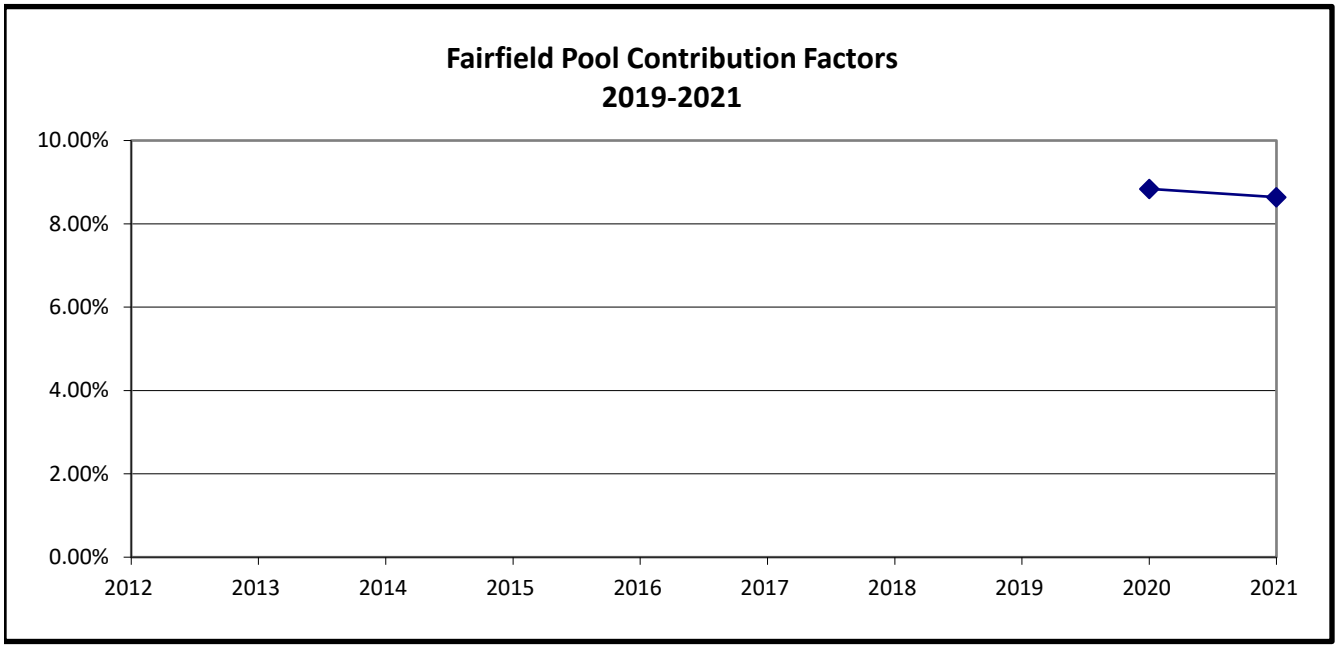
Risk Exposure Worksheet: City of Fairfield

Schedule 13

Last Ten Fiscal Years

	Risk Exposure							
			(Non-Police)					Pool
Membership Year	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	Contribution Factors
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%**

Source: Association's internal records



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

Miami Valley Risk Management Association

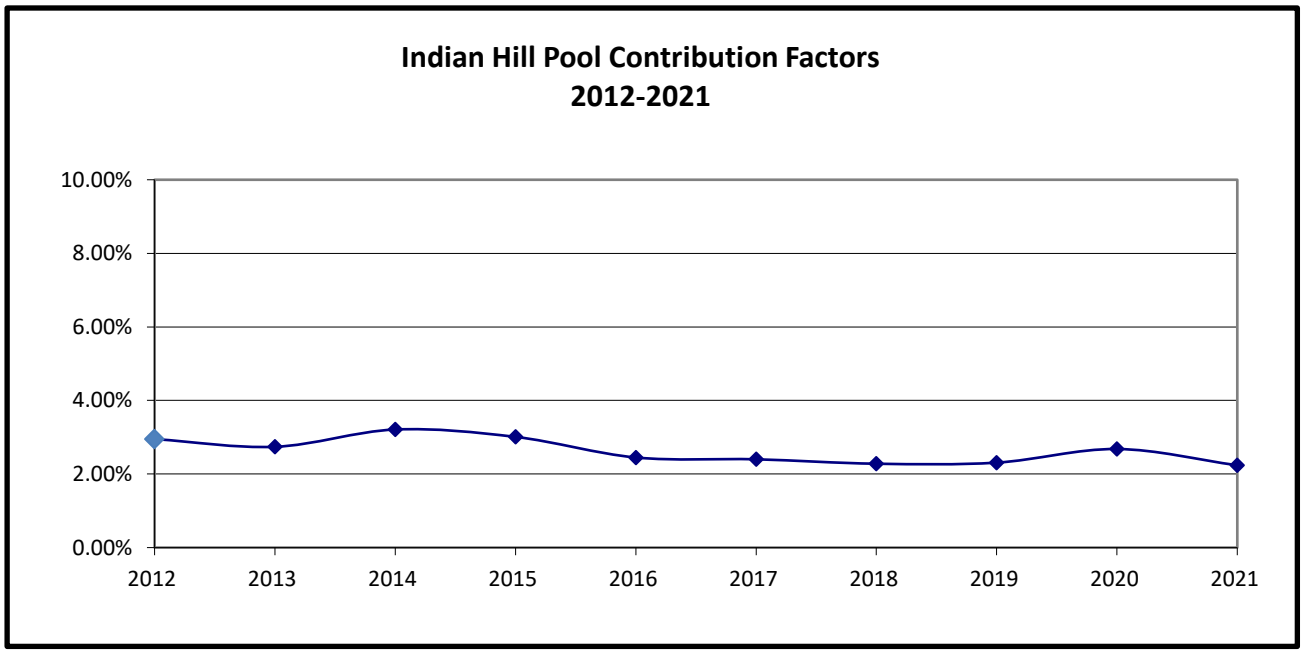
Risk Exposure Worksheet: City of The Village of Indian Hill

Schedule 14

Last Ten Years

	Risk Exposure							
			(Non-Police)					Pool
Membership Year	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	Contribution Factors
2012	$24,043	5,785	19	56	58	$24,510,843	$13,235,566	**2.95%**
2013	$22,890	5,785	19	53	59	$25,089,755	$11,757,158	**2.74%**
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%**

Source: Association's internal records



Miami Valley Risk Management Association

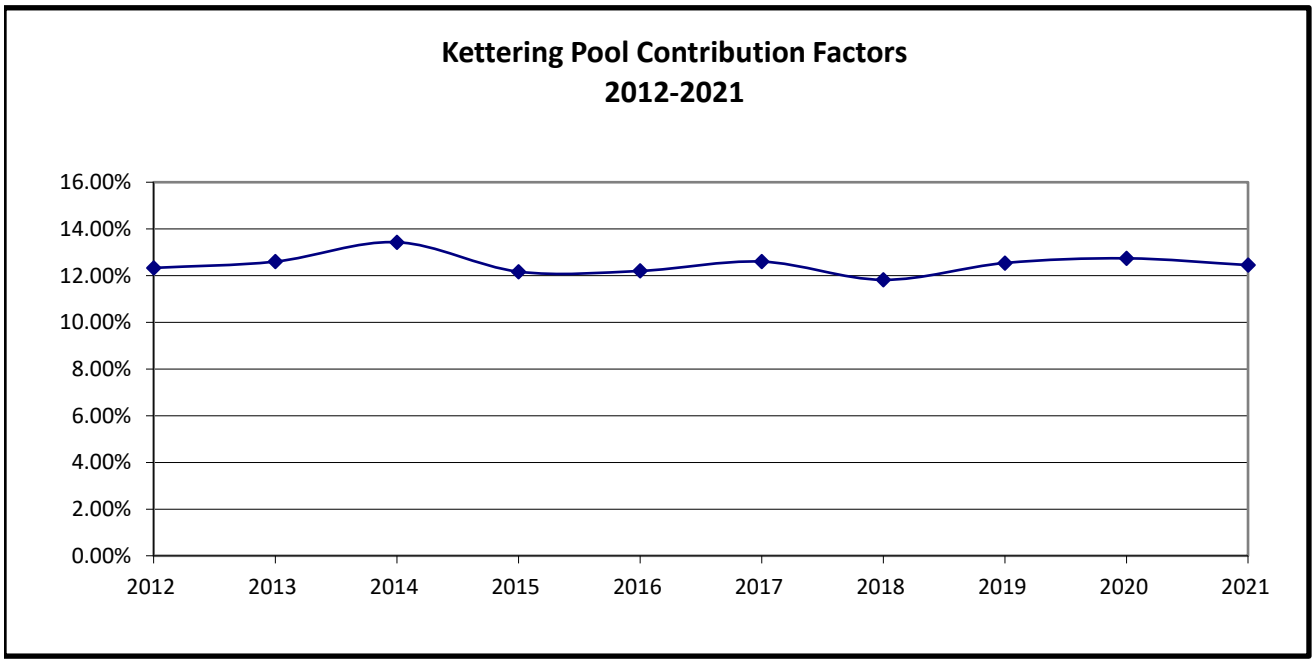
Risk Exposure Worksheet: City of Kettering

Schedule 15

Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	Average Annual Losses	Population	Full-Time Sworn Police	(Non-Police) Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2012	$56,891	56,163	81	285	261	$165,013,544	$56,061,531	**12.33%**
2013	$69,189	56,163	81	280	260	$168,588,121	$57,431,798	**12.60%**
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%**

Source: Association's internal records



Miami Valley Risk Management Association

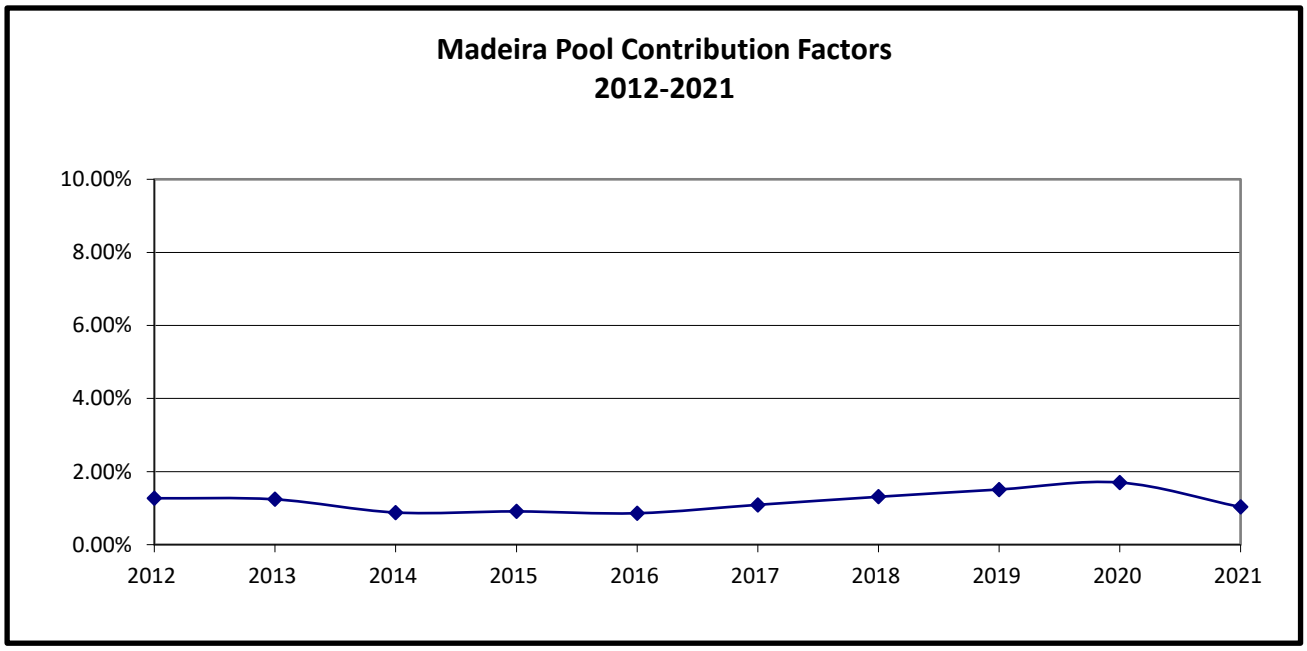
Risk Exposure Worksheet: City of Madeira

Schedule 16

Last Ten Years

	Risk Exposure							
				(Non-Police)				Pool
Membership Year	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	Contribution Factors
2012	$9,953	8,726	11	12	19	$4,882,962	$3,587,538	**1.27%**
2013	$9,953	8,726	12	11	19	$4,997,826	$3,647,254	**1.24%**
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%**

Source: Association's internal records



Miami Valley Risk Management Association

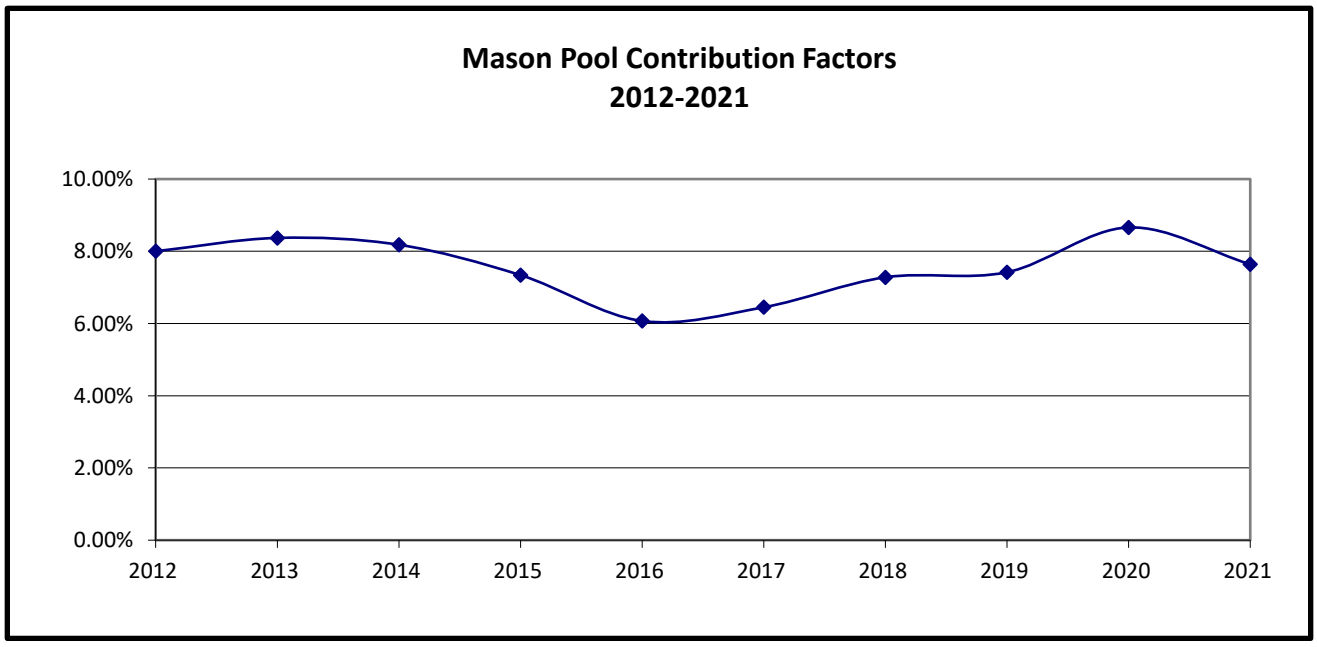
Risk Exposure Worksheet: City of Mason

Schedule 17

Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	Average Annual Losses	Population	Full-Time Sworn Police	(Non-Police) Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2012	$55,606	30,712	38	144	126	$118,786,784	$33,039,076	**8.00%**
2013	$68,019	30,712	40	136	135	$122,739,440	$34,084,947	**8.37%**
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%**

Source: Association's internal records



Miami Valley Risk Management Association

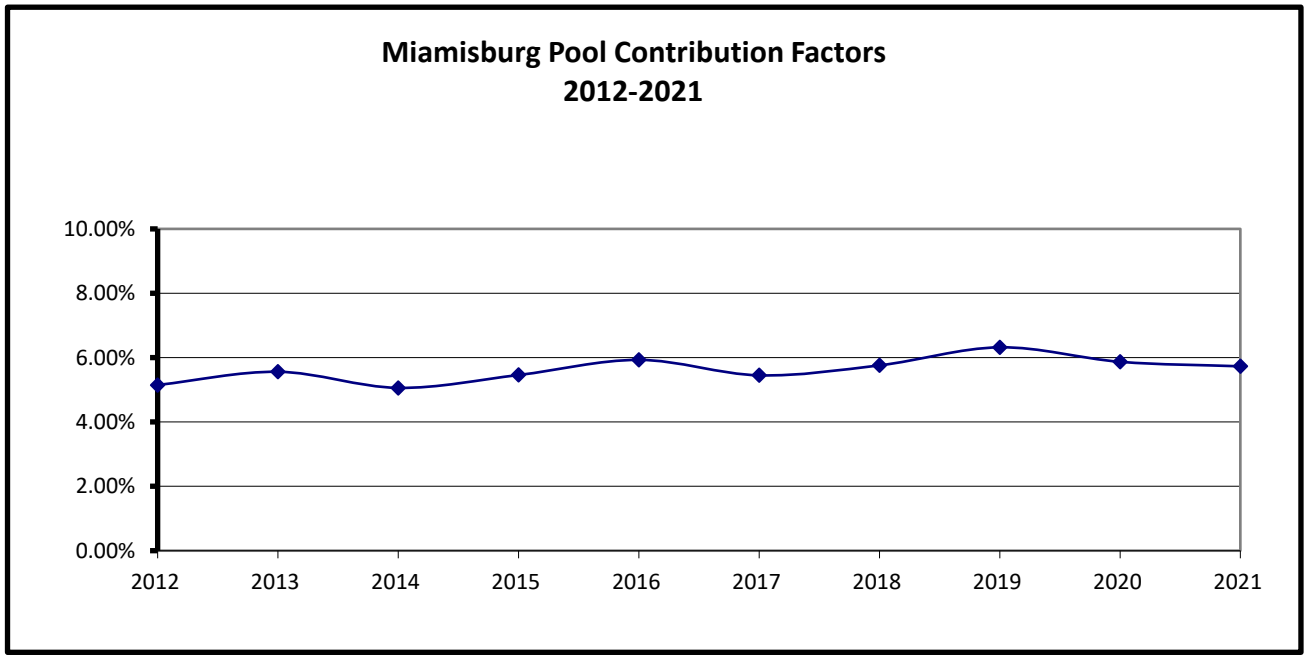
Risk Exposure Worksheet: City of Miamisburg

Schedule 18

Last Ten Years

	Risk Exposure							
				(Non-Police)				Pool
Membership Year	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	Contribution Factors
2011	$14,910	19,489	36	135	121	$43,557,340	$23,674,531	**4.48%**
2012	$27,876	20,181	37	127	121	$43,926,521	$23,270,400	**5.15%**
2013	$43,839	20,181	35	100	121	$44,033,325	$25,122,699	**5.56%**
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%**

Source: Association's internal records



Miami Valley Risk Management Association

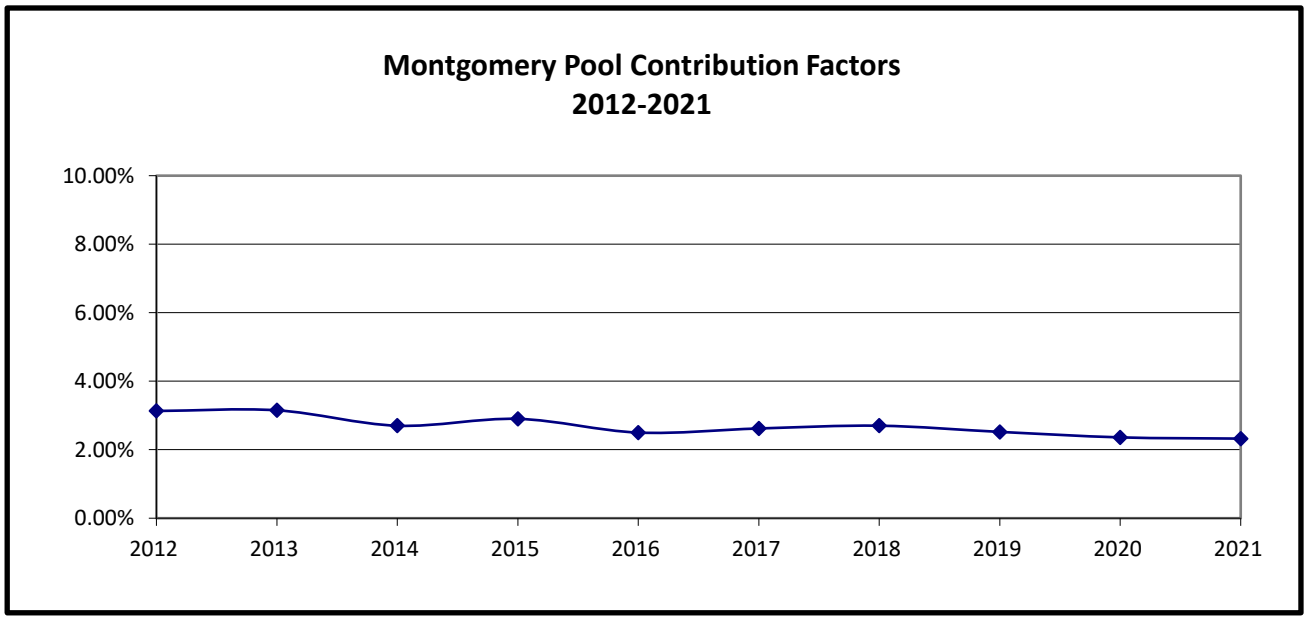
Risk Exposure Worksheet: City of Montgomery

Schedule 19

Last Ten Years

Membership Year	Risk Exposure (Non-Police) Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	Pool Contribution Factors
2011	$27,561	10,163	21	43	56	$17,560,789	$12,026,355	**2.97%**
2012	$27,847	10,251	21	44	60	$17,936,640	$11,522,015	**3.13%**
2013	$30,102	10,251	21	43	66	$18,641,658	$12,087,079	**3.15%**
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%**

Source: Association's internal records



Miami Valley Risk Management Association

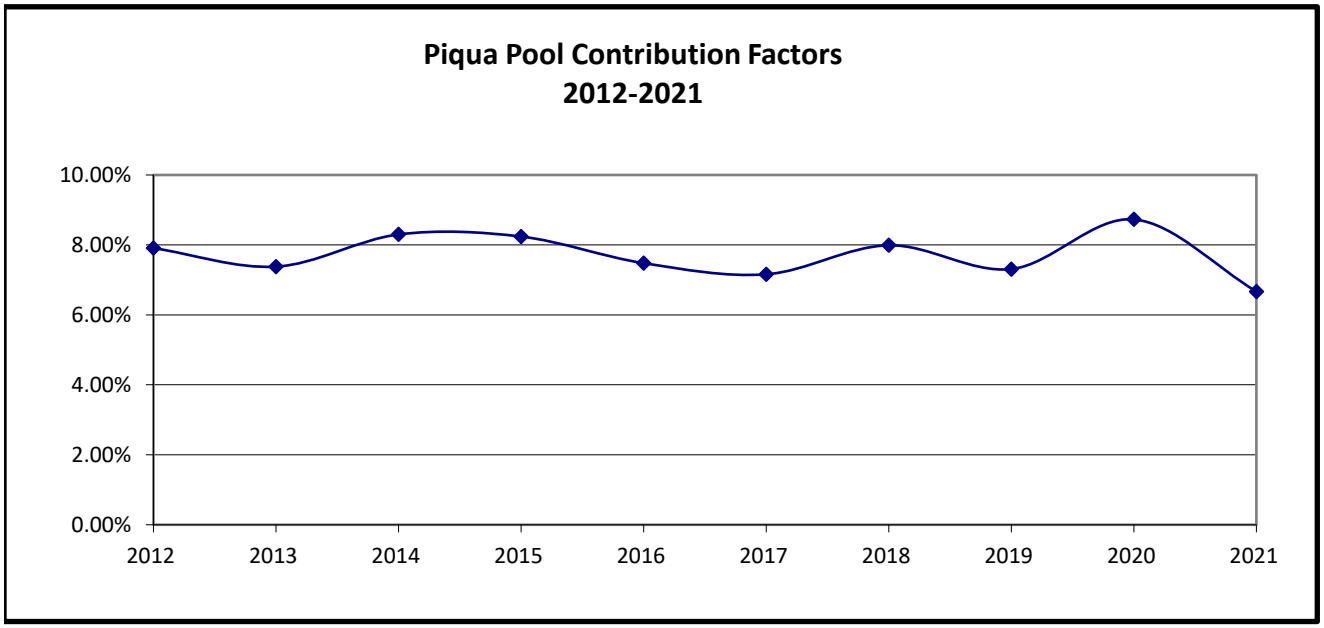
Risk Exposure Worksheet: City of Piqua

Schedule 20

Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	Average Annual Losses	Population	Full-Time Sworn Police (Non-Police)	Full-Time Employees (Non-Police)	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2012	$67,371	20,522	31	156	145	$64,525,119	$39,559,501	**7.91%**
2013	$59,718	20,522	30	149	152	$72,017,789	$41,864,785	**7.38%**
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%**

Source: Association's internal records



Miami Valley Risk Management Association

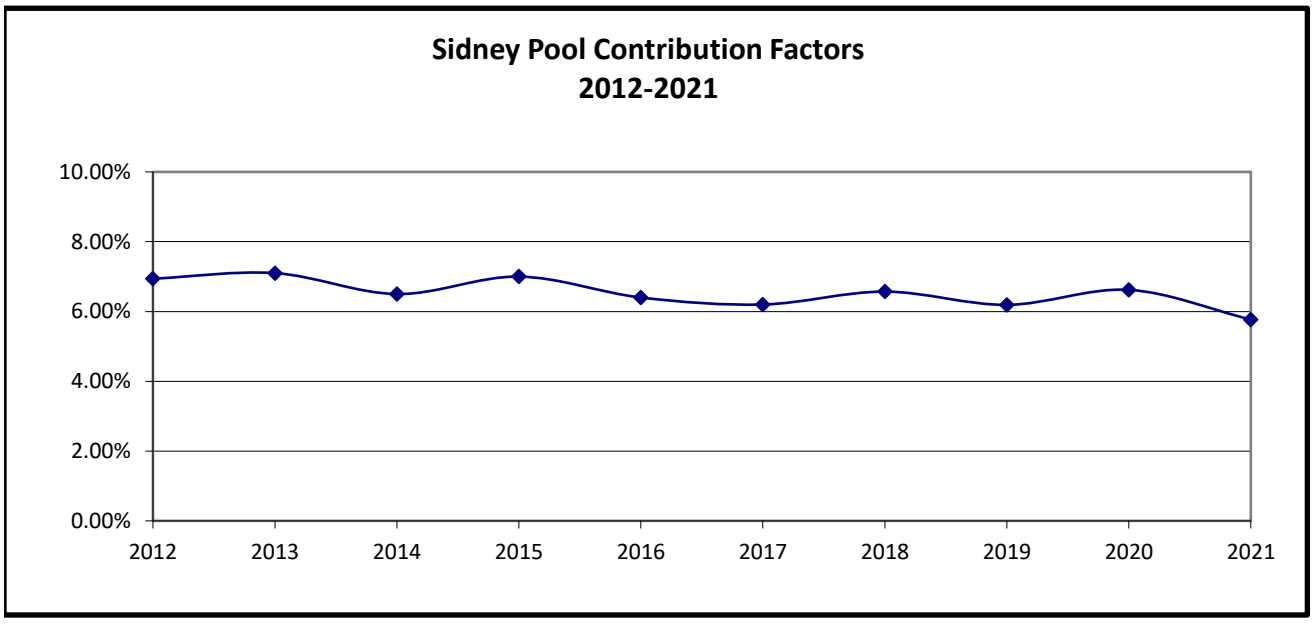
Risk Exposure Worksheet: City of Sidney

Schedule 21

Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	Average Annual Losses	Population	Full-Time Sworn Police (Non-Police)	Full-Time Employees (Non-Police)	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2012	$50,576	21,229	37	151	154	$73,442,513	$24,379,417	**6.94%**
2013	$60,577	21,229	36	148	154	$75,033,010	$23,703,290	**7.10%**
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%**

Source: Association's internal records



Miami Valley Risk Management Association

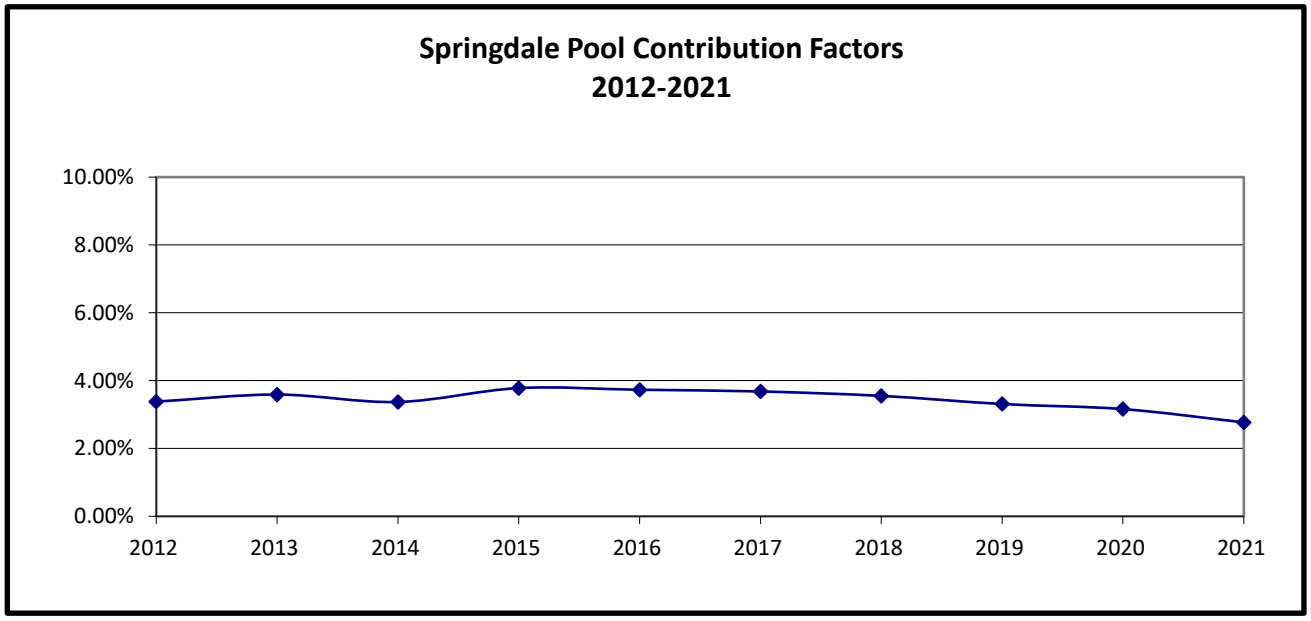
Risk Exposure Worksheet: City of Springdale

Schedule 22

Last Ten Years

	Risk Exposure							
				(Non-Police)				Pool
Membership Year	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	Contribution Factors
2012	$14,988	11,223	33	74	74	$37,960,645	$16,893,700	**3.38%**
2013	$20,889	11,223	36	74	80	$38,805,997	$14,575,302	**3.59%**
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%**

Source: Association's internal records



Miami Valley Risk Management Association

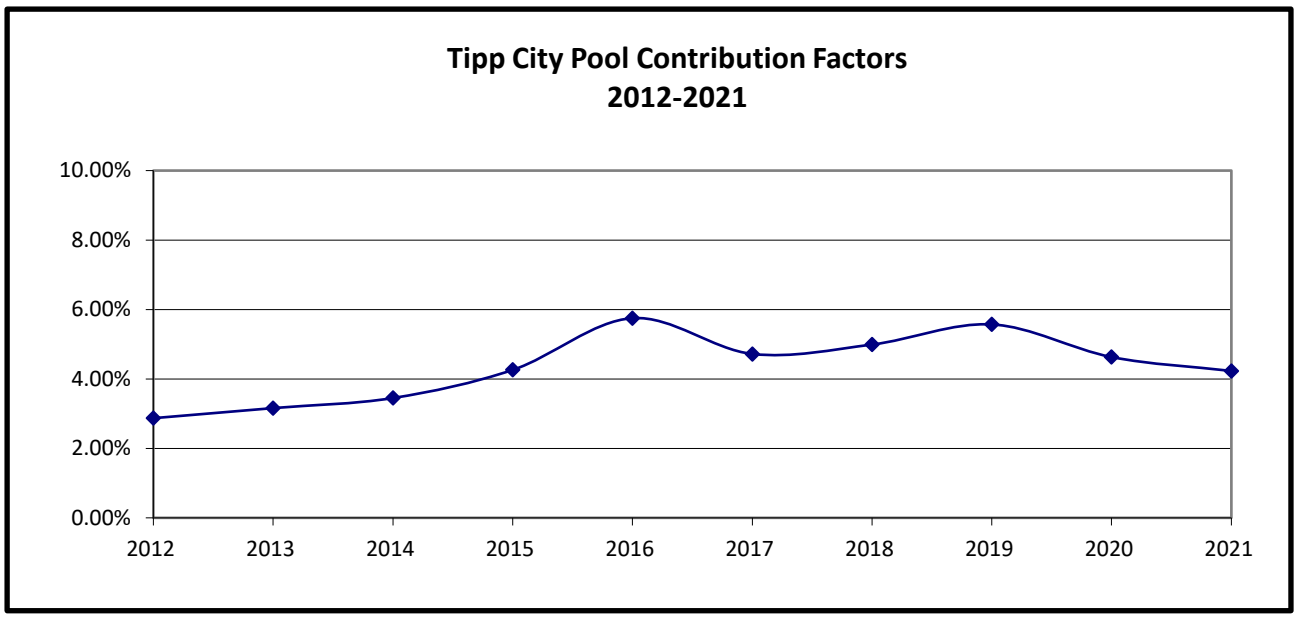
Risk Exposure Worksheet: City of Tipp City

Schedule 23

Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	Average Annual Losses	Population	Full-Time Sworn Police (Non-Police)	Full-Time Employees (Non-Police)	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2012	$14,726	9,689	18	48	84	$26,431,509	$18,352,038	**2.87%**
2013	$23,571	9,689	18	48	84	$26,577,876	$17,862,591	**3.16%**
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%**

Source: Association's internal records



Miami Valley Risk Management Association

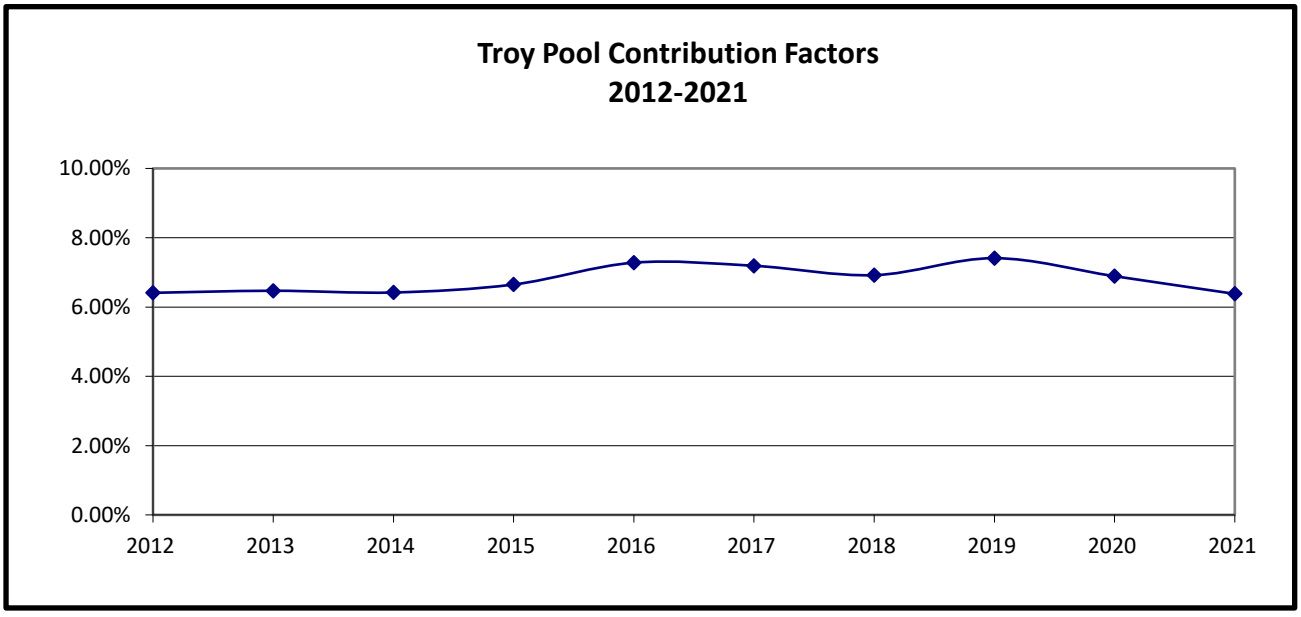
Risk Exposure Worksheet: City of Troy

Schedule 24

Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	Average Annual Losses	Population	Full-Time Sworn Police (Non-Police)	Full-Time Employees (Non-Police)	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2012	$38,515	25,058	38	142	120	$80,019,303	$27,530,777	**6.41%**
2013	$43,715	25,058	39	138	117	$81,722,588	$28,978,679	**6.47%**
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%**

Source: Association's internal records



Miami Valley Risk Management Association

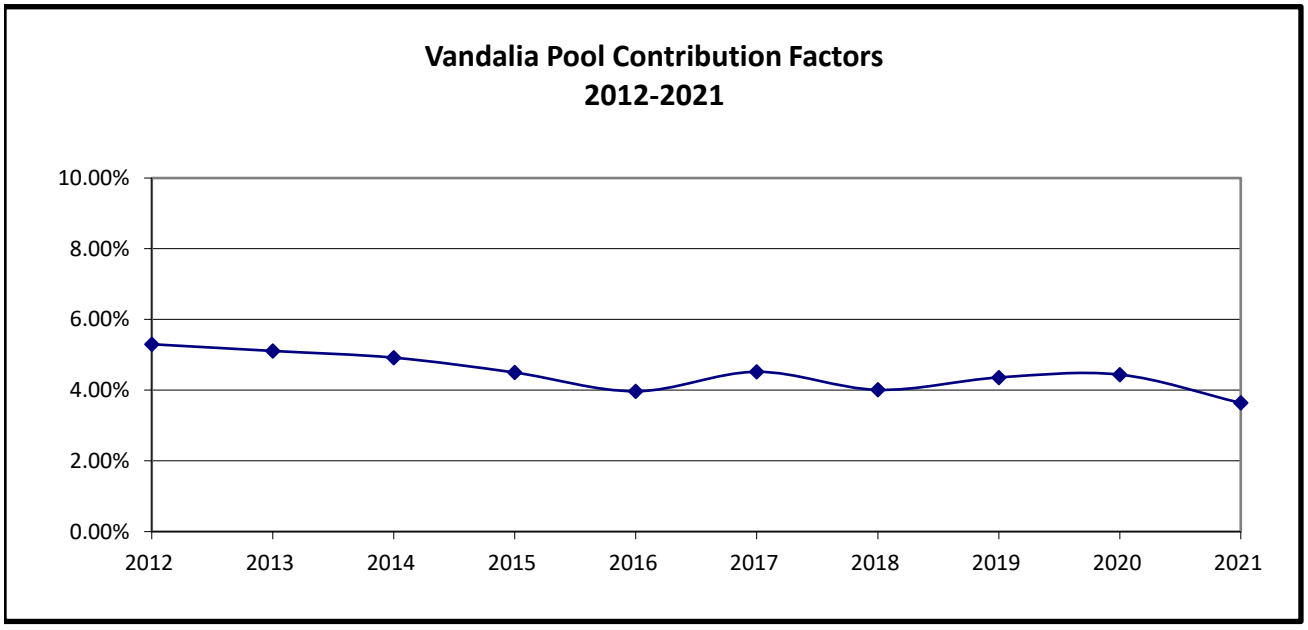
Risk Exposure Worksheet: City of Vandalia

Schedule 25

Last Ten Years

	Risk Exposure							
Membership Year	Average Annual Losses	Population	(Non-Police) Full-Time Employees	Full-Time Sworn Police	Titled Vehicles	PP/RP Values	Net Operating Expenditures	Pool Contribution Factors
2012	$40,729	15,246	108	31	101	$54,897,952	$19,643,180	**5.30%**
2013	$40,474	15,246	102	30	104	$56,289,545	$20,996,497	**5.11%**
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%**

Source: Association's internal records



Miami Valley Risk Management Association

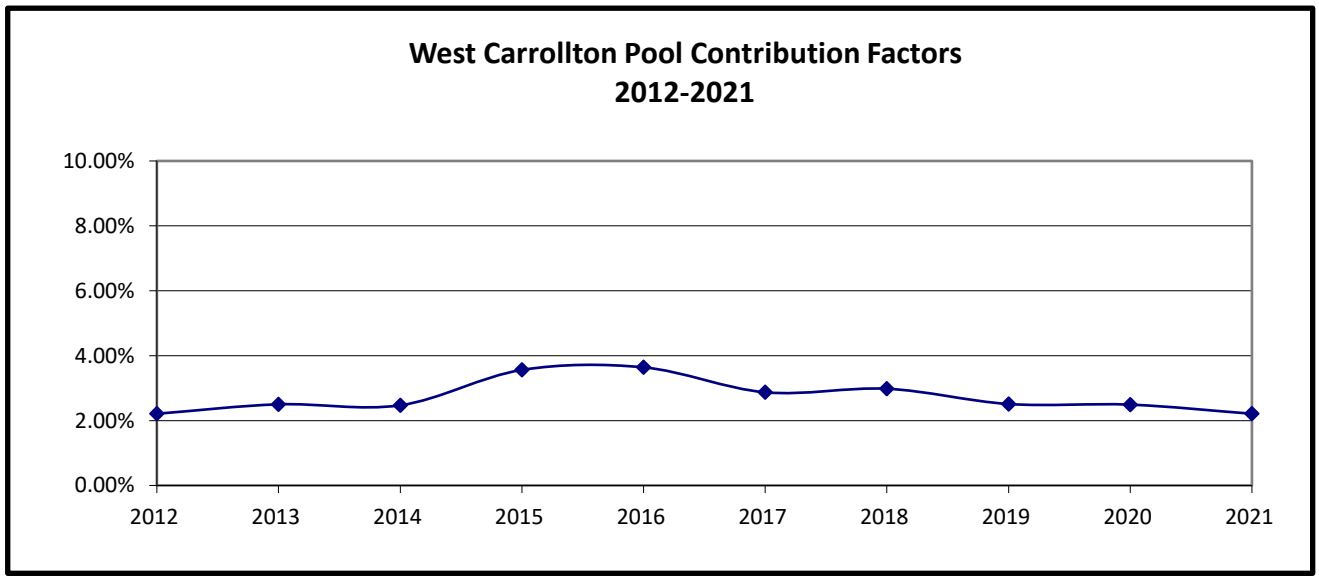
Risk Exposure Worksheet: City of West Carrollton

Schedule 26

Last Ten Years

	Risk Exposure							
				(Non-Police)				Pool
Membership Year	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	Contribution Factors
2012	$3,556	13,143	22	50	62	$27,768,872	$11,157,776	**2.21%**
2013	$10,618	13,143	22	49	62	$28,340,006	$11,506,423	**2.50%**
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%**

Source: Association's internal records



Miami Valley Risk Management Association

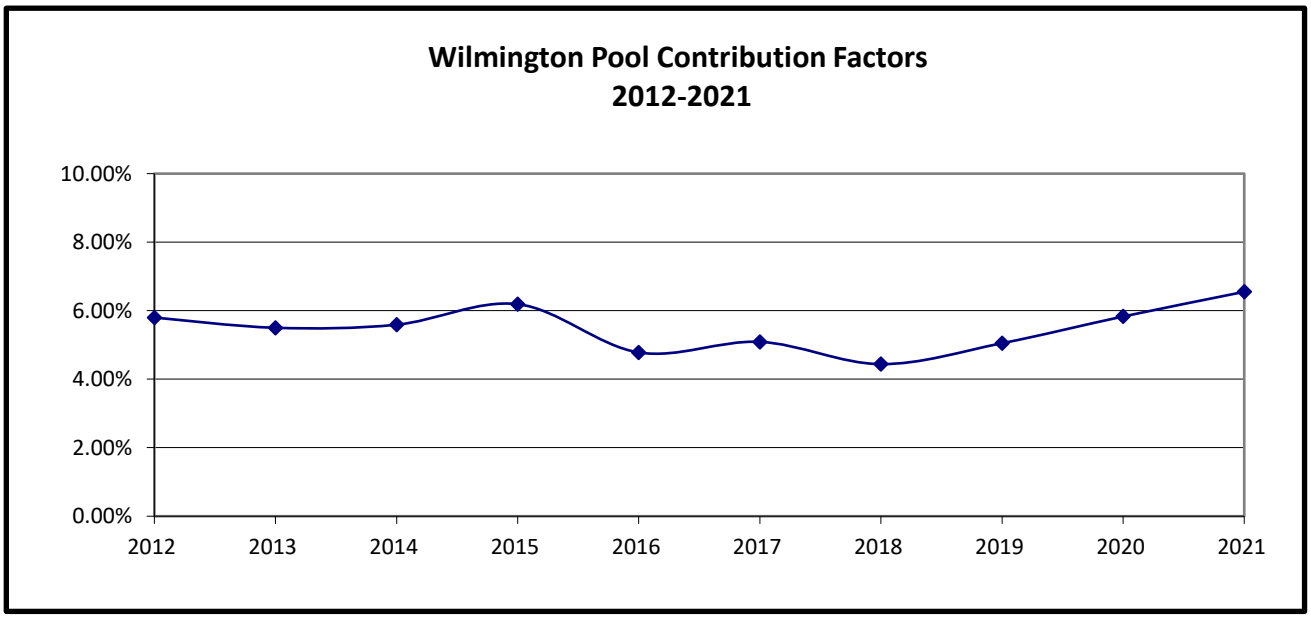
Risk Exposure Worksheet: City of Wilmington

Schedule 27

Last Ten Years

	Risk Exposure							
				(Non-Police)				Pool
Membership Year	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	Contribution Factors
2012	$48,948	12,520	22	121	124	$71,065,287	$18,452,322	**5.80%**
2013	$46,544	12,520	21	122	126	$72,608,144	$19,315,329	**5.50%**
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%**

Source: Association's internal records



Miami Valley Risk Management Association

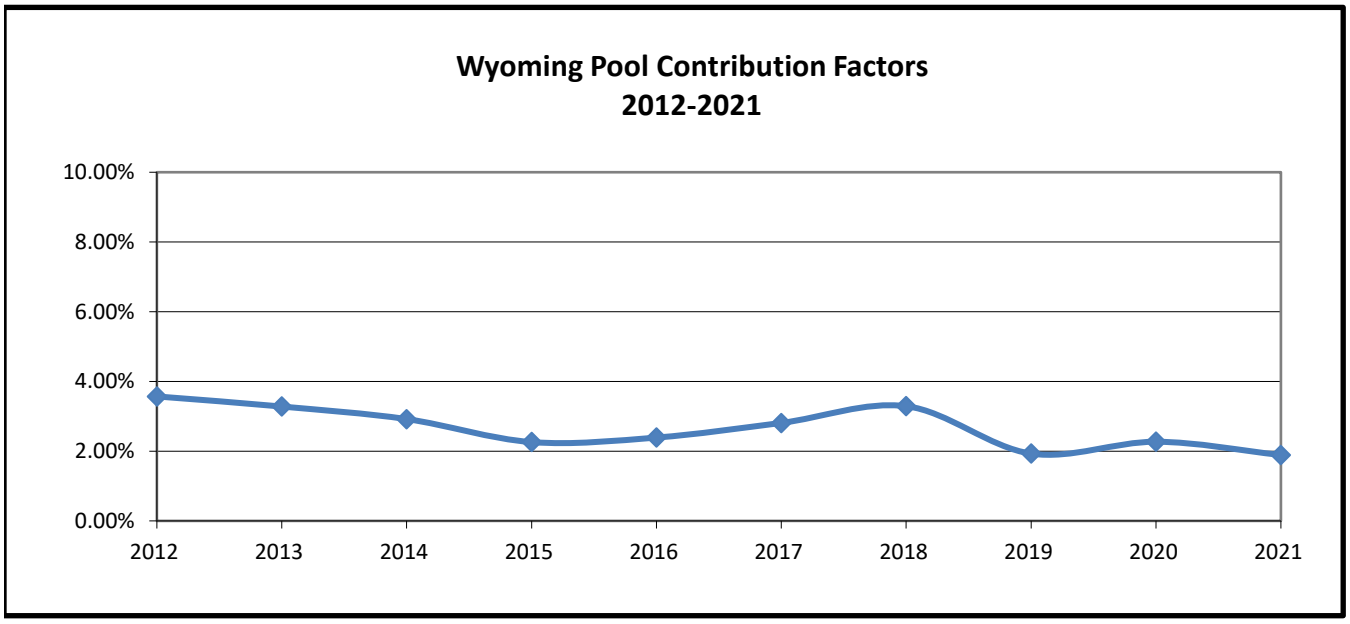
Risk Exposure Worksheet: City of Wyoming

Schedule 28

Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	Average Annual Losses	Population	Full-Time Sworn Police (Non-Police)	Full-Time Employees (Non-Police)	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2012	$41,804	8,428	19	32	37	$27,751,953	$10,075,580	**3.57%**
2013	$39,706	8,428	17	36	39	$28,587,034	$9,528,956	**3.28%**
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%**

Source: Association's internal records



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

Schedule 29

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Number of Members	20	20	20	20	20	20	20	21	21	21
Number of Staff	4	4	4	4	4	4	4	4	4	3
Number of Claims	368	380	423	369	390	376	415	311	259	260
Number of Training Sessions	31	24	22	24	32	34	57	48	26	25

Note: All data as of 12/31/2021

Note: The MVRMA staff addresses 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, 2021

April 12, 2022

PINNACLE
ACTUARIAL RESOURCES

1 Concourse Parkway, Suite 645
Atlanta, GA 30328
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Commitment Beyond Numbers

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Timothy C. Mosler, FCAS, MAAA
Principal and Consulting Actuary
tmosler@pinnacleactuaries.com

April 12, 2022

Mr. Tom Judy
Executive Director
Miami Valley Risk Management Association
4625 Presidential Way
Kettering, OH 45429-5706

Re: Analysis of Unpaid Loss and LAE as of December 31, 2021

Dear Mr. Judy:

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, 2021.

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 2021 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

Nicholas E. Alicea, ACAS, MAAA
Consulting Actuary
Direct Dial: 678.894.7261

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Miami Valley Risk management Association

Analysis of Unpaid Loss and LAE as of December 31, 2021

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, 2021.

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, 2021. 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, 2021 is the date used to separate paid and unpaid claim amounts in MVRMA's financial statement. Transactions through the "valuation date" of December 31, 2021 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 April 4, 2022.

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, 2021 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, 2021. 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 accident periods 2016 through 2021. It is our understanding that there has been no claim activity for any prior accident periods. Excess insurance limits were provided by MVRMA.

In my review, we have relied on listings and other relevant data, prepared by Tom Judy, 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
2010-2021	$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
2016-2021	$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, 2021, 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, 2021

The estimated total undiscounted unpaid loss and LAE as of December 31, 2021 is $4,447,056. This amount is net of reinsurance and member deductibles. It compares to an estimated unpaid amount of $3,196,920 from our analysis at December 31, 2020.

Development in Net Loss Estimates from Prior Analysis

The table below compares our net ultimate loss estimate as of December 31, 2021 to our estimate as of December 31, 2020 for accident years 2020 and prior. Our estimates have increased by $576,000, driven primarily by adverse development on general liability and property damage.

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION
Comparison of Net Ultimate Loss to Prior Ultimate Loss (in $000s)
Prior to Consideration of Member's Deductibles

Accident Year	Evaluation Date @12/31/2020	Evaluation Date @12/31/2021	Difference	Percent Change
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	1,369	1,440	71	5.2%
2017	1,433	1,215	(219)	-15.3%
2018	1,483	1,718	236	15.9%
2019	1,778	1,796	18	1.0%
2020	1,970	2,440	470	23.9%
Total	$36,313	$36,889	$576	1.6%

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 2021 with an initial loss cost selected for AY 2021. Finally, the expected loss cost for all AY's are calculated by detrending the selected AY 2021 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 comprehensive annual financial report (AFR) 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.

COVID-19

A substantial source of uncertainty relates to the emergence of the COVID-19 pandemic. This uncertainty could impact the projection of unpaid claim estimates in several different ways including but not limited to:

- claim reporting and the risk of longer claim durations if MVRMA handles claims differently;
- changes in exposure to specific injuries, material changes in underlying loss exposures as COVID-19 impacts healthcare operations, potential legal disputes regarding the applicability of specific coverages to COVID-19-related claims; and
- changes associated with ongoing medical care of current claimants due to the virus.

Some of these uncertainties may affect the settlement of claims that occurred prior to COVID-19 being declared a pandemic. The COVID-19 pandemic may have a material impact on our reserve estimates as its effects emerge over time.

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, 2021

Indicated Reserves

	Gross of Member Deductible	
(1)	Selected Ultimate Loss	$39,512,074
(2)	Application of Aggregate Retention	$144,133
(3)	Retained Ultimate Loss	$39,367,941
(4)	Retained Paid Loss	$34,926,336
(5)	Indicated Loss Reserves	$4,441,605
	Member Deductible	
(6)	Indicated Ultimate Loss	$3,663,067
(7)	Paid Loss	$3,507,858
(8)	Indicated Loss Reserves	$155,209
	Net of Member Deductible	
(9)	Indicated Loss Reserves	$4,286,396
(10)	Indicated Unallocated Loss Expense Reserves	$160,660
(11)	Indicated Loss and Loss Expense Reserves	$4,447,056

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, 2021

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

	Ultimate Loss						Paid Loss				
Accident Year	Automobile Liability	General Liability	Property Liability	Total	Aggregate Retention	Retained Losses	Automobile Liability	General Liability	Property Liability	Total	Retained Losses
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(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	846,000	448,203	1,440,103		1,440,103	145,899	642,220	448,203	1,236,322	1,236,322
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	122,000	1,025,000	571,312	1,718,312		1,718,312	74,085	666,213	571,312	1,311,611	1,311,611
2019	74,000	875,000	847,000	1,796,000		1,796,000	65,126	313,697	839,639	1,218,462	1,218,462
2020	113,000	1,250,000	1,077,000	2,440,000		2,440,000	67,998	182,971	751,204	1,002,172	1,002,172
2021	161,000	1,050,000	1,412,000	2,623,000		2,623,000	84,660	52,456	670,126	807,242	807,242
Total	$4,992,534	$20,190,672	$14,328,867	$39,512,074		$39,367,941	$4,814,403	$17,002,229	$13,253,837	$35,070,469	$34,926,336

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, 2021

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	67,352	124,197	263,514	71,966	67,352	124,197	263,514
2017	40,684	49,966	101,811	192,461	40,684	49,966	101,811	192,461
2018	36,140	63,499	131,858	231,497	36,140	63,499	131,858	231,497
2019	43,237	73,470	134,538	251,245	40,750	62,136	133,481	236,367
2020	32,317	39,670	149,173	221,161	32,317	34,183	120,111	186,611
2021	46,135	50,173	248,781	345,089	37,961	22,549	178,798	239,308
Total	$736,267	$959,768	$1,967,032	$3,663,067	$725,606	$915,322	$1,866,930	$3,507,858

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, 2021

Indicated Unallocated Loss Adjustment Expense Reserves

	Case Reserves				IBNR			
Accident Year	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	186,803	0	186,803	0	16,977	0	16,977
2017	0	0	0	0	0	0	0	0
2018	32,898	181,872	0	214,770	15,017	176,915	0	191,931
2019	4,987	170,858	7,217	183,062	3,887	390,444	144	394,475
2020	13,726	267,907	320,463	602,096	31,276	799,123	5,333	835,732
2021	12,174	104,469	471,873	588,516	64,166	893,075	270,000	1,227,241
Total	$63,785	$911,909	$799,553	$1,775,248	$114,346	$2,276,534	$275,477	$2,666,356
	(10)		Selected ULAE Expense to Loss Ratio		5.0%	4.5%	4.5%	4.5%
	(11)			ULAE Reserves	$7,312	$122,962	$30,386	$160,660

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, 2021

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	122,000	106,983	74,085	32,898	15,017	47,915
2019	74,000	70,113	65,126	4,987	3,887	8,874
2020	113,000	81,724	67,998	13,726	31,276	45,002
2021	161,000	96,834	84,660	12,174	64,166	76,340
Total	$4,992,534	$4,878,189	$4,814,403	$63,785	$114,346	$178,131

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, 2021

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	122,000	2,010	49	2.4	61	2,490
2019	74,000	2,025	49	2.4	37	1,510
2020	113,000	2,326	37	1.6	49	3,054
2021	161,000	2,317	47	2.0	69	3,426
Total	$4,992,534	52,437	2,336	4.5	$95	$2,137

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, 2021

Comparison of Ultimate Loss to Prior Ultimate Loss
Retained Limits

Accident Year	Selected Ultimate Loss @ 12/31/2020	Selected Ultimate Loss @ 12/31/2021	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	69,000	122,000	53,000	76.8%
2019	85,000	74,000	(11,000)	-12.9%
2020	129,000	113,000	(16,000)	-12.4%
Total	$4,805,534	$4,831,534	$26,000	0.5%

Notes:
(2) From Pinnacle's analysis of unpaid loss & LAE at 12/31/2020
(3) From Exhibit 4, Col (11)
(4) = (3) - (2)
(5) = (4) / (2)

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2021

Selected Ultimate Loss
Retained Limits

Accident Year	Retention	Industry Development Incurred Loss Method	Industry Development Paid Loss Method	MVRMA's Loss Development Incurred Loss Method	MVRMA's Loss Development Paid Loss Method	MVRMA's Loss Development Case Reserve Method	MVRMA Expected Loss Method	MVRMA Incurred BF Method	MVRMA Paid BF Method	Selected Ultimate Loss
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1989	$250,000	$111,919	$111,919	$111,919	$111,919	$111,919	$23,303	$111,919	$111,919	$111,919
1990	250,000	18,683	18,683	18,683	18,683	18,683	29,221	18,683	18,683	18,683
1991	250,000	13,946	13,946	13,946	13,946	13,946	35,479	13,946	13,946	13,946
1992	250,000	39,293	39,293	39,293	39,293	39,293	39,116	39,293	39,293	39,293
1993	250,000	329,494	329,494	329,494	329,494	329,494	46,455	329,494	329,494	329,494
1994	250,000	126,181	126,181	126,181	126,181	126,181	52,881	126,181	126,181	126,181
1995	250,000	157,537	157,537	157,537	157,537	157,537	47,759	157,537	157,537	157,537
1996	250,000	75,097	75,097	75,097	75,097	75,097	52,915	75,097	75,097	75,097
1997	500,000	572,332	572,332	572,332	572,332	572,332	61,099	572,332	572,332	572,332
1998	500,000	98,687	98,687	98,687	98,687	98,687	65,815	98,687	98,687	98,687
1999	500,000	203,725	203,725	203,725	203,725	203,725	65,895	203,725	203,725	203,725
2000	500,000	81,660	81,660	81,660	81,660	81,660	69,669	81,660	81,660	81,660
2001	500,000	555,168	555,168	555,168	555,168	555,168	69,924	555,168	555,168	555,168
2002	500,000	167,747	167,747	167,747	167,747	167,747	77,327	167,747	167,747	167,747
2003	1,000,000	168,870	168,870	168,870	168,870	168,870	78,903	168,870	168,870	168,870
2004	1,000,000	49,418	49,418	49,417	49,417	49,417	88,406	49,417	49,417	49,417
2005	1,000,000	243,975	243,980	243,966	243,966	243,966	93,537	243,966	243,966	243,966
2006	1,000,000	145,441	145,448	145,431	145,431	145,431	93,646	145,431	145,431	145,431
2007	1,000,000	275,865	275,890	275,826	275,826	275,826	95,209	275,826	275,826	275,826
2008	1,000,000	136,565	136,590	136,527	136,527	136,527	99,693	136,527	136,527	136,527
2009	1,000,000	31,140	31,151	31,122	31,122	31,122	102,926	31,122	31,122	31,122
2010	500,000	161,693	161,810	161,512	161,512	161,512	103,579	161,512	161,512	161,512
2011	500,000	87,928	88,055	87,731	87,731	87,731	104,289	87,731	87,731	87,731
2012	500,000	38,442	38,553	38,269	38,269	38,269	106,374	38,269	38,269	38,269
2013	500,000	236,101	237,374	234,785	234,785	234,785	109,488	234,785	234,785	234,785
2014	500,000	105,156	106,134	104,340	104,340	104,340	107,673	104,340	104,340	104,340
2015	500,000	83,241	84,694	82,316	82,727	82,316	107,619	82,316	82,851	82,316
2016	500,000	148,573	153,868	145,899	147,655	145,899	109,951	145,899	147,207	145,899
2017	500,000	67,299	72,380	65,054	66,297	65,054	114,568	65,054	67,203	65,054
2018	500,000	115,601	93,392	108,053	76,559	121,520	117,053	108,142	77,867	122,000
2019	500,000	83,306	105,085	74,355	72,684	76,174	119,106	76,908	77,512	74,000
2020	500,000	115,997	165,401	112,669	101,692	148,233	138,178	119,675	113,781	113,000
2021	500,000	199,981	483,938	162,870	215,238	121,365	139,020	153,200	168,999	161,000
Total		$5,046,060	$5,393,497	$4,980,481	$4,992,119	$4,989,826	$2,766,079	$4,980,459	$4,964,686	$4,992,534

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)
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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	$44	$23,303	0.0%	$0	$111,919	$111,919	$210
1990	663	44	29,221	0.0%	0	18,683	18,683	28
1991	797	45	35,479	0.0%	0	13,946	13,946	17
1992	870	45	39,116	0.0%	0	39,293	39,293	45
1993	1,023	45	46,455	0.0%	0	329,494	329,494	322
1994	1,153	46	52,881	0.0%	0	126,181	126,181	109
1995	1,031	46	47,759	0.0%	0	157,537	157,537	153
1996	1,131	47	52,915	0.0%	0	75,097	75,097	66
1997	1,293	47	61,099	0.0%	0	572,332	572,332	443
1998	1,379	48	65,815	0.0%	0	98,687	98,687	72
1999	1,367	48	65,895	0.0%	0	203,725	203,725	149
2000	1,431	49	69,669	0.0%	0	81,660	81,660	57
2001	1,422	49	69,924	0.0%	0	555,168	555,168	390
2002	1,557	50	77,327	0.0%	0	167,747	167,747	108
2003	1,573	50	78,903	0.0%	0	168,870	168,870	107
2004	1,745	51	88,406	0.0%	0	49,417	49,417	28
2005	1,828	51	93,537	0.0%	0	243,966	243,966	133
2006	1,812	52	93,646	0.0%	0	145,431	145,431	80
2007	1,824	52	95,209	0.0%	0	275,826	275,826	151
2008	1,891	53	99,693	0.0%	0	136,527	136,527	72
2009	1,933	53	102,926	0.0%	0	31,122	31,122	16
2010	1,926	54	103,579	0.0%	0	161,512	161,512	84
2011	1,920	54	104,289	0.0%	0	87,731	87,731	46
2012	1,939	55	106,374	0.0%	0	38,269	38,269	20
2013	1,976	55	109,488	0.0%	0	234,785	234,785	119
2014	1,924	56	107,673	0.0%	0	104,340	104,340	54
2015	1,904	57	107,619	0.0%	0	82,316	82,316	43
2016	1,926	57	109,951	0.0%	0	145,899	145,899	76
2017	1,987	58	114,568	0.0%	0	65,054	65,054	33
2018	2,010	58	117,053	1.0%	1,159	106,983	108,142	54
2019	2,025	59	119,106	5.7%	6,795	70,113	76,908	38
2020	2,326	59	138,178	27.5%	37,951	81,724	119,675	51
2021	2,317	60	139,020	40.5%	56,366	96,834	153,200	66
Total	52,437		$2,766,079		$102,271	$4,878,189	$4,980,459	$95

Notes:
(2) Provided by MVRMA
(3) From Exhibit 7.1, Col (8)
(4) = (2) x (3)
(5) Based on Exhibit 12
(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, 2021

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	$44	$23,303	0.0%	$0	$111,919	$111,919	$210
1990	663	44	29,221	0.0%	0	18,683	18,683	28
1991	797	45	35,479	0.0%	0	13,946	13,946	17
1992	870	45	39,116	0.0%	0	39,293	39,293	45
1993	1,023	45	46,455	0.0%	0	329,494	329,494	322
1994	1,153	46	52,881	0.0%	0	126,181	126,181	109
1995	1,031	46	47,759	0.0%	0	157,537	157,537	153
1996	1,131	47	52,915	0.0%	0	75,097	75,097	66
1997	1,293	47	61,099	0.0%	0	572,332	572,332	443
1998	1,379	48	65,815	0.0%	0	98,687	98,687	72
1999	1,367	48	65,895	0.0%	0	203,725	203,725	149
2000	1,431	49	69,669	0.0%	0	81,660	81,660	57
2001	1,422	49	69,924	0.0%	0	555,168	555,168	390
2002	1,557	50	77,327	0.0%	0	167,747	167,747	108
2003	1,573	50	78,903	0.0%	0	168,870	168,870	107
2004	1,745	51	88,406	0.0%	0	49,417	49,417	28
2005	1,828	51	93,537	0.0%	0	243,966	243,966	133
2006	1,812	52	93,646	0.0%	0	145,431	145,431	80
2007	1,824	52	95,209	0.0%	0	275,826	275,826	151
2008	1,891	53	99,693	0.0%	0	136,527	136,527	72
2009	1,933	53	102,926	0.0%	0	31,122	31,122	16
2010	1,926	54	103,579	0.0%	0	161,512	161,512	84
2011	1,920	54	104,289	0.0%	0	87,731	87,731	46
2012	1,939	55	106,374	0.0%	0	38,269	38,269	20
2013	1,976	55	109,488	0.0%	0	234,785	234,785	119
2014	1,924	56	107,673	0.0%	0	104,340	104,340	54
2015	1,904	57	107,619	0.5%	535	82,316	82,851	44
2016	1,926	57	109,951	1.2%	1,308	145,899	147,207	76
2017	1,987	58	114,568	1.9%	2,149	65,054	67,203	34
2018	2,010	58	117,053	3.2%	3,782	74,085	77,867	39
2019	2,025	59	119,106	10.4%	12,386	65,126	77,512	38
2020	2,326	59	138,178	33.1%	45,783	67,998	113,781	49
2021	2,317	60	139,020	60.7%	84,339	84,660	168,999	73
Total	52,437		$2,766,079		$150,282	$4,814,403	$4,964,686	$95

Notes:
- (2) Provided by MVRMA
- (3) From Exhibit 7.1, Col (8)
- (4) = (2) x (3)
- (5) Based on Exhibit 12
- (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, 2021

Initial Expected Loss Cost
Retained Limits

Accident Year	Number of Vehicles	Initial Ultimate Loss	Indicated Loss Cost	Limits Factor to $500K	Trend Factor to 2021	Trended $500K Limits Loss Cost	Expected Loss Cost
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1989	534	$111,919	$210	1.000	1.375	$288	$44
1990	663	18,683	28	1.000	1.361	38	44
1991	797	13,946	17	1.000	1.348	24	45
1992	870	39,293	45	1.000	1.335	60	45
1993	1,023	329,494	322	1.000	1.321	426	45
1994	1,153	126,181	109	1.000	1.308	143	46
1995	1,031	157,537	153	1.000	1.295	198	46
1996	1,131	75,097	66	1.000	1.282	85	47
1997	1,293	572,332	443	1.000	1.270	562	47
1998	1,379	98,687	72	1.000	1.257	90	48
1999	1,367	203,725	149	1.000	1.245	186	48
2000	1,431	81,660	57	1.000	1.232	70	49
2001	1,422	555,168	390	1.000	1.220	476	49
2002	1,557	167,747	108	1.000	1.208	130	50
2003	1,573	168,870	107	1.000	1.196	128	50
2004	1,745	49,417	28	1.000	1.184	34	51
2005	1,828	243,966	133	1.000	1.173	156	51
2006	1,812	145,431	80	1.000	1.161	93	52
2007	1,824	275,826	151	1.000	1.149	174	52
2008	1,891	136,527	72	1.000	1.138	82	53
2009	1,933	31,122	16	1.000	1.127	18	53
2010	1,926	161,512	84	1.000	1.116	94	54
2011	1,920	87,731	46	1.000	1.105	50	54
2012	1,939	38,269	20	1.000	1.094	22	55
2013	1,976	234,785	119	1.000	1.083	129	55
2014	1,924	104,340	54	1.000	1.072	58	56
2015	1,904	82,316	43	1.000	1.062	46	57
2016	1,926	145,899	76	1.000	1.051	80	57
2017	1,987	65,054	33	1.000	1.041	34	58
2018	2,010	108,053	54	1.000	1.030	55	58
2019	2,025	74,355	37	1.000	1.020	37	59
2020	2,326	112,669	48	1.000	1.010	49	59
2021	2,317	162,870	70	1.000	1.000	70	60
Total	52,437	$4,980,481	$95				

Weighted Average Ex. Hi/Lo	$105
10-Year Weighted Avg	58
10-Year Weighted Avg Ex. Hi/Lo	54
5-Year Weighted Avg	50
Selected 2021 Loss Cost	$60

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 1.0%
(7) = (4) x (5) x (6)
(8) = Selected Loss Cost / [(6) x (5)]

Miami Valley Risk Management Association
Auto Liability (AB, AD)
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Initial Selected Ultimate Loss
Retained Limits

Accident Year	Projected Ultimate Loss Based on			Initial Ultimate Loss
	Incurred	Paid	Case	
(1)	(2)	(3)	(4)	(5)
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	82,727	82,316	82,316
2016	145,899	147,655	145,899	145,899
2017	65,054	66,297	65,054	65,054
2018	108,053	76,559	121,520	108,053
2019	74,355	72,684	76,174	74,355
2020	112,669	101,692	148,233	112,669
2021	162,870	215,238	121,365	162,870
Total	$4,980,481	$4,992,119	$4,989,826	$4,980,481

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, 2021

Estimated Limits Factor

Accident Year	Retention	Incurred Losses at $500K Limits	Incurred Losses at Retention Limits	Incurred Limits Factors	Industry Limits Factors	Selected Limits Factors
(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	106,983	106,983	1.000	1.000	1.000
2019	500,000	70,113	70,113	1.000	1.000	1.000
2020	500,000	81,724	81,724	1.000	1.000	1.000
2021	500,000	96,834	96,834	1.000	1.000	1.000
Total		$4,878,189	$4,878,189			

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, 2021

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	$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	106,983	1.010	108,053
2019	70,113	1.061	74,355
2020	81,724	1.379	112,669
2021	96,834	1.682	162,870
Total	$4,878,189		$4,980,481

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, 2021

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	1.005	82,727
2016	145,899	1.012	147,655
2017	65,054	1.019	66,297
2018	74,085	1.033	76,559
2019	65,126	1.116	72,684
2020	67,998	1.496	101,692
2021	84,660	2.542	215,238
Total	$4,814,403		$4,992,119

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, 2021

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%	99.5%	100.0%	82,316
2016	500,000	145,899	0	100.0%	98.8%	100.0%	145,899
2017	500,000	65,054	0	100.0%	98.1%	100.0%	65,054
2018	500,000	74,085	32,898	99.0%	96.8%	69.4%	121,520
2019	500,000	65,126	4,987	94.3%	89.6%	45.1%	76,174
2020	500,000	67,998	13,726	72.5%	66.9%	17.1%	148,233
2021	500,000	84,660	12,174	59.5%	39.3%	33.2%	121,365
Total		$4,814,403	$63,785				$4,989,826

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, 2021

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	49,418
2005	243,966	1.000	243,975
2006	145,431	1.000	145,441
2007	275,826	1.000	275,865
2008	136,527	1.000	136,565
2009	31,122	1.001	31,140
2010	161,512	1.001	161,693
2011	87,731	1.002	87,928
2012	38,269	1.005	38,442
2013	234,785	1.006	236,101
2014	104,340	1.008	105,156
2015	82,316	1.011	83,241
2016	145,899	1.018	148,573
2017	65,054	1.035	67,299
2018	106,983	1.081	115,601
2019	70,113	1.188	83,306
2020	81,724	1.419	115,997
2021	96,834	2.065	199,981
Total	$4,878,189		$5,046,060

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, 2021

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	49,418
2005	243,966	1.000	243,980
2006	145,431	1.000	145,448
2007	275,826	1.000	275,890
2008	136,527	1.000	136,590
2009	31,122	1.001	31,151
2010	161,512	1.002	161,810
2011	87,731	1.004	88,055
2012	38,269	1.007	38,553
2013	234,785	1.011	237,374
2014	104,340	1.017	106,134
2015	82,316	1.029	84,694
2016	145,899	1.055	153,868
2017	65,054	1.113	72,380
2018	74,085	1.261	93,392
2019	65,126	1.614	105,085
2020	67,998	2.432	165,401
2021	84,660	5.716	483,938
Total	$4,814,403		$5,393,497

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, 2021

Loss Development Patterns

Month of	$500K Limits % Developed		$1M Limits % Developed		Industry % Developed	
Development	Incurred	Paid	Incurred	Paid	Incurred	Paid
(1)	(2)	(3)	(4)	(5)	(6)	(7)
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%	100.0%
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%	99.8%	99.6%
120	100.0%	100.0%	100.0%	100.0%	99.6%	99.3%
108	100.0%	100.0%	100.0%	100.0%	99.4%	98.9%
96	100.0%	100.0%	100.0%	100.0%	99.2%	98.3%
84	100.0%	99.5%	100.0%	99.2%	98.9%	97.2%
72	100.0%	98.8%	100.0%	98.5%	98.2%	94.8%
60	100.0%	98.1%	100.0%	97.6%	96.7%	89.9%
48	99.0%	96.8%	97.7%	94.4%	92.5%	79.3%
36	94.3%	89.6%	87.9%	81.8%	84.2%	62.0%
24	72.5%	66.9%	67.4%	55.7%	70.5%	41.1%
12	59.5%	39.3%	44.9%	17.2%	48.4%	17.5%

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, 2021

Incurred Loss at $500K SIR

Accident	Maturity (Age in Months)														
Year	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
1989	8,914	8,614	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919
1990	10,151	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683
1991	8,919	9,074	16,074	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946
1992	19,584	19,882	31,332	36,705	40,205	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293
1993	94,156	286,741	336,879	340,644	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494
1994	62,084	154,951	125,930	126,992	126,181	126,181	126,181	126,181	126,181	126,181	126,181	126,181	126,181	126,181	126,181
1995	145,570	140,533	165,780	157,537	157,537	157,537	157,537	157,537	157,537	157,537	157,537	157,537	157,537	157,537	157,537
1996	69,113	81,178	80,302	74,641	74,641	74,641	74,641	75,097	75,097	75,097	75,097	75,097	75,097	75,097	75,097
1997	227,596	274,452	586,917	572,332	572,332	572,332	572,332	572,332	572,332	572,332	572,332	572,332	572,332	572,332	572,332
1998	84,207	93,223	95,750	98,687	98,687	98,687	98,687	98,687	98,687	98,687	98,687	98,687	98,687	98,687	98,687
1999	136,069	138,607	164,173	196,158	203,725	203,725	203,725	203,725	203,725	203,725	203,725	203,725	203,725	203,725	203,725
2000	76,221	80,265	82,765	81,660	81,660	81,660	81,660	81,660	81,660	81,660	81,660	81,660	81,660	81,660	81,660
2001	93,763	482,169	649,669	939,169	843,409	534,626	534,626	555,168	555,168	555,168	555,168	555,168	555,168	555,168	555,168
2002	73,431	187,369	167,747	167,747	167,747	167,747	167,747	167,747	167,747	167,747	167,747	167,747	167,747	167,747	167,747
2003	87,086	135,372	190,622	168,870	168,870	168,870	168,870	168,870	168,870	168,870	168,870	168,870	168,870	168,870	168,870
2004	50,836	54,917	49,417	49,417	49,417	49,417	49,417	49,417	49,417	49,417	49,417	49,417	49,417	49,417	49,417
2005	100,944	156,905	194,307	219,833	235,833	260,833	243,966	243,966	243,966	243,966	243,966	243,966	243,966	243,966	243,966
2006	65,100	83,931	145,431	145,431	145,431	145,431	145,431	145,431	145,431	145,431	145,431	145,431	145,431	145,431	145,431
2007	86,271	181,275	271,519	275,715	275,826	275,826	275,826	275,826	275,826	275,826	275,826	275,826	275,826	275,826	275,826
2008	79,819	89,446	131,946	136,527	136,527	136,527	136,527	136,527	136,527	136,527	136,527	136,527	136,527	136,527	
2009	39,122	31,122	31,122	31,122	31,122	31,122	31,122	31,122	31,122	31,122	31,122	31,122	31,122		
2010	105,993	137,233	161,512	161,512	161,512	161,512	161,512	161,512	161,512	161,512	161,512	161,512			
2011	86,062	114,779	87,731	87,731	87,731	87,731	87,731	87,731	87,731	87,731	87,731				
2012	40,220	38,269	38,269	38,269	38,269	38,269	38,269	38,269	38,269	38,269					
2013	106,110	108,494	234,785	234,785	243,573	234,785	234,785	234,785	234,785						
2014	88,724	90,240	104,340	104,340	104,340	104,340	104,340	104,340							
2015	86,498	76,478	76,478	82,316	82,316	82,316	82,316								
2016	90,163	127,327	143,577	145,899	145,899	145,899									
2017	51,535	65,054	65,054	65,054	65,054										
2018	46,789	43,483	64,483	106,983											
2019	62,597	62,509	70,113												
2020	65,062	81,724													
2021	96,834														

Accident	Age-to-Age Factors														
Year	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192
1989	0.966	12.993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1990	1.841	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1991	1.017	1.771	0.868	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1992	1.015	1.576	1.171	1.095	0.977	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1993	3.045	1.175	1.011	0.967	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1994	2.496	0.813	1.008	0.994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1995	0.965	1.180	0.950	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1996	1.175	0.989	0.930	1.000	1.000	1.000	1.006	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1997	1.206	2.139	0.975	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1998	1.107	1.027	1.031	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1999	1.019	1.184	1.195	1.039	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2000	1.053	1.031	0.987	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2001	5.142	1.347	1.446	0.898	0.634	1.000	1.038	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2002	2.552	0.895	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2003	1.554	1.408	0.886	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2004	1.080	0.900	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2005	1.554	1.238	1.131	1.073	1.106	0.935	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2006	1.289	1.733	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2007	2.101	1.498	1.015	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2008	1.121	1.475	1.035	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
2009	0.796	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
2010	1.295	1.177	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
2011	1.334	0.764	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
2012	0.951	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
2013	1.022	2.164	1.000	1.037	0.964	1.000	1.000	1.000							
2014	1.017	1.156	1.000	1.000	1.000	1.000	1.000								
2015	0.884	1.000	1.076	1.000	1.000	1.000									
2016	1.412	1.128	1.016	1.000	1.000										
2017	1.262	1.000	1.000	1.000											
2018	0.929	1.483	1.659												
2019	0.999	1.122													
2020	1.256														
All Yr Vol	1.492	1.314	1.079	0.985	0.938	0.996	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
All Yr Vol Ex. H/L	1.356	1.303	1.072	1.005	0.997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol	1.117	1.211	1.050	1.008	0.993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol Ex. H/L	1.105	1.130	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol	1.202	1.120	1.112	1.014	0.986	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol Ex. H/L	1.168	1.090	1.025	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
3 Yr Vol	1.076	1.167	1.164	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Prior	1.200	1.320	1.015	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Selected	1.220	1.300	1.050	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
LDFs	1.682	1.379	1.061	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
% Incurred	59.5%	72.5%	94.3%	99.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2021

Incurred Loss at $500K SIR

Accident	Maturity (Age in Months)																	
Year	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384	396
1989	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919
1990	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	
1991	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946		
1992	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293			
1993	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494				
1994	126,181	126,181	126,181	126,181	126,181	126,181	126,181	126,181	126,181	126,181	126,181	126,181	126,181					
1995	157,537	157,537	157,537	157,537	157,537	157,537	157,537	157,537	157,537	157,537	157,537	157,537						
1996	75,097	75,097	75,097	75,097	75,097	75,097	75,097	75,097	75,097	75,097	75,097							
1997	572,332	572,332	572,332	572,332	572,332	572,332	572,332	572,332	572,332	572,332								
1998	98,687	98,687	98,687	98,687	98,687	98,687	98,687	98,687	98,687									
1999	203,725	203,725	203,725	203,725	203,725	203,725	203,725	203,725										
2000	81,660	81,660	81,660	81,660	81,660	81,660	81,660											
2001	555,168	555,168	555,168	555,168	555,168	555,168												
2002	167,747	167,747	167,747	167,747	167,747													
2003	168,870	168,870	168,870	168,870														
2004	49,417	49,417	49,417															
2005	243,966	243,966																
2006	145,431																	
2007																		
2008																		
2009																		
2010																		
2011																		
2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		
2021																		

Accident	Age-to-Age Factors																	
Year	192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	384-396	396-Ult
1989	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1990	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
1991	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
1992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
1993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
1994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
1995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
1996	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
1997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
1998	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
1999	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
2000	1.000	1.000	1.000	1.000	1.000	1.000												
2001	1.000	1.000	1.000	1.000	1.000													
2002	1.000	1.000	1.000	1.000														
2003	1.000	1.000	1.000															
2004	1.000	1.000																
2005	1.000																	
2006																		
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2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		

All Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
All Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
10 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
10 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
5 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
5 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
3 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Prior	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Selected	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
LDFs	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
% Incurred	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2021

Paid Loss at $500K SIR

Accident	Maturity (Age in Months)														
Year	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
1989	8,614	8,614	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919
1990	8,126	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683
1991	8,719	8,874	12,838	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946
1992	14,941	16,632	21,357	25,418	25,418	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293
1993	23,877	53,454	78,551	324,172	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494
1994	27,039	43,451	125,930	126,992	126,181	126,181	126,181	126,181	126,181	126,181	126,181	126,181	126,181	126,181	126,181
1995	38,520	60,033	134,606	157,537	157,537	157,537	157,537	157,537	157,537	157,537	157,537	157,537	157,537	157,537	157,537
1996	44,173	53,678	72,802	74,641	74,641	74,641	74,641	75,097	75,097	75,097	75,097	75,097	75,097	75,097	75,097
1997	34,298	68,453	565,604	572,332	572,332	572,332	572,332	572,332	572,332	572,332	572,332	572,332	572,332	572,332	572,332
1998	42,307	55,723	68,250	98,687	98,687	98,687	98,687	98,687	98,687	98,687	98,687	98,687	98,687	98,687	98,687
1999	40,519	134,607	152,208	176,501	203,725	203,725	203,725	203,725	203,725	203,725	203,725	203,725	203,725	203,725	203,725
2000	52,991	72,765	74,962	81,660	81,660	81,660	81,660	81,660	81,660	81,660	81,660	81,660	81,660	81,660	81,660
2001	32,751	422,055	466,966	483,944	527,259	534,626	534,626	555,168	555,168	555,168	555,168	555,168	555,168	555,168	555,168
2002	34,887	101,869	167,747	167,747	167,747	167,747	167,747	167,747	167,747	167,747	167,747	167,747	167,747	167,747	167,747
2003	64,611	82,622	114,099	168,870	168,870	168,870	168,870	168,870	168,870	168,870	168,870	168,870	168,870	168,870	168,870
2004	41,711	49,417	49,417	49,417	49,417	49,417	49,417	49,417	49,417	49,417	49,417	49,417	49,417	49,417	49,417
2005	43,005	143,482	153,587	170,181	186,079	215,596	243,966	243,966	243,966	243,966	243,966	243,966	243,966	243,966	243,966
2006	46,100	75,431	145,431	145,431	145,431	145,431	145,431	145,431	145,431	145,431	145,431	145,431	145,431	145,431	145,431
2007	72,271	151,506	250,574	275,715	275,826	275,826	275,826	275,826	275,826	275,826	275,826	275,826	275,826	275,826	275,826
2008	56,070	79,446	96,111	136,527	136,527	136,527	136,527	136,527	136,527	136,527	136,527	136,527	136,527	136,527	
2009	30,372	31,122	31,122	31,122	31,122	31,122	31,122	31,122	31,122	31,122	31,122	31,122	31,122		
2010	67,993	127,233	161,512	161,512	161,512	161,512	161,512	161,512	161,512	161,512	161,512	161,512			
2011	65,650	77,534	87,731	87,731	87,731	87,731	87,731	87,731	87,731	87,731	87,731				
2012	22,340	38,269	38,269	38,269	38,269	38,269	38,269	38,269	38,269	38,269					
2013	71,513	83,494	234,785	234,785	243,573	234,785	234,785	234,785	234,785						
2014	77,184	82,740	104,340	104,340	104,340	104,340	104,340	104,340							
2015	48,868	76,478	76,478	82,316	82,316	82,316	82,316								
2016	50,913	115,081	135,625	145,899	145,899	145,899									
2017	35,035	65,054	65,054	65,054	65,054										
2018	25,849	43,483	53,612	74,085											
2019	39,969	55,009	65,126												
2020	22,459	67,998													
2021	84,660														

Accident	Age-to-Age Factors														
Year	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192
1989	1.000	12.993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1990	2.299	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1991	1.018	1.447	1.086	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1992	1.113	1.284	1.190	1.000	1.546	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1993	2.239	1.470	4.127	1.016	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1994	1.607	2.898	1.008	0.994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1995	1.558	2.242	1.170	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1996	1.215	1.356	1.025	1.000	1.000	1.000	1.006	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1997	1.996	8.263	1.012	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1998	1.317	1.225	1.446	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1999	3.322	1.131	1.160	1.154	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2000	1.373	1.030	1.089	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2001	12.887	1.106	1.036	1.090	1.014	1.000	1.038	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2002	2.920	1.647	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2003	1.279	1.381	1.480	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2004	1.185	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2005	3.336	1.070	1.108	1.093	1.159	1.132	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2006	1.636	1.928	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2007	2.096	1.654	1.100	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2008	1.417	1.210	1.421	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
2009	1.025	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
2010	1.871	1.269	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
2011	1.181	1.132	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
2012	1.713	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
2013	1.168	2.812	1.000	1.037	0.964	1.000	1.000	1.000							
2014	1.072	1.261	1.000	1.000	1.000	1.000	1.000								
2015	1.565	1.000	1.076	1.000	1.000	1.000									
2016	2.260	1.179	1.076	1.000	1.000										
2017	1.857	1.000	1.000	1.000											
2018	1.682	1.233	1.382												
2019	1.376	1.184													
2020	3.028														

All Yr Vol	1.982	1.576	1.138	1.023	1.010	1.007	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
All Yr Vol Ex. H/L	1.704	1.551	1.078	1.018	1.009	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol	1.534	1.338	1.037	1.008	0.993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol Ex. H/L	1.539	1.174	1.019	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol	1.990	1.115	1.084	1.014	0.986	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol Ex. H/L	2.000	1.124	1.051	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
3 Yr Vol	1.886	1.124	1.121	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Prior	1.620	1.380	1.060	1.015	1.007	1.007	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Selected	1.700	1.340	1.080	1.014	1.007	1.007	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
LDFs	2.542	1.496	1.116	1.033	1.019	1.012	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
% Paid	39.3%	66.9%	89.6%	96.8%	98.1%	98.8%	99.5%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2021

Paid Loss at $500K SIR

Accident	Maturity (Age in Months)																	
Year	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384	396
1989	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919	111,919
1990	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	18,683	
1991	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946		
1992	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293	39,293			
1993	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494	329,494				
1994	126,181	126,181	126,181	126,181	126,181	126,181	126,181	126,181	126,181	126,181	126,181	126,181	126,181					
1995	157,537	157,537	157,537	157,537	157,537	157,537	157,537	157,537	157,537	157,537	157,537	157,537						
1996	75,097	75,097	75,097	75,097	75,097	75,097	75,097	75,097	75,097	75,097	75,097							
1997	572,332	572,332	572,332	572,332	572,332	572,332	572,332	572,332	572,332	572,332								
1998	98,687	98,687	98,687	98,687	98,687	98,687	98,687	98,687	98,687									
1999	203,725	203,725	203,725	203,725	203,725	203,725	203,725	203,725										
2000	81,660	81,660	81,660	81,660	81,660	81,660	81,660											
2001	555,168	555,168	555,168	555,168	555,168	555,168												
2002	167,747	167,747	167,747	167,747	167,747													
2003	168,870	168,870	168,870	168,870														
2004	49,417	49,417	49,417															
2005	243,966	243,966																
2006	145,431																	
2007																		
2008																		
2009																		
2010																		
2011																		
2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		
2021																		

Accident	Age-to-Age Factors																	
Year	192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	384-396	396-Ult
1989	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1990	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
1991	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
1992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
1993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
1994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
1995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
1996	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
1997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
1998	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
1999	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
2000	1.000	1.000	1.000	1.000	1.000	1.000												
2001	1.000	1.000	1.000	1.000	1.000													
2002	1.000	1.000	1.000	1.000														
2003	1.000	1.000	1.000															
2004	1.000	1.000																
2005	1.000																	
2006																		
2007																		
2008																		
2009																		
2010																		
2011																		
2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		

All Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
All Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
10 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
10 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
5 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
5 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
3 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Prior	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Selected	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
LDFs	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
% Paid	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2021

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	48	1	49	0	49
2019	48	1	49	0	49
2020	36	1	37	0	37
2021	40	4	44	3	47
Total	2,326	7	2,333	3	2,336

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, 2021

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	1.010	37
2021	44	1.071	47
Total	2,333		2,336

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

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2021

Reported Claim Counts

Accident	Maturity (Age in Months)														
Year	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
1989	42	42	43	43	43	43	43	43	43	43	43	43	43	43	43
1990	32	33	33	33	33	33	33	33	33	33	33	33	33	33	33
1991	23	25	26	26	26	26	26	26	26	26	26	26	26	26	26
1992	35	36	38	38	38	38	38	38	38	38	38	38	38	38	38
1993	54	60	60	60	60	60	60	60	60	60	60	60	60	60	60
1994	68	72	72	72	72	72	72	72	72	72	72	72	72	72	72
1995	80	80	85	85	85	85	85	85	85	85	85	85	85	85	85
1996	99	109	110	110	110	111	111	111	114	114	114	114	114	114	114
1997	96	96	97	97	97	97	98	98	98	98	98	98	98	98	98
1998	83	86	86	86	86	86	86	86	86	86	86	86	86	86	86
1999	111	113	120	121	121	121	121	121	121	121	121	121	121	121	121
2000	101	104	104	104	104	104	104	104	104	104	104	104	104	104	104
2001	82	85	86	86	86	86	86	86	86	86	86	86	86	86	86
2002	68	79	80	80	80	80	80	80	80	80	80	80	80	80	80
2003	108	116	117	117	117	117	117	117	117	117	117	117	117	117	117
2004	73	85	86	86	86	86	86	86	86	86	86	86	86	86	86
2005	85	96	97	97	97	98	98	98	98	98	98	98	98	98	98
2006	65	70	70	70	70	70	70	70	70	70	70	70	70	70	70
2007	89	97	99	98	98	98	98	98	98	98	98	98	98	98	98
2008	70	76	76	76	76	76	76	76	76	76	76	76	76	76	
2009	56	57	57	57	57	57	57	57	57	57	57	57	57		
2010	75	78	78	78	78	78	78	78	78	78	78	78			
2011	73	74	74	74	74	74	74	74	74	74	74				
2012	45	51	52	52	52	52	52	52	52	52					
2013	42	46	46	46	46	46	46	46	46						
2014	74	78	78	78	78	78	78	78							
2015	49	51	51	51	51	51	51								
2016	69	76	76	76	76	76									
2017	48	51	51	51	51										
2018	44	48	49	49											
2019	49	49	49												
2020	36	37													
2021	44														

Accident	Age-to-Age Factors														
Year	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192
1989	1.000	1.024	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1990	1.031	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1991	1.087	1.040	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1992	1.029	1.056	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1993	1.111	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1994	1.059	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1995	1.000	1.063	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1996	1.101	1.009	1.000	1.000	1.009	1.000	1.000	1.027	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1997	1.000	1.010	1.000	1.000	1.000	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1998	1.036	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1999	1.018	1.062	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2000	1.030	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2001	1.037	1.012	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2002	1.162	1.013	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2003	1.074	1.009	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2004	1.164	1.012	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2005	1.129	1.010	1.000	1.000	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2006	1.077	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2007	1.090	1.021	0.990	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2008	1.086	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
2009	1.018	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
2010	1.040	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
2011	1.014	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
2012	1.133	1.020	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
2013	1.095	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
2014	1.054	1.000	1.000	1.000	1.000	1.000	1.000								
2015	1.041	1.000	1.000	1.000	1.000	1.000									
2016	1.101	1.000	1.000	1.000	1.000										
2017	1.063	1.000	1.000	1.000											
2018	1.091	1.021	1.000												
2019	1.000	1.000													
2020	1.028														
All Yr Vol	1.062	1.012	1.000	1.000	1.001	1.000	1.000	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000
All Yr Vol Ex. H/L	1.060	1.011	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol	1.060	1.003	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol Ex. H/L	1.060	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol	1.061	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol Ex. H/L	1.063	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
3 Yr Vol	1.039	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Prior	1.065	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Selected	1.060	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
LDFs	1.071	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
% Developed	93.4%	99.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2021

Reported Claim Counts

Accident	Maturity (Age in Months)																	
Year	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384	396
1989	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
1990	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	
1991	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26		
1992	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38			
1993	60	60	60	60	60	60	60	60	60	60	60	60	60	60				
1994	72	72	72	72	72	72	72	72	72	72	72	72	72					
1995	85	85	85	85	85	85	85	85	85	85	85	85						
1996	114	114	114	114	114	114	114	114	114	114	114							
1997	98	98	98	98	98	98	98	98	98	98								
1998	86	86	86	86	86	86	86	86	86									
1999	121	121	121	121	121	121	121	121										
2000	104	104	104	104	104	104	104											
2001	86	86	86	86	86	86												
2002	80	80	80	80	80													
2003	117	117	117	117														
2004	86	86	86															
2005	98	98																
2006	70																	
2007																		
2008																		
2009																		
2010																		
2011																		
2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		
2021																		

Accident	Age-to-Age Factors																	
Year	192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	384-396	396-Ult
1989	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1990	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
1991	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
1992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
1993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
1994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
1995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
1996	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
1997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
1998	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
1999	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
2000	1.000	1.000	1.000	1.000	1.000	1.000												
2001	1.000	1.000	1.000	1.000	1.000													
2002	1.000	1.000	1.000	1.000														
2003	1.000	1.000	1.000															
2004	1.000	1.000																
2005	1.000																	
2006																		
2007																		
2008																		
2009																		
2010																		
2011																		
2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		

All Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
All Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
10 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
10 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
5 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
5 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
3 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Prior	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Selected	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
LDFs	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
% Developed	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2021

Closed Claim Counts

Accident	Maturity (Age in Months)														
Year	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
1989	41	42	43	43	43	43	43	43	43	43	43	43	43	43	43
1990	27	33	33	33	33	33	33	33	33	33	33	33	33	33	33
1991	21	24	24	26	26	26	26	26	26	26	26	26	26	26	26
1992	30	35	35	37	36	38	38	38	38	38	38	38	38	38	38
1993	37	53	56	59	60	60	60	60	60	60	60	60	60	60	60
1994	52	65	72	72	72	72	72	72	72	72	72	72	72	72	72
1995	48	72	82	85	85	85	85	85	85	85	85	85	85	85	85
1996	88	107	109	110	110	111	111	111	114	114	114	114	114	114	114
1997	83	93	94	97	97	97	98	98	98	98	98	98	98	98	98
1998	69	81	84	86	86	86	86	86	86	86	86	86	86	86	86
1999	105	112	117	119	121	121	121	121	121	121	121	121	121	121	121
2000	82	103	103	104	104	104	104	104	104	104	104	104	104	104	104
2001	64	76	83	84	84	86	86	86	86	86	86	86	86	86	86
2002	55	76	80	80	80	80	80	80	80	80	80	80	80	80	80
2003	100	111	113	117	117	117	117	117	117	117	117	117	117	117	117
2004	63	84	86	86	86	86	86	86	86	86	86	86	86	86	86
2005	64	94	93	94	94	95	98	98	98	98	98	98	98	98	98
2006	54	68	70	70	70	70	70	70	70	70	70	70	70	70	70
2007	82	94	98	98	98	98	98	98	98	98	98	98	98	98	98
2008	59	75	75	76	76	76	76	76	76	76	76	76	76	76	
2009	51	57	57	57	57	57	57	57	57	57	57	57	57		
2010	61	77	78	78	78	78	78	78	78	78	78	78			
2011	66	72	74	74	74	74	74	74	74	74	74				
2012	39	51	52	52	52	52	52	52	52	52					
2013	37	45	46	46	46	46	46	46	46						
2014	68	77	78	78	78	78	78	78							
2015	43	51	51	51	51	51	51								
2016	47	73	75	76	76	76									
2017	40	51	51	51	51										
2018	34	48	48	48											
2019	41	48	48												
2020	27	36													
2021	40														

Accident	Age-to-Age Factors														
Year	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192
1989	1.024	1.024	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1990	1.222	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1991	1.143	1.000	1.083	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1992	1.167	1.000	1.057	0.973	1.056	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1993	1.432	1.057	1.054	1.017	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1994	1.250	1.108	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1995	1.500	1.139	1.037	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1996	1.216	1.019	1.009	1.000	1.009	1.000	1.000	1.027	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1997	1.120	1.011	1.032	1.000	1.000	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1998	1.174	1.037	1.024	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1999	1.067	1.045	1.017	1.017	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2000	1.256	1.000	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2001	1.188	1.092	1.012	1.000	1.024	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2002	1.382	1.053	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2003	1.110	1.018	1.035	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2004	1.333	1.024	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2005	1.469	0.989	1.011	1.000	1.011	1.032	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2006	1.259	1.029	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2007	1.146	1.043	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2008	1.271	1.000	1.013	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
2009	1.118	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
2010	1.262	1.013	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
2011	1.091	1.028	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
2012	1.308	1.020	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
2013	1.216	1.022	1.000	1.000	1.000	1.000	1.000	1.000							
2014	1.132	1.013	1.000	1.000	1.000	1.000	1.000								
2015	1.186	1.000	1.000	1.000	1.000	1.000									
2016	1.553	1.027	1.013	1.000	1.000										
2017	1.275	1.000	1.000	1.000											
2018	1.412	1.000	1.000												
2019	1.171	1.000													
2020	1.333														
All Yr Vol	1.228	1.028	1.013	1.001	1.003	1.002	1.000	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000
All Yr Vol Ex. H/L	1.224	1.026	1.012	1.001	1.002	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol	1.249	1.013	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol Ex. H/L	1.237	1.013	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol	1.354	1.007	1.003	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol Ex. H/L	1.337	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
3 Yr Vol	1.294	1.000	1.006	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2021

Closed Claim Counts

Accident	Maturity (Age in Months)																	
Year	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384	396
1989	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
1990	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	
1991	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26		
1992	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38			
1993	60	60	60	60	60	60	60	60	60	60	60	60	60	60				
1994	72	72	72	72	72	72	72	72	72	72	72	72	72					
1995	85	85	85	85	85	85	85	85	85	85	85	85						
1996	114	114	114	114	114	114	114	114	114	114	114							
1997	98	98	98	98	98	98	98	98	98	98								
1998	86	86	86	86	86	86	86	86	86									
1999	121	121	121	121	121	121	121	121										
2000	104	104	104	104	104	104	104											
2001	86	86	86	86	86	86												
2002	80	80	80	80	80													
2003	117	117	117	117														
2004	86	86	86															
2005	98	98																
2006	70																	
2007																		
2008																		
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2010																		
2011																		
2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		
2021																		

Accident	Age-to-Age Factors																	
Year	192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	384-396	396-Ult
1989	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1990	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
1991	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
1992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
1993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
1994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
1995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
1996	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
1997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
1998	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
1999	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
2000	1.000	1.000	1.000	1.000	1.000	1.000												
2001	1.000	1.000	1.000	1.000	1.000													
2002	1.000	1.000	1.000	1.000														
2003	1.000	1.000	1.000															
2004	1.000	1.000																
2005	1.000																	
2006																		
2007																		
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2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		

All Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
All Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
10 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
10 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
5 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
5 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
3 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2021

Loss and Count Summary

Accident		Total Limits		Retention Limits		$500K Limits		Deductibles		Claim Counts	
Year	Retention	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	106,983	74,085	106,983	74,085	106,983	74,085	36,140	36,140	49	48
2019	500,000	70,113	65,126	70,113	65,126	70,113	65,126	43,237	40,750	49	48
2020	500,000	81,724	67,998	81,724	67,998	81,724	67,998	32,317	32,317	37	36
2021	500,000	96,834	84,660	96,834	84,660	96,834	84,660	46,135	37,961	44	40
Total		$5,324,683	$5,260,897	$4,878,189	$4,814,403	$4,878,189	$4,814,403	$736,267	$725,606	2,333	2,326

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

Miami Valley Risk Management Association
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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	846,000	829,023	642,220	186,803	16,977	203,781
2017	541,861	541,861	541,861	0	0	0
2018	1,025,000	848,085	666,213	181,872	176,915	358,787
2019	875,000	484,556	313,697	170,858	390,444	561,303
2020	1,250,000	450,877	182,971	267,907	799,123	1,067,029
2021	1,050,000	156,925	52,456	104,469	893,075	997,544
Total	$20,190,672	$17,914,139	$17,002,229	$911,909	$2,276,534	$3,188,443

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	846,000	4,346	143	3.3	195	5,916
2017	541,861	4,444	158	3.6	122	3,430
2018	1,025,000	4,772	176	3.7	215	5,824
2019	875,000	5,120	145	2.8	171	6,034
2020	1,250,000	6,019	82	1.4	208	15,244
2021	1,050,000	4,500	79	1.8	233	13,291
Total	$20,190,672	$101,230	4,216	4.2	$199	$4,789

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
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Comparison of Ultimate Loss to Prior Ultimate Loss
Retained Limits

Accident Year	Selected Ultimate Loss @ 12/31/2020	Selected Ultimate Loss @ 12/31/2021	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	775,000	846,000	71,000	9.2%
2017	760,000	541,861	(218,139)	-28.7%
2018	825,000	1,025,000	200,000	24.2%
2019	850,000	875,000	25,000	2.9%
2020	1,125,000	1,250,000	125,000	11.1%
Total	$18,937,811	$19,140,672	$202,861	1.1%

Notes:
(2) From Pinnacle's analysis of unpaid loss & LAE at 12/31/2020
(3) From Exhibit 4, Col (11)
(4) = (3) - (2)
(5) = (4) / (2)

Miami Valley Risk Management Association
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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
		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	$207,853	$207,853	$207,853	$207,853	$207,853	$42,916	$207,853	$207,853	$207,853
1990	250,000	439,863	439,863	439,863	439,863	439,863	57,152	439,863	439,863	439,863
1991	250,000	84,015	84,015	84,015	84,015	84,015	68,043	84,015	84,015	84,015
1992	250,000	139,376	139,376	139,376	139,376	139,376	85,679	139,376	139,376	139,376
1993	250,000	600,979	600,979	600,979	600,979	600,979	77,773	600,979	600,979	600,979
1994	250,000	106,065	106,065	106,065	106,065	106,065	128,396	106,065	106,065	106,065
1995	250,000	156,790	156,790	156,790	156,790	156,790	139,277	156,790	156,790	156,790
1996	250,000	357,926	357,926	357,926	357,926	357,926	147,959	357,926	357,926	357,926
1997	500,000	706,526	706,526	706,526	706,526	706,526	191,667	706,526	706,526	706,526
1998	500,000	554,289	554,289	554,289	554,289	554,289	209,694	554,289	554,289	554,289
1999	500,000	657,094	657,094	657,094	657,094	657,094	233,240	657,094	657,094	657,094
2000	500,000	164,560	164,560	164,560	164,560	164,560	253,426	164,560	164,560	164,560
2001	500,000	497,423	497,423	497,423	497,423	497,423	290,089	497,423	497,423	497,423
2002	500,000	1,347,266	1,347,308	1,347,177	1,347,177	1,347,177	327,875	1,347,177	1,347,177	1,347,177
2003	1,000,000	269,798	269,815	269,762	269,762	269,762	369,648	269,762	269,762	269,762
2004	1,000,000	512,099	512,164	511,964	511,964	511,964	407,934	511,964	511,964	511,964
2005	1,000,000	858,255	858,470	857,801	857,801	857,801	457,564	857,801	857,801	857,801
2006	1,000,000	916,764	917,225	915,795	915,795	915,795	492,951	915,795	915,795	915,795
2007	1,000,000	312,781	313,095	312,120	312,120	312,120	521,287	312,120	312,120	312,120
2008	1,000,000	860,302	862,035	856,672	856,672	856,672	581,533	856,672	856,672	856,672
2009	1,000,000	1,187,816	1,192,605	1,177,813	1,177,813	1,177,813	639,531	1,177,813	1,177,813	1,177,813
2010	500,000	989,204	997,196	972,613	972,613	972,613	640,093	972,613	972,613	972,613
2011	500,000	334,943	340,377	323,802	323,802	323,802	689,557	323,802	323,802	323,802
2012	500,000	580,592	599,583	542,610	545,865	542,610	687,018	542,610	546,707	542,610
2013	500,000	653,996	681,707	601,882	606,099	601,882	711,064	601,882	606,829	601,882
2014	500,000	1,026,154	1,083,266	925,867	939,812	925,867	744,208	925,867	936,910	925,867
2015	500,000	357,607	388,170	319,202	322,096	314,175	786,149	326,555	333,508	314,175
2016	500,000	984,204	856,161	850,710	678,164	1,002,134	841,566	850,477	686,825	846,000
2017	500,000	688,320	816,279	583,838	715,236	541,861	890,775	605,907	757,787	541,861
2018	500,000	1,209,823	1,244,473	1,021,611	1,020,076	1,022,573	989,862	1,016,219	1,009,595	1,025,000
2019	500,000	853,676	849,671	729,625	672,447	774,963	1,099,239	853,773	900,140	875,000
2020	500,000	1,120,022	854,891	1,289,936	764,828	2,030,741	1,337,475	1,320,859	1,200,480	1,250,000
2021	500,000	760,143	681,348	1,167,281	811,295	1,452,791	1,034,952	1,052,742	1,020,491	1,050,000
Total		$20,496,523	$20,338,597	$20,250,840	$19,294,196	$21,427,875	$16,175,593	$20,315,167	$20,217,549	$20,190,672

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
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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	$76	$42,916	0.0%	$0	$207,853	$207,853	$370
1990	722	79	57,152	0.0%	0	439,863	439,863	609
1991	830	82	68,043	0.0%	0	84,015	84,015	101
1992	1,010	85	85,679	0.0%	0	139,376	139,376	138
1993	1,255	62	77,773	0.0%	0	600,979	600,979	479
1994	1,413	91	128,396	0.0%	0	106,065	106,065	75
1995	1,481	94	139,277	0.0%	0	156,790	156,790	106
1996	1,520	97	147,959	0.0%	0	357,926	357,926	235
1997	1,903	101	191,667	0.0%	0	706,526	706,526	371
1998	2,011	104	209,694	0.0%	0	554,289	554,289	276
1999	2,162	108	233,240	0.0%	0	657,094	657,094	304
2000	2,269	112	253,426	0.0%	0	164,560	164,560	73
2001	2,510	116	290,089	0.0%	0	497,423	497,423	198
2002	2,741	120	327,875	0.0%	0	1,347,177	1,347,177	492
2003	2,985	124	369,648	0.0%	0	269,762	269,762	90
2004	3,183	128	407,934	0.0%	0	511,964	511,964	161
2005	3,450	133	457,564	0.0%	0	857,801	857,801	249
2006	3,591	137	492,951	0.0%	0	915,795	915,795	255
2007	3,669	142	521,287	0.0%	0	312,120	312,120	85
2008	3,954	147	581,533	0.0%	0	856,672	856,672	217
2009	4,058	158	639,531	0.0%	0	1,177,813	1,177,813	290
2010	4,063	158	640,093	0.0%	0	972,613	972,613	239
2011	4,229	163	689,557	0.0%	0	323,802	323,802	77
2012	4,071	169	687,018	0.0%	0	542,610	542,610	133
2013	4,071	175	711,064	0.0%	0	601,882	601,882	148
2014	4,117	181	744,208	0.0%	0	925,867	925,867	225
2015	4,202	187	786,149	1.6%	12,380	314,175	326,555	78
2016	4,346	194	841,566	2.5%	21,454	829,023	850,477	196
2017	4,444	200	890,775	7.2%	64,045	541,861	605,907	136
2018	4,772	207	989,862	17.0%	168,133	848,085	1,016,219	213
2019	5,120	215	1,099,239	33.6%	369,217	484,556	853,773	167
2020	6,019	222	1,337,475	65.0%	869,981	450,877	1,320,859	219
2021	4,500	230	1,034,952	86.6%	895,817	156,925	1,052,742	234
Total	$101,230		$16,175,593		$2,401,028	$17,914,139	$20,315,167	$201

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 2010-2021; $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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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	$76	$42,916	0.0%	$0	$207,853	$207,853	$370
1990	722	79	57,152	0.0%	0	439,863	439,863	609
1991	830	82	68,043	0.0%	0	84,015	84,015	101
1992	1,010	85	85,679	0.0%	0	139,376	139,376	138
1993	1,255	62	77,773	0.0%	0	600,979	600,979	479
1994	1,413	91	128,396	0.0%	0	106,065	106,065	75
1995	1,481	94	139,277	0.0%	0	156,790	156,790	106
1996	1,520	97	147,959	0.0%	0	357,926	357,926	235
1997	1,903	101	191,667	0.0%	0	706,526	706,526	371
1998	2,011	104	209,694	0.0%	0	554,289	554,289	276
1999	2,162	108	233,240	0.0%	0	657,094	657,094	304
2000	2,269	112	253,426	0.0%	0	164,560	164,560	73
2001	2,510	116	290,089	0.0%	0	497,423	497,423	198
2002	2,741	120	327,875	0.0%	0	1,347,177	1,347,177	492
2003	2,985	124	369,648	0.0%	0	269,762	269,762	90
2004	3,183	128	407,934	0.0%	0	511,964	511,964	161
2005	3,450	133	457,564	0.0%	0	857,801	857,801	249
2006	3,591	137	492,951	0.0%	0	915,795	915,795	255
2007	3,669	142	521,287	0.0%	0	312,120	312,120	85
2008	3,954	147	581,533	0.0%	0	856,672	856,672	217
2009	4,058	158	639,531	0.0%	0	1,177,813	1,177,813	290
2010	4,063	158	640,093	0.0%	0	972,613	972,613	239
2011	4,229	163	689,557	0.0%	0	323,802	323,802	77
2012	4,071	169	687,018	0.6%	4,098	542,610	546,707	134
2013	4,071	175	711,064	0.7%	4,947	601,882	606,829	149
2014	4,117	181	744,208	1.5%	11,043	925,867	936,910	228
2015	4,202	187	786,149	2.5%	19,333	314,175	333,508	79
2016	4,346	194	841,566	5.3%	44,605	642,220	686,825	158
2017	4,444	200	890,775	24.2%	215,926	541,861	757,787	171
2018	4,772	207	989,862	34.7%	343,381	666,213	1,009,595	212
2019	5,120	215	1,099,239	53.3%	586,443	313,697	900,140	176
2020	6,019	222	1,337,475	76.1%	1,017,509	182,971	1,200,480	199
2021	4,500	230	1,034,952	93.5%	968,035	52,456	1,020,491	227
Total	$101,230		$16,175,593		$3,215,320	$17,002,229	$20,217,549	$200

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 2010-2021; $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 2021	Trended $500K Limits Loss Cost	Expected Loss Cost
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1989	$561	$207,853	$370	1.000	3.007	$1,114	$76
1990	722	439,863	609	1.000	2.905	1,770	79
1991	830	84,015	101	1.000	2.807	284	82
1992	1,010	139,376	138	1.000	2.712	374	85
1993	1,255	600,979	479	1.416	2.620	1,777	62
1994	1,413	106,065	75	1.000	2.532	190	91
1995	1,481	156,790	106	1.000	2.446	259	94
1996	1,520	357,926	235	1.000	2.363	556	97
1997	1,903	706,526	371	1.000	2.283	848	101
1998	2,011	554,289	276	1.000	2.206	608	104
1999	2,162	657,094	304	1.000	2.132	648	108
2000	2,269	164,560	73	1.000	2.059	149	112
2001	2,510	497,423	198	1.000	1.990	394	116
2002	2,741	1,347,177	492	1.000	1.923	945	120
2003	2,985	269,762	90	1.000	1.857	168	124
2004	3,183	511,964	161	1.000	1.795	289	128
2005	3,450	857,801	249	1.000	1.734	431	133
2006	3,591	915,795	255	1.000	1.675	427	137
2007	3,669	312,120	85	1.000	1.619	138	142
2008	3,954	856,672	217	1.000	1.564	339	147
2009	4,058	1,177,813	290	0.966	1.511	424	158
2010	4,063	972,613	239	1.000	1.460	349	158
2011	4,229	323,802	77	1.000	1.411	108	163
2012	4,071	542,610	133	1.000	1.363	182	169
2013	4,071	601,882	148	1.000	1.317	195	175
2014	4,117	925,867	225	1.000	1.272	286	181
2015	4,202	319,202	76	1.000	1.229	93	187
2016	4,346	850,710	196	1.000	1.188	232	194
2017	4,444	583,838	131	1.000	1.148	151	200
2018	4,772	1,021,611	214	1.000	1.109	237	207
2019	5,120	729,625	143	1.000	1.071	153	215
2020	6,019	1,289,936	214	1.000	1.035	222	222
2021	4,500	1,167,281	259	1.000	1.000	259	230
Total	$101,230	$20,250,840	$200				

Weighted Average Ex. Hi/Lo	$322
10-Year Weighted Avg	201
10-Year Weighted Avg Ex. Hi/Lo	204
5-Year Weighted Avg	205
Selected 2021 Loss Cost	$230

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 3.5%
(7) = (4) x (5) x (6)
(8) = Selected Loss Cost / [(6) x (5)]

Miami Valley Risk Management Association
General Liability
December 31, 2021

Initial Selected Ultimate Loss
Retained Limits

Accident Year	Projected Ultimate Loss Based on			Initial Ultimate Loss
	Incurred	Paid	Case	
(1)	(2)	(3)	(4)	(5)
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	545,865	542,610	542,610
2013	601,882	606,099	601,882	601,882
2014	925,867	939,812	925,867	925,867
2015	319,202	322,096	314,175	319,202
2016	850,710	678,164	1,002,134	850,710
2017	583,838	715,236	541,861	583,838
2018	1,021,611	1,020,076	1,022,573	1,021,611
2019	729,625	672,447	774,963	729,625
2020	1,289,936	764,828	2,030,741	1,289,936
2021	1,167,281	811,295	1,452,791	1,167,281
Total	$20,250,840	$19,294,196	$21,427,875	$20,250,840

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
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Estimated Limits Factor

Accident Year	Retention	Incurred Losses at $500K Limits	Incurred Losses at Retention Limits	Incurred Limits Factors	Industry Limits Factors	Selected Limits Factors
(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	829,023	829,023	1.000	1.000	1.000
2017	500,000	541,861	541,861	1.000	1.000	1.000
2018	500,000	848,085	848,085	1.000	1.000	1.000
2019	500,000	484,556	484,556	1.000	1.000	1.000
2020	500,000	450,877	450,877	1.000	1.000	1.000
2021	500,000	156,925	156,925	1.000	1.000	1.000
Total		$18,124,003	$17,914,139			

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

Miami Valley Risk Management Association
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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	$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	1.016	319,202
2016	829,023	1.026	850,710
2017	541,861	1.077	583,838
2018	848,085	1.205	1,021,611
2019	484,556	1.506	729,625
2020	450,877	2.861	1,289,936
2021	156,925	7.438	1,167,281
Total	$17,914,139		$20,250,840

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

Miami Valley Risk Management Association
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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	1.006	545,865
2013	601,882	1.007	606,099
2014	925,867	1.015	939,812
2015	314,175	1.025	322,096
2016	642,220	1.056	678,164
2017	541,861	1.320	715,236
2018	666,213	1.531	1,020,076
2019	313,697	2.144	672,447
2020	182,971	4.180	764,828
2021	52,456	15.466	811,295
Total	$17,002,229		$19,294,196

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

Miami Valley Risk Management Association
General Liability
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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%	99.4%	100.0%	542,610
2013	500,000	601,882	0	100.0%	99.3%	100.0%	601,882
2014	500,000	925,867	0	100.0%	98.5%	100.0%	925,867
2015	500,000	314,175	0	98.4%	97.5%	36.0%	314,175
2016	500,000	642,220	186,803	97.5%	94.7%	51.9%	1,002,134
2017	500,000	541,861	0	92.8%	75.8%	70.3%	541,861
2018	500,000	666,213	181,872	83.0%	65.3%	51.0%	1,022,573
2019	500,000	313,697	170,858	66.4%	46.7%	37.0%	774,963
2020	500,000	182,971	267,907	35.0%	23.9%	14.5%	2,030,741
2021	500,000	52,456	104,469	13.4%	6.5%	7.5%	1,452,791
Total		$17,002,229	$911,909				$21,427,875

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	1,347,266
2003	269,762	1.000	269,798
2004	511,964	1.000	512,099
2005	857,801	1.001	858,255
2006	915,795	1.001	916,764
2007	312,120	1.002	312,781
2008	856,672	1.004	860,302
2009	1,177,813	1.008	1,187,816
2010	972,613	1.017	989,204
2011	323,802	1.034	334,943
2012	542,610	1.070	580,592
2013	601,882	1.087	653,996
2014	925,867	1.108	1,026,154
2015	314,175	1.138	357,607
2016	829,023	1.187	984,204
2017	541,861	1.270	688,320
2018	848,085	1.427	1,209,823
2019	484,556	1.762	853,676
2020	450,877	2.484	1,120,022
2021	156,925	4.844	760,143
Total	$17,914,139		$20,496,523

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

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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	1,347,308
2003	269,762	1.000	269,815
2004	511,964	1.000	512,164
2005	857,801	1.001	858,470
2006	915,795	1.002	917,225
2007	312,120	1.003	313,095
2008	856,672	1.006	862,035
2009	1,177,813	1.013	1,192,605
2010	972,613	1.025	997,196
2011	323,802	1.051	340,377
2012	542,610	1.105	599,583
2013	601,882	1.133	681,707
2014	925,867	1.170	1,083,266
2015	314,175	1.236	388,170
2016	642,220	1.333	856,161
2017	541,861	1.506	816,279
2018	666,213	1.868	1,244,473
2019	313,697	2.709	849,671
2020	182,971	4.672	854,891
2021	52,456	12.989	681,348
Total	$17,002,229		$20,338,597

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

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General Liability
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Loss Development Patterns

Month of Development	$500K Limits % Developed		$1M Limits % Developed		Industry % Developed	
	Incurred	Paid	Incurred	Paid	Incurred	Paid
(1)	(2)	(3)	(4)	(5)	(6)	(7)
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%	98.3%	97.5%
132	100.0%	100.0%	100.0%	100.0%	96.7%	95.1%
120	100.0%	99.4%	100.0%	99.4%	93.5%	90.5%
108	100.0%	99.3%	100.0%	99.0%	92.0%	88.3%
96	100.0%	98.5%	100.0%	98.1%	90.2%	85.5%
84	98.4%	97.5%	98.0%	96.4%	87.9%	80.9%
72	97.5%	94.7%	95.8%	88.6%	84.2%	75.0%
60	92.8%	75.8%	89.1%	71.1%	78.7%	66.4%
48	83.0%	65.3%	76.3%	56.9%	70.1%	53.5%
36	66.4%	46.7%	52.4%	35.6%	56.8%	36.9%
24	35.0%	23.9%	24.3%	14.4%	40.3%	21.4%
12	13.4%	6.5%	4.3%	1.5%	20.6%	7.7%

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, 2021

Incurred Loss at $500K SIR

Accident	Maturity (Age in Months)														
Year	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
1989	97,608	277,034	216,667	211,909	210,162	214,162	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853
1990	102,048	155,946	209,752	252,657	436,862	436,928	435,782	432,379	439,863	439,863	439,863	439,863	439,863	439,863	439,863
1991	12,322	71,071	61,614	53,618	97,558	139,535	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015
1992	21,837	28,145	162,765	137,258	123,437	140,033	143,955	143,955	139,376	139,376	139,376	139,376	139,376	139,376	139,376
1993	369,601	528,569	536,313	795,876	860,519	860,519	865,450	865,450	850,979	850,979	850,979	850,979	850,979	850,979	850,979
1994	34,540	86,003	222,029	97,658	106,375	106,065	106,065	106,065	106,065	106,065	106,065	106,065	106,065	106,065	106,065
1995	89,788	74,221	123,230	134,129	189,397	156,790	156,790	156,790	156,790	156,790	156,790	156,790	156,790	156,790	156,790
1996	67,665	186,767	271,412	290,544	373,656	356,656	352,170	357,926	357,926	357,926	357,926	357,926	357,926	357,926	357,926
1997	51,105	95,958	683,597	761,629	721,708	706,526	706,526	706,526	706,526	706,526	706,526	706,526	706,526	706,526	706,526
1998	36,819	222,626	279,432	552,177	568,186	554,289	554,289	554,289	554,289	554,289	554,289	554,289	554,289	554,289	554,289
1999	81,637	187,463	379,072	471,046	674,779	657,094	657,094	657,094	657,094	657,094	657,094	657,094	657,094	657,094	657,094
2000	98,597	90,655	192,961	191,743	164,560	164,560	164,560	164,560	164,560	164,560	164,560	164,560	164,560	164,560	164,560
2001	89,836	282,253	445,860	522,576	522,589	522,198	522,271	497,423	497,423	497,423	497,423	497,423	497,423	497,423	497,423
2002	256,428	309,254	644,254	792,306	1,028,490	1,078,490	1,139,677	1,347,177	1,347,177	1,347,177	1,347,177	1,347,177	1,347,177	1,347,177	1,347,177
2003	50,550	134,895	273,187	306,344	259,291	276,582	269,762	269,762	269,762	269,762	269,762	269,762	269,762	269,762	269,762
2004	46,226	88,740	255,616	385,688	441,920	453,961	511,964	511,964	511,964	511,964	511,964	511,964	511,964	511,964	511,964
2005	108,411	258,559	529,054	475,826	486,242	536,564	541,563	857,800	857,801	857,801	857,801	857,801	857,801	857,801	857,801
2006	92,218	278,812	408,397	637,848	685,110	960,582	935,568	935,568	915,795	915,795	915,795	915,795	915,795	915,795	915,795
2007	70,876	146,108	259,967	319,743	323,367	312,120	312,120	312,120	312,120	312,120	312,120	312,120	312,120	312,120	312,120
2008	113,771	206,028	764,853	813,062	830,118	819,263	856,672	856,672	856,672	856,672	856,672	856,672	856,672	856,672	
2009	66,190	226,128	501,457	803,561	1,207,206	1,164,907	1,137,677	1,137,677	1,137,677	1,137,677	1,137,677	1,137,677	1,137,677		
2010	59,101	163,276	590,658	841,098	930,152	972,613	972,613	972,613	972,613	972,613	972,613	972,613			
2011	131,480	142,329	212,573	241,549	293,869	337,771	323,802	323,802	323,802	323,802	323,802				
2012	74,182	200,841	291,664	366,664	406,294	542,610	542,610	542,610	542,610	542,610					
2013	95,338	277,389	354,313	595,409	609,641	601,882	601,882	601,882	601,882						
2014	164,985	334,063	947,515	936,190	956,190	925,867	925,867	925,867							
2015	100,820	205,275	290,795	316,031	326,031	314,175	314,175								
2016	95,425	422,586	497,960	549,522	703,508	829,023									
2017	428,285	440,936	565,884	539,851	541,861										
2018	113,533	353,848	508,031	848,085											
2019	67,442	216,356	484,556												
2020	112,107	450,877													
2021	156,925														

Accident	Age-to-Age Factors														
Year	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192
1989	2.838	0.782	0.978	0.992	1.019	0.971	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1990	1.528	1.345	1.205	1.729	1.000	0.997	0.992	1.017	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1991	5.768	0.867	0.870	1.820	1.430	0.602	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1992	1.289	5.783	0.843	0.899	1.134	1.028	1.000	0.968	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1993	1.430	1.015	1.484	1.081	1.000	1.006	1.000	0.983	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1994	2.490	2.582	0.440	1.089	0.997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1995	0.827	1.660	1.088	1.412	0.828	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1996	2.760	1.453	1.070	1.286	0.955	0.987	1.016	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1997	1.878	7.124	1.114	0.948	0.979	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1998	6.046	1.255	1.976	1.029	0.976	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1999	2.296	2.022	1.243	1.433	0.974	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2000	0.919	2.129	0.994	0.858	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2001	3.142	1.580	1.172	1.000	0.999	1.000	0.952	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2002	1.206	2.083	1.230	1.298	1.049	1.057	1.182	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2003	2.669	2.025	1.121	0.846	1.067	0.975	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2004	1.920	2.881	1.509	1.146	1.027	1.128	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2005	2.385	2.046	0.899	1.022	1.103	1.009	1.584	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2006	3.023	1.465	1.562	1.074	1.402	0.974	1.000	0.979	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2007	2.061	1.779	1.230	1.011	0.965	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2008	1.811	3.712	1.063	1.021	0.987	1.046	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
2009	3.416	2.218	1.602	1.502	0.965	0.977	1.000	1.000	1.000	1.000	1.000	1.000			
2010	2.763	3.618	1.424	1.106	1.046	1.000	1.000	1.000	1.000	1.000	1.000				
2011	1.083	1.494	1.136	1.217	1.149	0.959	1.000	1.000	1.000	1.000					
2012	2.707	1.452	1.257	1.108	1.336	1.000	1.000	1.000	1.000						
2013	2.910	1.277	1.680	1.024	0.987	1.000	1.000	1.000							
2014	2.025	2.836	0.988	1.021	0.968	1.000	1.000								
2015	2.036	1.417	1.087	1.032	0.964	1.000									
2016	4.428	1.178	1.104	1.280	1.178										
2017	1.030	1.283	0.954	1.004											
2018	3.117	1.436	1.669												
2019	3.208	2.240													
2020	4.022														
All Yr Vol	2.100	1.818	1.219	1.126	1.042	1.002	1.036	0.998	1.000	1.000	1.000	1.000	1.000	1.000	1.000
All Yr Vol Ex. H/L	2.091	1.783	1.216	1.130	1.042	1.002	1.016	0.997	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol	2.200	1.721	1.268	1.134	1.036	0.996	1.044	0.997	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol Ex. H/L	2.536	1.684	1.277	1.085	1.019	0.991	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol	2.307	1.432	1.135	1.068	1.071	0.995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol Ex. H/L	3.484	1.365	1.038	1.024	1.039	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
3 Yr Vol	3.484	1.541	1.233	1.118	1.042	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Prior	2.350	1.800	1.190	1.120	1.050	1.010	1.020	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Selected	2.600	1.900	1.250	1.118	1.050	1.010	1.016	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
LDFs	7.438	2.861	1.506	1.205	1.077	1.026	1.016	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
% Incurred	13.4%	35.0%	66.4%	83.0%	92.8%	97.5%	98.4%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Miami Valley Risk Management Association
General Liability
December 31, 2021

Incurred Loss at $500K SIR

Accident	Maturity (Age in Months)																	
Year	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384	396
1989	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853
1990	439,863	439,863	439,863	439,863	439,863	439,863	439,863	439,863	439,863	439,863	439,863	439,863	439,863	439,863	439,863	439,863	439,863	
1991	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015		
1992	139,376	139,376	139,376	139,376	139,376	139,376	139,376	139,376	139,376	139,376	139,376	139,376	139,376	139,376	139,376			
1993	850,979	850,979	850,979	850,979	850,979	850,979	850,979	850,979	850,979	850,979	850,979	850,979	850,979	850,979				
1994	106,065	106,065	106,065	106,065	106,065	106,065	106,065	106,065	106,065	106,065	106,065	106,065	106,065					
1995	156,790	156,790	156,790	156,790	156,790	156,790	156,790	156,790	156,790	156,790	156,790	156,790						
1996	357,926	357,926	357,926	357,926	357,926	357,926	357,926	357,926	357,926	357,926	357,926							
1997	706,526	706,526	706,526	706,526	706,526	706,526	706,526	706,526	706,526	706,526								
1998	554,289	554,289	554,289	554,289	554,289	554,289	554,289	554,289	554,289									
1999	657,094	657,094	657,094	657,094	657,094	657,094	657,094	657,094										
2000	164,560	164,560	164,560	164,560	164,560	164,560	164,560											
2001	497,423	497,423	497,423	497,423	497,423	497,423												
2002	1,347,177	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															
2005	857,801	857,801																
2006	915,795																	
2007																		
2008																		
2009																		
2010																		
2011																		
2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		
2021																		

Accident	Age-to-Age Factors																	
Year	192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	384-396	396-Ult
1989	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1990	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
1991	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
1992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
1993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
1994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
1995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
1996	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
1997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
1998	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
1999	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
2000	1.000	1.000	1.000	1.000	1.000	1.000												
2001	1.000	1.000	1.000	1.000	1.000													
2002	1.000	1.000	1.000	1.000														
2003	1.000	1.000	1.000															
2004	1.000	1.000																
2005	1.000																	
2006																		
2007																		
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2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		

All Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
All Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
10 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
10 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
5 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
5 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
3 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Prior	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Selected	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
LDFs	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
% Incurred	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Miami Valley Risk Management Association
General Liability
December 31, 2021

Paid Loss at $500K SIR

Accident	Maturity (Age in Months)														
Year	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
1989	43,838	169,390	126,482	200,212	201,189	206,198	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853
1990	36,218	72,223	101,376	172,281	429,216	429,282	431,947	432,379	439,863	439,863	439,863	439,863	439,863	439,863	439,863
1991	8,182	13,655	34,548	52,484	56,233	82,219	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015
1992	4,787	16,680	48,844	84,126	96,940	133,151	138,407	138,779	139,376	139,376	139,376	139,376	139,376	139,376	139,376
1993	43,219	164,451	289,999	378,014	831,120	838,929	847,999	848,735	850,979	850,979	850,979	850,979	850,979	850,979	850,979
1994	6,926	65,029	86,321	97,658	99,653	106,065	106,065	106,065	106,065	106,065	106,065	106,065	106,065	106,065	106,065
1995	3,794	31,144	84,188	108,916	128,988	156,790	156,790	156,790	156,790	156,790	156,790	156,790	156,790	156,790	156,790
1996	9,115	94,177	201,725	247,114	331,060	336,010	339,152	357,926	357,926	357,926	357,926	357,926	357,926	357,926	357,926
1997	19,900	56,485	170,375	690,512	705,609	706,526	706,526	706,526	706,526	706,526	706,526	706,526	706,526	706,526	706,526
1998	15,685	138,193	201,920	252,856	546,353	554,289	554,289	554,289	554,289	554,289	554,289	554,289	554,289	554,289	554,289
1999	38,571	112,133	261,977	387,683	638,399	657,094	657,094	657,094	657,094	657,094	657,094	657,094	657,094	657,094	657,094
2000	42,870	76,054	105,748	162,267	164,560	164,560	164,560	164,560	164,560	164,560	164,560	164,560	164,560	164,560	164,560
2001	18,952	123,618	283,857	432,734	470,949	483,429	493,049	497,423	497,423	497,423	497,423	497,423	497,423	497,423	497,423
2002	61,435	146,396	268,703	639,459	872,109	897,035	975,645	1,021,028	1,053,852	1,060,070	1,347,177	1,347,177	1,347,177	1,347,177	1,347,177
2003	24,232	49,373	196,632	234,046	243,534	267,728	269,762	269,762	269,762	269,762	269,762	269,762	269,762	269,762	269,762
2004	22,372	50,964	124,762	343,096	401,681	444,143	511,964	511,964	511,964	511,964	511,964	511,964	511,964	511,964	511,964
2005	48,390	139,464	288,461	436,538	464,294	510,368	521,409	857,800	857,801	857,801	857,801	857,801	857,801	857,801	857,801
2006	28,487	78,525	207,322	489,371	564,195	848,934	860,568	860,568	915,795	915,795	915,795	915,795	915,795	915,795	915,795
2007	31,341	88,861	203,485	233,905	297,482	312,120	312,120	312,120	312,120	312,120	312,120	312,120	312,120	312,120	312,120
2008	78,741	150,771	677,316	737,628	818,200	819,263	856,672	856,672	856,672	856,672	856,672	856,672	856,672	856,672	
2009	18,347	164,997	414,887	670,003	774,798	1,137,596	1,137,677	1,137,677	1,137,677	1,137,677	1,137,677	1,137,677	1,137,677		
2010	36,625	94,473	335,590	531,550	660,802	972,613	972,613	972,613	972,613	972,613	972,613	972,613			
2011	58,248	132,329	170,021	218,842	252,485	316,697	323,802	323,802	323,802	323,802	323,802				
2012	41,813	72,238	168,777	216,588	281,284	542,610	542,610	542,610	542,610	542,610					
2013	71,626	172,455	278,864	536,112	601,435	601,882	601,882	601,882	601,882						
2014	105,074	233,752	375,369	431,494	541,145	729,501	925,867	925,867							
2015	85,569	129,660	275,208	297,225	314,175	314,175	314,175								
2016	65,365	272,746	408,529	469,365	547,969	642,220									
2017	73,929	386,031	506,669	533,049	541,861										
2018	48,041	255,263	383,468	666,213											
2019	37,442	104,501	313,697												
2020	72,529	182,971													
2021	52,456														

Accident	Age-to-Age Factors													
Year	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192
1989	3.864	0.747	1.583	1.005	1.025	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1990	1.994	1.404	1.699	2.491	1.000	1.006	1.001	1.017	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1991	1.669	2.530	1.519	1.071	1.462	1.022	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1992	3.484	2.928	1.722	1.152	1.374	1.039	1.003	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1993	3.805	1.763	1.304	2.199	1.009	1.011	1.001	1.003	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1994	9.389	1.327	1.131	1.020	1.064	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1995	8.209	2.703	1.294	1.184	1.216	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1996	10.332	2.142	1.225	1.340	1.015	1.009	1.055	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1997	2.838	3.016	4.053	1.022	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1998	8.811	1.461	1.252	2.161	1.015	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1999	2.907	2.336	1.480	1.647	1.029	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2000	1.774	1.390	1.534	1.014	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2001	6.523	2.296	1.524	1.088	1.026	1.020	1.009	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2002	2.383	1.835	2.380	1.364	1.029	1.088	1.047	1.032	1.006	1.271	1.000	1.000	1.000	1.000	1.000
2003	2.038	3.983	1.190	1.041	1.099	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2004	2.278	2.448	2.750	1.171	1.106	1.153	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2005	2.882	2.068	1.513	1.064	1.099	1.022	1.645	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2006	2.757	2.640	2.360	1.153	1.505	1.014	1.000	1.064	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2007	2.835	2.290	1.149	1.272	1.049	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2008	1.915	4.492	1.089	1.109	1.001	1.046	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
2009	8.993	2.515	1.615	1.156	1.468	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
2010	2.579	3.552	1.584	1.243	1.472	1.000	1.000	1.000	1.000	1.000	1.000				
2011	2.272	1.285	1.287	1.154	1.254	1.022	1.000	1.000	1.000	1.000					
2012	1.728	2.336	1.283	1.299	1.929	1.000	1.000	1.000	1.000						
2013	2.408	1.617	1.922	1.122	1.001	1.000	1.000	1.000							
2014	2.225	1.606	1.150	1.254	1.348	1.269	1.000								
2015	1.515	2.123	1.080	1.057	1.000	1.000									
2016	4.173	1.498	1.149	1.167	1.172										
2017	5.222	1.313	1.052	1.017											
2018	5.313	1.502	1.737												
2019	2.791	3.002													
2020	2.523														
All Yr Vol	3.103	1.970	1.504	1.252	1.152	1.033	1.030	1.007	1.000	1.024	1.000	1.000	1.000	1.000	1.000
All Yr Vol Ex. H/L	3.161	1.921	1.473	1.236	1.137	1.020	1.005	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol	2.944	1.735	1.378	1.149	1.255	1.038	1.048	1.008	1.000	1.040	1.000	1.000	1.000	1.000	1.000
10 Yr Vol Ex. H/L	2.960	1.666	1.383	1.159	1.231	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol	4.041	1.644	1.230	1.123	1.238	1.081	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol Ex. H/L	4.319	1.623	1.131	1.123	1.167	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
3 Yr Vol	3.435	1.614	1.285	1.080	1.201	1.119	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Prior	3.800	1.900	1.380	1.175	1.290	1.030	1.010	1.008	1.001	1.006	1.000	1.000	1.000	1.000	1.000
Selected	3.700	1.950	1.400	1.160	1.250	1.030	1.010	1.008	1.001	1.006	1.000	1.000	1.000	1.000	1.000
LDFs	15.466	4.180	2.144	1.531	1.320	1.056	1.025	1.015	1.007	1.006	1.000	1.000	1.000	1.000	1.000
% Paid	6.5%	23.9%	46.7%	65.3%	75.8%	94.7%	97.5%	98.5%	99.3%	99.4%	100.0%	100.0%	100.0%	100.0%	100.0%

Miami Valley Risk Management Association
General Liability
December 31, 2021

Paid Loss at $500K SIR

Accident	Maturity (Age in Months)																	
Year	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384	396
1989	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853	207,853
1990	439,863	439,863	439,863	439,863	439,863	439,863	439,863	439,863	439,863	439,863	439,863	439,863	439,863	439,863	439,863	439,863	439,863	
1991	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015	84,015		
1992	139,376	139,376	139,376	139,376	139,376	139,376	139,376	139,376	139,376	139,376	139,376	139,376	139,376	139,376	139,376			
1993	850,979	850,979	850,979	850,979	850,979	850,979	850,979	850,979	850,979	850,979	850,979	850,979	850,979	850,979				
1994	106,065	106,065	106,065	106,065	106,065	106,065	106,065	106,065	106,065	106,065	106,065	106,065	106,065					
1995	156,790	156,790	156,790	156,790	156,790	156,790	156,790	156,790	156,790	156,790	156,790	156,790						
1996	357,926	357,926	357,926	357,926	357,926	357,926	357,926	357,926	357,926	357,926	357,926							
1997	706,526	706,526	706,526	706,526	706,526	706,526	706,526	706,526	706,526	706,526								
1998	554,289	554,289	554,289	554,289	554,289	554,289	554,289	554,289	554,289									
1999	657,094	657,094	657,094	657,094	657,094	657,094	657,094	657,094										
2000	164,560	164,560	164,560	164,560	164,560	164,560	164,560											
2001	497,423	497,423	497,423	497,423	497,423	497,423												
2002	1,347,177	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															
2005	857,801	857,801																
2006	915,795																	
2007																		
2008																		
2009																		
2010																		
2011																		
2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		
2021																		

Accident	Age-to-Age Factors																	
Year	192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	384-396	396-Ult
1989	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1990	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
1991	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
1992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
1993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
1994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
1995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
1996	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
1997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
1998	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
1999	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
2000	1.000	1.000	1.000	1.000	1.000	1.000												
2001	1.000	1.000	1.000	1.000	1.000													
2002	1.000	1.000	1.000	1.000														
2003	1.000	1.000	1.000															
2004	1.000	1.000																
2005	1.000																	
2006																		
2007																		
2008																		
2009																		
2010																		
2011																		
2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		

All Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
All Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
10 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
10 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
5 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
5 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
3 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Prior	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Selected	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
LDFs	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
% Paid	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Miami Valley Risk Management Association
General Liability
December 31, 2021

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	139	4	143	0	143
2017	158	0	158	0	158
2018	172	3	175	1	176
2019	134	9	143	2	145
2020	76	4	80	2	82
2021	53	16	69	10	79
Total	4,165	36	4,201	15	4,216

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

Miami Valley Risk Management Association
General Liability
December 31, 2021

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	143	1.001	143
2017	158	1.003	158
2018	175	1.005	176
2019	143	1.014	145
2020	80	1.030	82
2021	69	1.149	79
Total	4,201		4,216

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

Miami Valley Risk Management Association
General Liability
December 31, 2021

Reported Claim Counts

Accident Year	Maturity (Age in Months) 12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
1989	78	87	88	89	89	89	89	89	89	89	89	89	89	89	89
1990	81	89	94	97	98	98	99	99	99	99	99	99	99	99	99
1991	43	51	54	54	54	56	56	56	56	56	56	56	56	56	56
1992	47	61	67	71	72	72	72	72	72	72	72	72	72	72	72
1993	70	83	89	90	91	93	93	93	93	93	93	93	93	93	93
1994	103	106	108	108	108	108	108	108	108	108	108	108	108	108	108
1995	73	78	84	85	85	85	85	85	85	85	85	85	85	85	85
1996	102	114	120	122	122	122	121	121	121	121	121	121	121	121	121
1997	85	94	99	99	99	99	99	99	99	99	99	99	99	99	99
1998	117	133	139	141	141	141	142	142	142	142	142	142	142	142	142
1999	122	133	141	141	141	142	142	142	142	142	142	142	142	142	142
2000	125	138	143	143	146	146	146	146	146	146	146	146	146	146	146
2001	105	111	115	120	120	120	120	120	118	118	118	118	118	118	118
2002	119	155	160	163	163	163	164	164	164	164	164	164	164	164	164
2003	122	142	144	145	145	148	148	148	148	148	148	148	148	148	148
2004	85	105	114	118	119	119	119	119	119	119	119	119	119	119	119
2005	111	124	128	129	129	129	129	129	128	128	128	128	128	128	128
2006	91	102	105	108	108	110	110	110	110	110	110	110	110	110	110
2007	128	142	142	143	143	143	143	143	143	143	143	143	143	143	143
2008	160	171	175	177	177	177	177	177	177	177	177	177	177	177	
2009	102	113	117	117	117	117	117	117	117	117	117	117	117		
2010	133	148	151	152	153	153	153	153	153	153	153	153			
2011	172	181	185	185	186	186	186	186	186	186	186				
2012	121	135	136	136	136	137	137	137	137	137					
2013	137	156	159	159	159	159	159	159	159						
2014	158	174	175	175	175	175	175	175							
2015	137	144	147	147	147	147	147								
2016	116	138	141	142	142	143									
2017	147	156	154	158	158										
2018	162	173	173	175											
2019	123	136	143												
2020	71	80													
2021	69														

Accident Year	Age-to-Age Factors 12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192
1989	1.115	1.011	1.011	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1990	1.099	1.056	1.032	1.010	1.000	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1991	1.186	1.059	1.000	1.000	1.037	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1992	1.298	1.098	1.060	1.014	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1993	1.186	1.072	1.011	1.011	1.022	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1994	1.029	1.019	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1995	1.068	1.077	1.012	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1996	1.118	1.053	1.017	1.000	1.000	0.992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1997	1.106	1.053	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1998	1.137	1.045	1.014	1.000	1.000	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1999	1.090	1.060	1.000	1.000	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2000	1.104	1.036	1.000	1.021	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2001	1.057	1.036	1.043	1.000	1.000	1.000	1.000	0.983	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2002	1.303	1.032	1.019	1.000	1.000	1.006	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2003	1.164	1.014	1.007	1.000	1.021	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2004	1.235	1.086	1.035	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2005	1.117	1.032	1.008	1.000	1.000	1.000	1.000	0.992	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2006	1.121	1.029	1.029	1.000	1.019	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2007	1.109	1.000	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2008	1.069	1.023	1.011	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
2009	1.108	1.035	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
2010	1.113	1.020	1.007	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
2011	1.052	1.022	1.000	1.005	1.000	1.000	1.000	1.000	1.000	1.000					
2012	1.116	1.007	1.000	1.000	1.007	1.000	1.000	1.000	1.000						
2013	1.139	1.019	1.000	1.000	1.000	1.000	1.000	1.000							
2014	1.101	1.006	1.000	1.000	1.000	1.000	1.000								
2015	1.051	1.021	1.000	1.000	1.000	1.000									
2016	1.190	1.022	1.007	1.000	1.007										
2017	1.061	0.987	1.026	1.000											
2018	1.068	1.000	1.012												
2019	1.106	1.051													
2020	1.127														
All Yr Vol	1.115	1.030	1.011	1.002	1.003	1.001	1.000	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000
All Yr Vol Ex. H/L	1.111	1.031	1.010	1.002	1.003	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol	1.096	1.015	1.005	1.001	1.001	1.000	1.000	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol Ex. H/L	1.092	1.014	1.003	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol	1.103	1.015	1.009	1.000	1.003	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol Ex. H/L	1.093	1.013	1.006	1.000	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
3 Yr Vol	1.093	1.011	1.015	1.000	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Prior	1.110	1.014	1.006	1.002	1.002	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Selected	1.115	1.016	1.009	1.002	1.002	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
LDFs	1.149	1.030	1.014	1.005	1.003	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
% Developed	87.1%	97.1%	98.6%	99.5%	99.7%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Miami Valley Risk Management Association
General Liability
December 31, 2021

Reported Claim Counts

Accident Year	Maturity (Age in Months) 192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384	396
1989	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89
1990	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	
1991	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56		
1992	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72			
1993	93	93	93	93	93	93	93	93	93	93	93	93	93	93				
1994	108	108	108	108	108	108	108	108	108	108	108	108	108					
1995	85	85	85	85	85	85	85	85	85	85	85	85						
1996	121	121	121	121	121	121	121	121	121	121	121							
1997	99	99	99	99	99	99	99	99	99	99								
1998	142	142	142	142	142	142	142	142	142									
1999	142	142	142	142	142	142	142	142										
2000	146	146	146	146	146	146	146											
2001	118	118	118	118	118	118												
2002	164	164	164	164	164													
2003	148	148	148	148														
2004	119	119	119															
2005	128	128																
2006	110																	
2007																		
2008																		
2009																		
2010																		
2011																		
2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		
2021																		

Accident Year	Age-to-Age Factors 192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	384-396	396-Ult
1989	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1990	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
1991	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
1992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
1993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
1994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
1995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
1996	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
1997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
1998	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
1999	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
2000	1.000	1.000	1.000	1.000	1.000	1.000												
2001	1.000	1.000	1.000	1.000	1.000													
2002	1.000	1.000	1.000	1.000														
2003	1.000	1.000	1.000															
2004	1.000	1.000																
2005	1.000																	
2006																		
2007																		
2008																		
2009																		
2010																		
2011																		
2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		

All Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
All Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
10 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
10 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
5 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
5 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
3 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Prior	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Selected	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
LDFs	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
% Developed	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Miami Valley Risk Management Association
General Liability
December 31, 2021

Closed Claim Counts

Accident	Maturity (Age in Months)														
Year	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
1989	61	77	81	88	88	88	89	89	89	89	89	89	89	89	89
1990	67	82	86	91	97	97	98	99	99	99	99	99	99	99	99
1991	38	45	49	52	53	54	56	56	56	56	56	56	56	56	56
1992	41	57	60	66	69	70	71	71	72	72	72	72	72	72	72
1993	55	72	82	87	88	88	90	92	93	93	93	93	93	93	93
1994	92	102	107	108	107	107	108	108	108	108	108	108	108	108	108
1995	57	74	79	81	83	85	85	85	85	85	85	85	85	85	85
1996	88	107	114	117	120	120	120	121	121	121	121	121	121	121	121
1997	77	87	90	95	97	99	99	99	99	99	99	99	99	99	99
1998	105	123	131	136	139	141	142	142	142	142	142	142	142	142	142
1999	112	125	130	135	137	142	142	142	142	142	142	142	142	142	142
2000	110	132	136	140	146	146	146	146	146	146	146	146	146	146	146
2001	86	98	106	114	117	118	118	118	118	118	118	118	118	118	118
2002	113	147	148	153	160	160	163	163	163	163	164	164	164	164	164
2003	112	132	138	138	143	146	148	148	148	148	148	148	148	148	148
2004	77	97	100	112	117	118	119	119	119	119	119	119	119	119	119
2005	92	112	118	124	127	127	127	129	128	128	128	128	128	128	128
2006	81	93	98	102	104	106	109	109	110	110	110	110	110	110	110
2007	113	130	137	137	141	143	143	143	143	143	143	143	143	143	143
2008	148	164	167	170	175	177	177	177	177	177	177	177	177	177	
2009	93	106	109	112	112	116	117	117	117	117	117	117	117		
2010	125	142	145	148	149	153	153	153	153	153	153	153			
2011	157	180	180	182	183	184	186	186	186	186	186				
2012	106	133	134	134	134	137	137	137	137	137					
2013	123	151	153	154	157	159	159	159	159						
2014	149	168	172	173	173	174	175	175							
2015	127	138	144	146	146	147	147								
2016	102	129	135	137	139	139									
2017	132	149	150	157	158										
2018	142	164	165	172											
2019	113	128	134												
2020	62	76													
2021	53														

Accident	Age-to-Age Factors														
Year	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192
1989	1.262	1.052	1.086	1.000	1.000	1.011	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1990	1.224	1.049	1.058	1.066	1.000	1.010	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1991	1.184	1.089	1.061	1.019	1.019	1.037	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1992	1.390	1.053	1.100	1.045	1.014	1.014	1.000	1.014	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1993	1.309	1.139	1.061	1.011	1.000	1.023	1.022	1.011	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1994	1.109	1.049	1.009	0.991	1.000	1.009	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1995	1.298	1.068	1.025	1.025	1.024	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1996	1.216	1.065	1.026	1.026	1.000	1.000	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1997	1.130	1.034	1.056	1.021	1.021	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1998	1.171	1.065	1.038	1.022	1.014	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1999	1.116	1.040	1.038	1.015	1.036	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2000	1.200	1.030	1.029	1.043	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2001	1.140	1.082	1.075	1.026	1.009	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2002	1.301	1.007	1.034	1.046	1.000	1.019	1.000	1.000	1.000	1.006	1.000	1.000	1.000	1.000	1.000
2003	1.179	1.045	1.000	1.036	1.021	1.014	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2004	1.260	1.031	1.120	1.045	1.009	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2005	1.217	1.054	1.051	1.024	1.000	1.000	1.016	0.992	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2006	1.148	1.054	1.041	1.020	1.019	1.028	1.000	1.009	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2007	1.150	1.054	1.000	1.029	1.014	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2008	1.108	1.018	1.018	1.029	1.011	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
2009	1.140	1.028	1.028	1.000	1.036	1.009	1.000	1.000	1.000	1.000	1.000	1.000			
2010	1.136	1.021	1.021	1.007	1.027	1.000	1.000	1.000	1.000	1.000	1.000				
2011	1.146	1.000	1.011	1.005	1.005	1.011	1.000	1.000	1.000	1.000					
2012	1.255	1.008	1.000	1.000	1.022	1.000	1.000	1.000	1.000						
2013	1.228	1.013	1.007	1.019	1.013	1.000	1.000	1.000							
2014	1.128	1.024	1.006	1.000	1.006	1.006	1.000								
2015	1.087	1.043	1.014	1.000	1.007	1.000									
2016	1.265	1.047	1.015	1.015	1.000										
2017	1.129	1.007	1.047	1.006											
2018	1.155	1.006	1.042												
2019	1.133	1.047													
2020	1.226														
All Yr Vol	1.179	1.037	1.032	1.020	1.011	1.006	1.002	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000
All Yr Vol Ex. H/L	1.180	1.037	1.031	1.019	1.011	1.006	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol	1.167	1.020	1.019	1.009	1.013	1.005	1.001	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000
10 Yr Vol Ex. H/L	1.168	1.020	1.017	1.007	1.013	1.003	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol	1.172	1.028	1.025	1.008	1.009	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol Ex. H/L	1.161	1.031	1.025	1.006	1.008	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
3 Yr Vol	1.161	1.018	1.036	1.007	1.004	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Miami Valley Risk Management Association
General Liability
December 31, 2021

Closed Claim Counts

Accident	Maturity (Age in Months)																	
Year	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384	396
1989	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89
1990	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	
1991	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56		
1992	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72			
1993	93	92	93	93	93	93	93	93	93	93	93	93	93	93				
1994	108	108	108	108	108	108	108	108	108	108	108	108	108					
1995	85	85	85	85	85	85	85	85	85	85	85	85						
1996	121	121	121	121	121	121	121	121	121	121	121							
1997	99	99	99	99	99	99	99	99	99	99								
1998	142	142	142	142	142	142	142	142	142									
1999	142	142	142	142	142	142	142	142										
2000	146	146	146	146	146	146	146											
2001	118	118	118	118	118	118												
2002	164	164	164	164	164													
2003	148	148	148	148														
2004	119	119	119															
2005	128	128																
2006	110																	
2007																		
2008																		
2009																		
2010																		
2011																		
2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		
2021																		

Accident	Age-to-Age Factors																	
Year	192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	384-396	396-Ult
1989	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1990	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
1991	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
1992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
1993	0.989	1.011	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
1994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
1995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
1996	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
1997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
1998	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
1999	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
2000	1.000	1.000	1.000	1.000	1.000	1.000												
2001	1.000	1.000	1.000	1.000	1.000													
2002	1.000	1.000	1.000	1.000														
2003	1.000	1.000	1.000															
2004	1.000	1.000																
2005	1.000																	
2006																		
2007																		
2008																		
2009																		
2010																		
2011																		
2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		

All Yr Vol	0.999	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
All Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
10 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
10 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
5 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
5 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
3 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		

Miami Valley Risk Management Association
General Liability
December 31, 2021

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	829,023	642,220	829,023	642,220	829,023	642,220	67,352	67,352	143	139
2017	500,000	541,861	541,861	541,861	541,861	541,861	541,861	49,966	49,966	158	158
2018	500,000	848,085	666,213	848,085	666,213	848,085	666,213	63,499	63,499	175	172
2019	500,000	484,556	313,697	484,556	313,697	484,556	313,697	73,470	62,136	143	134
2020	500,000	450,877	182,971	450,877	182,971	450,877	182,971	39,670	34,183	80	76
2021	500,000	156,925	52,456	156,925	52,456	156,925	52,456	50,173	22,549	69	53
Total		$20,942,265	$20,030,356	$17,914,139	$17,002,229	$18,124,003	$17,212,093	$959,768	$915,322	4,201	4,165

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

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2021

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	847,000	846,856	839,639	7,217	144	7,361
2020	1,077,000	1,071,667	751,204	320,463	5,333	325,796
2021	1,412,000	1,142,000	670,126	471,873	270,000	741,874
Total	$14,328,867	$14,053,390	$13,253,837	$799,553	$275,477	$1,075,031

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

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2021

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	193	1.5	43	2,960
2019	847,000	13,876	120	0.9	61	7,058
2020	1,077,000	15,366	143	0.9	70	7,531
2021	1,412,000	16,278	158	1.0	87	8,937
Total	$14,328,867		4,300			$3,332
1994-2020	13,968,848	$217,362	4,182	1.9	$64	3,340

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, 2021

Comparison of Ultimate Loss to Prior Ultimate Loss
Retained Limits

Accident Year	Selected Ultimate Loss @ 12/31/2020	Selected Ultimate Loss @ 12/31/2021	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	608,180	607,680	(500)	-0.1%
2018	588,656	571,312	(17,344)	-2.9%
2019	843,000	847,000	4,000	0.5%
2020	716,000	1,077,000	361,000	50.4%
Total	$12,569,711	$12,916,867	$347,156	2.8%

Notes:
(2) From Pinnacle's analysis of unpaid loss & LAE at 12/31/2020
(3) From Exhibit 4, Col (8)
(4) = (3) - (2)
(5) = (4) / (2)

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2021

Selected Ultimate Loss
Retained Limits

Accident Year	Retention	Industry Development: Incurred Loss Method	Industry Development: Paid Loss Method	MVRMA's Loss Development: Incurred Loss Method	MVRMA's Loss Development: Paid Loss Method	MVRMA's Loss Development: Case Reserve Method	Selected Ultimate Loss
(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	654,567	654,585	654,562	654,562	654,562	654,562
2009	200,000	324,521	324,538	324,515	324,515	324,515	324,515
2010	250,000	389,396	389,438	389,384	389,384	389,384	389,384
2011	250,000	879,995	880,184	879,940	879,940	879,940	879,940
2012	250,000	559,179	559,418	559,108	559,108	559,108	559,108
2013	250,000	582,853	583,352	582,706	582,706	582,706	582,706
2014	250,000	1,163,280	1,165,270	1,162,693	1,162,693	1,162,693	1,162,693
2015	250,000	651,926	654,159	651,268	651,268	651,268	651,268
2016	250,000	449,109	452,191	448,203	448,203	448,203	448,203
2017	250,000	610,137	618,540	607,680	607,680	607,680	607,680
2018	250,000	575,943	591,915	571,312	571,312	571,312	571,312
2019	250,000	860,641	901,291	846,856	839,639	846,856	847,000
2020	250,000	1,106,838	865,569	1,077,025	757,213	1,610,045	1,077,000
2021	250,000	1,385,838	1,165,176	1,411,683	1,168,593	1,524,755	1,412,000
Total		$14,355,717	$13,967,119	$14,328,432	$13,758,313	$14,974,524	$14,328,867

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)

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2021

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	846,856	1.000	846,856
2020	1,071,667	1.005	1,077,025
2021	1,142,000	1.236	1,411,683
Total	$14,053,390		$14,328,432

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

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2021

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	$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	751,204	1.008	757,213
2021	670,126	1.744	1,168,593
Total	$13,253,837		$13,758,313

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, 2021

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	7,217	100.0%	100.0%	100.0%	846,856
2020	250,000	751,204	320,463	99.5%	99.2%	37.3%	1,610,045
2021	250,000	670,126	471,873	80.9%	57.3%	55.2%	1,524,755
Total		$13,253,837	$799,553				$14,974,524

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)]

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2021

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	654,567
2009	324,515	1.000	324,521
2010	389,384	1.000	389,396
2011	879,940	1.000	879,995
2012	559,108	1.000	559,179
2013	582,706	1.000	582,853
2014	1,162,693	1.001	1,163,280
2015	651,268	1.001	651,926
2016	448,203	1.002	449,109
2017	607,680	1.004	610,137
2018	571,312	1.008	575,943
2019	846,856	1.016	860,641
2020	1,071,667	1.033	1,106,838
2021	1,142,000	1.214	1,385,838
Total	$14,053,390		$14,355,717

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, 2021

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	654,585
2009	324,515	1.000	324,538
2010	389,384	1.000	389,438
2011	879,940	1.000	880,184
2012	559,108	1.001	559,418
2013	582,706	1.001	583,352
2014	1,162,693	1.002	1,165,270
2015	651,268	1.004	654,159
2016	448,203	1.009	452,191
2017	607,680	1.018	618,540
2018	571,312	1.036	591,915
2019	839,639	1.073	901,291
2020	751,204	1.152	865,569
2021	670,126	1.739	1,165,176
Total	$13,253,837		$13,967,119

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, 2021

Incurred Loss at $250K SIR

Accident	Maturity (Age in Months)														
Year	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
1989	129,614	124,280	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141
1990	35,099	36,757	36,757	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734
1991	48,696	68,976	68,021	68,232	68,232	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626
1992	92,696	65,630	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858
1993	77,321	70,484	63,871	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660
1994	97,749	91,568	96,834	96,023	96,833	96,833	96,833	96,833	96,833	96,833	96,833	96,833	96,833	96,833	96,833
1995	94,348	130,765	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639
1996	108,016	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901
1997	230,682	225,205	224,935	225,205	225,205	225,205	225,205	225,205	225,205	225,205	225,205	225,205	225,205	225,205	225,205
1998	132,322	135,150	135,150	135,150	135,150	135,150	135,150	135,150	135,150	135,150	135,150	135,150	135,150	135,150	135,150
1999	489,714	495,092	492,466	492,466	492,466	492,466	492,466	492,466	492,466	492,466	492,466	492,466	492,466	492,466	492,466
2000	144,984	130,204	130,204	130,204	130,204	130,204	130,204	130,204	130,204	130,204	130,204	130,204	130,204	130,204	130,204
2001	372,970	505,710	505,931	505,931	505,931	505,931	505,931	505,931	505,931	505,931	505,931	505,931	505,931	505,931	505,931
2002	337,524	364,735	369,940	369,496	369,496	369,496	369,496	369,496	369,496	369,496	369,496	369,496	369,496	369,496	369,496
2003	274,711	265,711	265,463	265,463	265,463	265,463	265,463	265,463	265,463	265,463	265,463	265,463	265,463	265,463	265,463
2004	236,522	229,621	229,621	229,621	229,621	229,621	229,621	229,621	229,621	229,621	229,621	229,621	229,621	229,621	229,621
2005	410,159	369,470	369,470	369,470	369,470	369,470	369,470	369,470	369,470	369,470	369,470	369,470	369,470	369,470	369,470
2006	393,270	497,210	497,210	497,210	497,210	497,210	497,210	497,210	497,206	497,206	497,206	497,206	497,206	497,206	497,206
2007	257,082	405,890	405,890	405,890	405,890	405,890	405,890	405,891	405,891	405,891	405,891	405,891	405,891	405,891	405,891
2008	708,253	704,562	704,562	704,562	704,562	704,562	704,562	704,562	704,562	704,562	704,562	704,562	704,562	704,562	
2009	327,630	324,516	324,516	324,516	324,516	324,515	324,515	324,515	324,515	324,515	324,515	324,515	324,515		
2010	354,134	389,384	389,384	389,384	389,384	389,384	389,384	389,384	389,384	389,384	389,384	389,384			
2011	888,222	879,940	879,940	879,940	879,940	879,940	879,940	879,940	879,940	879,940	879,940				
2012	549,819	560,758	559,608	559,108	559,108	559,108	559,108	559,108	559,108	559,108					
2013	433,542	566,557	582,706	582,706	582,706	582,706	582,706	582,706	582,706						
2014	1,223,786	1,202,519	1,162,693	1,162,693	1,162,693	1,162,693	1,162,693	1,162,693							
2015	438,921	665,068	651,268	651,268	651,268	651,268	651,268								
2016	390,601	448,758	448,758	448,203	448,203	448,203									
2017	483,981	607,276	606,847	608,180	607,680										
2018	780,520	566,419	588,656	571,312											
2019	657,243	838,696	846,856												
2020	603,894	1,071,667													
2021	1,142,000														

Accident	Age-to-Age Factors														
Year	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192
1989	0.959	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1990	1.047	1.000	0.891	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1991	1.416	0.986	1.003	1.000	1.108	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1992	0.708	0.973	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1993	0.912	0.906	0.997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1994	0.937	1.058	0.992	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1995	1.386	0.655	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1996	0.860	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1997	0.976	0.999	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1998	1.021	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1999	1.011	0.995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2000	0.898	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2001	1.356	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2002	1.081	1.014	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2003	0.967	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2004	0.971	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2005	0.901	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2006	1.264	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2007	1.579	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2008	0.995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
2009	0.990	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
2010	1.100	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
2011	0.991	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
2012	1.020	0.998	0.999	1.000	1.000	1.000	1.000	1.000	1.000						
2013	1.307	1.029	1.000	1.000	1.000	1.000	1.000	1.000							
2014	0.983	0.967	1.000	1.000	1.000	1.000	1.000								
2015	1.515	0.979	1.000	1.000	1.000	1.000									
2016	1.149	1.000	0.999	1.000	1.000										
2017	1.255	0.999	1.002	0.999											
2018	0.726	1.039	0.971												
2019	1.276	1.010													
2020	1.775														
All Yr Vol	1.112	0.995	0.998	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
All Yr Vol Ex. H/L	1.080	0.999	0.998	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol	1.148	0.999	0.997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol Ex. H/L	1.139	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol	1.211	1.005	0.995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol Ex. H/L	1.237	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
3 Yr Vol	1.213	1.015	0.990	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Prior	1.180	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Selected	1.230	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
LDFs	1.236	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
% Incurred	80.9%	99.5%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2021

Incurred Loss at $250K SIR

Accident	Maturity (Age in Months)																	
Year	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384	396
1989	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141
1990	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	
1991	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626		
1992	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858			
1993	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660				
1994	96,833	96,833	96,833	96,833	96,833	96,833	96,833	96,833	96,833	96,833	96,833	96,833	96,833					
1995	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639						
1996	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901							
1997	225,205	225,205	225,205	225,205	225,205	225,205	225,205	225,205	225,205	225,205								
1998	135,150	135,150	135,150	135,150	135,150	135,150	135,150	135,150	135,150									
1999	492,466	492,466	492,466	492,466	492,466	492,466	492,466	492,466										
2000	130,204	130,204	130,204	130,204	130,204	130,204	130,204											
2001	505,931	505,931	505,931	505,931	505,931	505,931												
2002	369,496	369,496	369,496	369,496	369,496													
2003	265,463	265,463	265,463	265,463														
2004	229,621	229,621	229,621															
2005	369,470	369,470																
2006	497,206																	
2007																		
2008																		
2009																		
2010																		
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2015																		
2016																		
2017																		
2018																		
2019																		
2020																		
2021																		

Accident	Age-to-Age Factors																	
Year	192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	384-396	396-Ult
1989	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1990	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
1991	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
1992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
1993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
1994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
1995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
1996	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
1997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
1998	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
1999	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
2000	1.000	1.000	1.000	1.000	1.000	1.000												
2001	1.000	1.000	1.000	1.000	1.000													
2002	1.000	1.000	1.000	1.000														
2003	1.000	1.000	1.000															
2004	1.000	1.000																
2005	1.000																	
2006																		
2007																		
2008																		
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2011																		
2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		

All Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
All Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
10 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
10 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
5 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
5 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
3 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Prior	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Selected	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
LDFs	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
% Incurred	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2021

Paid Loss at $250K SIR

Accident Year	Maturity (Age in Months) 12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
1989	10,609	114,275	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141
1990	30,499	36,756	36,756	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734
1991	33,797	68,021	68,021	68,232	68,232	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626
1992	23,506	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858
1993	56,571	56,571	56,571	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660
1994	85,569	91,568	96,834	96,023	96,833	96,833	96,833	96,833	96,833	96,833	96,833	96,833	96,833	96,833	96,833
1995	67,455	85,765	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639
1996	82,416	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901
1997	159,932	225,205	224,935	225,205	225,205	225,205	225,205	225,205	225,205	225,205	225,205	225,205	225,205	225,205	225,205
1998	121,352	135,150	135,150	135,150	135,150	135,150	135,150	135,150	135,150	135,150	135,150	135,150	135,150	135,150	135,150
1999	232,722	492,466	492,466	492,466	492,466	492,466	492,466	492,466	492,466	492,466	492,466	492,466	492,466	492,466	492,466
2000	89,084	130,204	130,204	130,204	130,204	130,204	130,204	130,204	130,204	130,204	130,204	130,204	130,204	130,204	130,204
2001	250,862	483,069	505,931	505,931	505,931	505,931	505,931	505,931	505,931	505,931	505,931	505,931	505,931	505,931	505,931
2002	197,648	364,735	367,177	369,496	369,496	369,496	369,496	369,496	369,496	369,496	369,496	369,496	369,496	369,496	369,496
2003	243,339	265,711	265,463	265,463	265,463	265,463	265,463	265,463	265,463	265,463	265,463	265,463	265,463	265,463	265,463
2004	209,790	229,621	229,621	229,621	229,621	229,621	229,621	229,621	229,621	229,621	229,621	229,621	229,621	229,621	229,621
2005	301,573	369,470	369,470	369,470	369,470	369,470	369,470	369,470	369,470	369,470	369,470	369,470	369,470	369,470	369,470
2006	282,983	497,210	497,210	497,210	497,210	497,210	497,210	497,210	497,206	497,206	497,206	497,206	497,206	497,206	497,206
2007	222,617	400,890	405,890	405,890	405,890	405,890	405,890	405,891	405,891	405,891	405,891	405,891	405,891	405,891	405,891
2008	478,667	704,562	704,562	704,562	704,562	704,562	704,562	704,562	704,562	704,562	704,562	704,562	704,562	704,562	
2009	316,051	324,516	324,516	324,516	324,516	324,515	324,515	324,515	324,515	324,515	324,515	324,515	324,515		
2010	306,514	389,384	389,384	389,384	389,384	389,384	389,384	389,384	389,384	389,384	389,384	389,384			
2011	801,509	874,790	879,940	879,940	879,940	879,940	879,940	879,940	879,940	879,940	879,940				
2012	369,587	551,608	559,108	559,108	559,108	559,108	559,108	559,108	559,108	559,108					
2013	356,625	562,244	582,706	582,706	582,706	582,706	582,706	582,706	582,706						
2014	909,279	1,162,693	1,162,693	1,162,693	1,162,693	1,162,693	1,162,693	1,162,693							
2015	264,349	639,435	651,268	651,268	651,268	651,268	651,268								
2016	302,576	448,203	448,203	448,203	448,203	448,203									
2017	287,037	605,776	606,847	607,680	607,680										
2018	325,151	566,420	574,250	571,312											
2019	324,837	732,114	839,639												
2020	555,849	751,204													
2021	670,126														

Accident Year	Age-to-Age Factors 12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192
1989	10.772	1.086	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1990	1.205	1.000	0.891	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1991	2.013	1.000	1.003	1.000	1.108	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1992	2.717	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1993	1.000	1.000	1.125	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1994	1.070	1.058	0.992	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1995	1.271	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1996	1.127	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1997	1.408	0.999	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1998	1.114	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1999	2.116	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2000	1.462	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2001	1.926	1.047	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2002	1.845	1.007	1.006	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2003	1.092	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2004	1.095	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2005	1.225	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2006	1.757	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2007	1.801	1.012	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2008	1.472	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
2009	1.027	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
2010	1.270	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
2011	1.091	1.006	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
2012	1.492	1.014	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
2013	1.577	1.036	1.000	1.000	1.000	1.000	1.000	1.000							
2014	1.279	1.000	1.000	1.000	1.000	1.000	1.000								
2015	2.419	1.019	1.000	1.000	1.000	1.000									
2016	1.481	1.000	1.000	1.000	1.000										
2017	2.110	1.002	1.001	1.000											
2018	1.742	1.014	0.995												
2019	2.254	1.147													
2020	1.351														
All Yr Vol	1.508	1.018	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
All Yr Vol Ex. H/L	1.499	1.009	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol	1.533	1.025	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol Ex. H/L	1.568	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol	1.729	1.043	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol Ex. H/L	1.771	1.011	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
3 Yr Vol	1.700	1.061	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Prior	1.750	1.009	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Selected	1.730	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
LDFs	1.744	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
% Paid	57.3%	99.2%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2021

Paid Loss at $250K SIR

Accident Year	Maturity (Age in Months) 192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384	396
1989	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141	124,141
1990	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	32,734	
1991	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626	75,626		
1992	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858	63,858			
1993	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660	63,660				
1994	96,833	96,833	96,833	96,833	96,833	96,833	96,833	96,833	96,833	96,833	96,833	96,833	96,833					
1995	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639	85,639						
1996	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901	92,901							
1997	225,205	225,205	225,205	225,205	225,205	225,205	225,205	225,205	225,205	225,205								
1998	135,150	135,150	135,150	135,150	135,150	135,150	135,150	135,150	135,150									
1999	492,466	492,466	492,466	492,466	492,466	492,466	492,466	492,466										
2000	130,204	130,204	130,204	130,204	130,204	130,204	130,204											
2001	505,931	505,931	505,931	505,931	505,931	505,931												
2002	369,496	369,496	369,496	369,496	369,496													
2003	265,463	265,463	265,463	265,463														
2004	229,621	229,621	229,621															
2005	369,470	369,470																
2006	497,206																	
2007																		
2008																		
2009																		
2010																		
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2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		
2021																		

Accident Year	Age-to-Age Factors 192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	384-396	396-Ult
1989	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1990	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
1991	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
1992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
1993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
1994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
1995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
1996	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
1997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
1998	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
1999	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
2000	1.000	1.000	1.000	1.000	1.000	1.000												
2001	1.000	1.000	1.000	1.000	1.000													
2002	1.000	1.000	1.000	1.000														
2003	1.000	1.000	1.000															
2004	1.000	1.000																
2005	1.000																	
2006																		
2007																		
2008																		
2009																		
2010																		
2011																		
2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		

All Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
All Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
10 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
10 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
5 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
5 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
3 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Prior	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Selected	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
LDFs	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
% Paid	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2021

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	191	2	193	0	193
2019	118	2	120	0	120
2020	115	27	142	1	143
2021	75	73	148	10	158
Total	4,185	104	4,289	11	4,300

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, 2021

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	193	1.000	193
2019	120	1.000	120
2020	142	1.004	143
2021	148	1.069	158
Total	4,289		4,300

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, 2021

Reported Claim Counts

Accident	Maturity (Age in Months)														
Year	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
1989	15	17	17	17	17	17	17	17	17	17	17	17	17	17	17
1990	21	22	22	22	22	22	22	22	22	22	22	22	22	22	22
1991	23	26	26	27	27	27	27	27	27	27	27	27	27	27	27
1992	21	24	24	24	24	24	24	24	24	24	24	24	24	24	24
1993	26	28	28	28	28	28	28	28	28	28	28	28	28	28	28
1994	42	43	44	44	44	44	44	44	44	44	44	44	44	44	44
1995	64	68	68	68	68	68	68	68	68	68	68	68	68	68	68
1996	83	92	92	92	92	92	92	92	92	92	92	92	92	92	92
1997	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88
1998	109	114	114	114	114	114	114	114	114	114	114	114	114	114	114
1999	148	154	154	154	154	154	154	154	154	154	154	154	154	154	154
2000	157	159	159	159	159	159	159	159	159	159	159	159	159	159	159
2001	124	131	131	131	131	131	131	131	131	131	131	131	131	131	131
2002	136	150	150	150	150	150	150	150	150	150	150	150	150	150	150
2003	175	185	185	185	185	185	185	185	185	185	185	185	185	185	185
2004	156	178	178	178	178	178	178	178	178	178	178	178	178	178	178
2005	149	169	169	169	169	169	169	169	169	169	169	169	169	169	169
2006	162	173	173	173	173	173	173	173	173	173	173	173	173	173	173
2007	150	163	163	163	163	163	163	163	163	163	163	163	163	163	163
2008	166	176	176	176	176	176	176	176	176	176	176	176	176	176	
2009	164	173	173	173	173	173	173	173	173	173	173	173	173		
2010	123	137	137	137	137	137	137	137	137	137	137	137			
2011	171	184	184	184	184	184	184	184	184	184	184				
2012	171	180	180	180	180	180	180	180	180	180					
2013	158	169	169	169	170	170	170	170	170						
2014	163	169	169	169	169	169	169	169							
2015	158	169	171	171	171	171	171								
2016	164	172	172	172	172	172									
2017	157	167	171	168	168										
2018	183	192	193	193											
2019	107	119	120												
2020	128	142													
2021	148														

Accident	Age-to-Age Factors														
Year	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192
1989	1.133	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1990	1.048	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1991	1.130	1.000	1.038	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1992	1.143	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1993	1.077	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1994	1.024	1.023	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1995	1.063	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1996	1.108	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1998	1.046	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1999	1.041	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2000	1.013	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2001	1.056	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2002	1.103	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2003	1.057	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2004	1.141	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2005	1.134	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2006	1.068	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2007	1.087	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2008	1.060	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
2009	1.055	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
2010	1.114	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
2011	1.076	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
2012	1.053	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
2013	1.070	1.000	1.000	1.006	1.000	1.000	1.000	1.000							
2014	1.037	1.000	1.000	1.000	1.000	1.000	1.000								
2015	1.070	1.012	1.000	1.000	1.000	1.000									
2016	1.049	1.000	1.000	1.000	1.000										
2017	1.064	1.024	0.982	1.000											
2018	1.049	1.005	1.000												
2019	1.112	1.008													
2020	1.109														
All Yr Vol	1.070	1.002	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
All Yr Vol Ex. H/L	1.071	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol	1.066	1.005	0.998	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol Ex. H/L	1.066	1.003	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol	1.072	1.010	0.997	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol Ex. H/L	1.071	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
3 Yr Vol	1.084	1.013	0.994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Prior	1.065	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Selected	1.065	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
LDFs	1.069	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
% Developed	93.5%	99.6%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2021

Reported Claim Counts

Accident Year	Maturity (Age in Months) 192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384	396
1989	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
1990	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	
1991	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27		
1992	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24			
1993	28	28	28	28	28	28	28	28	28	28	28	28	28	28				
1994	44	44	44	44	44	44	44	44	44	44	44	44	44					
1995	68	68	68	68	68	68	68	68	68	68	68	68						
1996	92	92	92	92	92	92	92	92	92	92	92							
1997	88	88	88	88	88	88	88	88	88	88								
1998	114	114	114	114	114	114	114	114	114									
1999	154	154	154	154	154	154	154	154										
2000	159	159	159	159	159	159	159											
2001	131	131	131	131	131	131												
2002	150	150	150	150	150													
2003	185	185	185	185														
2004	178	178	178															
2005	169	169																
2006	173																	
2007																		
2008																		
2009																		
2010																		
2011																		
2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		
2021																		

Accident Year	Age-to-Age Factors 192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	384-396	396-Ult
1989	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1990	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
1991	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
1992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
1993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
1994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
1995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
1996	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
1997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
1998	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
1999	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
2000	1.000	1.000	1.000	1.000	1.000	1.000												
2001	1.000	1.000	1.000	1.000	1.000													
2002	1.000	1.000	1.000	1.000														
2003	1.000	1.000	1.000															
2004	1.000	1.000																
2005	1.000																	
2006																		
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2017																		
2018																		
2019																		
2020																		

	192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	384-396	396-Ult
All Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
All Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
10 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
10 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
5 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
5 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
3 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Prior	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Selected	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
LDFs	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
% Developed	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2021

Closed Claim Counts

Accident	Maturity (Age in Months)														
Year	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
1989	10	15	17	17	17	17	17	17	17	17	17	17	17	17	17
1990	17	21	21	22	22	22	22	22	22	22	22	22	22	22	22
1991	17	24	26	27	27	27	27	27	27	27	27	27	27	27	27
1992	12	23	24	24	24	24	24	24	24	24	24	24	24	24	24
1993	22	25	28	28	28	28	28	28	28	28	28	28	28	28	28
1994	36	43	44	44	44	44	44	44	44	44	44	44	44	44	44
1995	52	68	68	68	68	68	68	68	68	68	68	68	68	68	68
1996	70	92	92	92	92	92	92	92	92	92	92	92	92	92	92
1997	76	88	88	88	88	88	88	88	88	88	88	88	88	88	88
1998	99	114	114	114	114	114	114	114	114	114	114	114	114	114	114
1999	130	153	154	154	154	154	154	154	154	154	154	154	154	154	154
2000	124	159	159	159	159	159	159	159	159	159	159	159	159	159	159
2001	107	130	131	131	131	131	131	131	131	131	131	131	131	131	131
2002	120	150	149	150	150	150	150	150	150	150	150	150	150	150	150
2003	148	185	185	185	185	185	185	185	185	185	185	185	185	185	185
2004	131	178	178	178	178	178	178	178	178	178	178	178	178	178	178
2005	129	169	169	169	169	169	169	169	169	169	169	169	169	169	169
2006	128	173	173	173	173	173	173	173	173	173	173	173	173	173	173
2007	123	162	163	163	163	163	163	163	163	163	163	163	163	163	163
2008	166	176	176	176	176	176	176	176	176	176	176	176	176	176	
2009	147	173	173	173	173	173	173	173	173	173	173	173	173		
2010	95	137	137	137	137	137	137	137	137	137	137	137			
2011	142	183	183	184	184	184	184	184	184	184	184				
2012	135	179	179	180	180	180	180	180	180	180					
2013	132	168	169	169	170	170	170	170	170						
2014	127	168	169	169	169	169	169	169							
2015	121	168	171	171	171	171	171								
2016	125	171	171	172	172	172									
2017	106	164	171	167	168										
2018	147	192	191	193											
2019	79	119	118												
2020	84	115													
2021	75														

Accident	Age-to-Age Factors														
Year	12-24	24-36	36-48	48-60	60-72	72-84	84-96	96-108	108-120	120-132	132-144	144-156	156-168	168-180	180-192
1989	1.500	1.133	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1990	1.235	1.000	1.048	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1991	1.412	1.083	1.038	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1992	1.917	1.043	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1993	1.136	1.120	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1994	1.194	1.023	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1995	1.308	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1996	1.314	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1997	1.158	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1998	1.152	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1999	1.177	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2000	1.282	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2001	1.215	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2002	1.250	0.993	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2003	1.250	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2004	1.359	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2005	1.310	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2006	1.352	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2007	1.317	1.006	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2008	1.060	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
2009	1.177	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
2010	1.442	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
2011	1.289	1.000	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
2012	1.326	1.000	1.006	1.000	1.000	1.000	1.000	1.000	1.000						
2013	1.273	1.006	1.000	1.006	1.000	1.000	1.000	1.000							
2014	1.323	1.006	1.000	1.000	1.000	1.000	1.000								
2015	1.388	1.018	1.000	1.000	1.000	1.000									
2016	1.368	1.000	1.006	1.000	1.000										
2017	1.547	1.043	0.977	1.006											
2018	1.306	0.995	1.010												
2019	1.506	0.992													
2020	1.369														

All Yr Vol	1.294	1.005	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
All Yr Vol Ex. H/L	1.304	1.005	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol	1.358	1.006	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol Ex. H/L	1.349	1.003	1.002	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol	1.407	1.010	0.999	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol Ex. H/L	1.406	1.004	1.002	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
3 Yr Vol	1.374	1.011	0.998	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2021

Closed Claim Counts

Accident	Maturity (Age in Months)																	
Year	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360	372	384	396
1989	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
1990	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	
1991	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27		
1992	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24			
1993	28	28	28	28	28	28	28	28	28	28	28	28	28	28				
1994	44	44	44	44	44	44	44	44	44	44	44	44	44					
1995	68	68	68	68	68	68	68	68	68	68	68	68						
1996	92	92	92	92	92	92	92	92	92	92	92							
1997	88	88	88	88	88	88	88	88	88	88								
1998	114	114	114	114	114	114	114	114	114									
1999	154	154	154	154	154	154	154	154										
2000	159	159	159	159	159	159	159											
2001	131	131	131	131	131	131												
2002	150	150	150	150	150													
2003	185	185	185	185														
2004	178	178	178															
2005	169	169																
2006	173																	
2007																		
2008																		
2009																		
2010																		
2011																		
2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		
2021																		

Accident	Age-to-Age Factors																	
Year	192-204	204-216	216-228	228-240	240-252	252-264	264-276	276-288	288-300	300-312	312-324	324-336	336-348	348-360	360-372	372-384	384-396	396-Ult
1989	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1990	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
1991	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
1992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
1993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
1994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000						
1995	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
1996	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
1997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
1998	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
1999	1.000	1.000	1.000	1.000	1.000	1.000	1.000											
2000	1.000	1.000	1.000	1.000	1.000	1.000												
2001	1.000	1.000	1.000	1.000	1.000													
2002	1.000	1.000	1.000	1.000														
2003	1.000	1.000	1.000															
2004	1.000	1.000																
2005	1.000																	
2006																		
2007																		
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2011																		
2012																		
2013																		
2014																		
2015																		
2016																		
2017																		
2018																		
2019																		
2020																		

All Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
All Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
10 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
10 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
5 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
5 Yr Vol Ex. H/L	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000					
3 Yr Vol	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			

Miami Valley Risk Management Association
Property and Auto Physical Damage
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Loss and Count Summary

Accident Year		Retention	Total Limits Incurred	Total Limits Paid	Retention Limits Incurred	Retention Limits Paid	Deductibles Incurred	Deductibles Paid	Claim Counts Reported	Claim Counts 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	193	191
2019		250,000	1,558,856	903,332	846,856	839,639	134,538	133,481	120	118
2020		250,000	1,152,826	832,362	1,071,667	751,204	149,173	120,111	142	115
2021		250,000	1,142,000	670,126	1,142,000	670,126	248,781	178,798	148	75
Total			$16,343,305	$14,895,443	$14,053,390	$13,253,837	$1,967,032	$1,866,930	4,289	4,185

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