

MVRMA

Miami Valley Risk Management Association

**COMPREHENSIVE ANNUAL
FINANCIAL REPORT
YEAR ENDED DECEMBER 31, 2018**

Serving the Cities of Southwest Ohio since 1988



88 East Broad Street
Columbus, Ohio 43215
IPARreport@ohioauditor.gov
(800) 282-0370

Members of the Board
Miami Valley Risk Management Association
3085 Woodman Dr. Ste 200
Kettering, OH 45420

We have reviewed the *Independent Auditor's Report* of the Miami Valley Risk Management Association, Montgomery County, prepared by Julian & Grube, Inc., for the audit period January 1, 2018 through December 31, 2018. Based upon this review, we have accepted these reports in lieu of the audit required by Section 117.11, Revised Code. The Auditor of State did not audit the accompanying financial statements and, accordingly, we are unable to express, and do not express an opinion on them.

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

A handwritten signature in black ink that reads "Keith Faber".

Keith Faber
Auditor of State
Columbus, Ohio

August 7, 2019

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MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

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Miami Valley Risk Management Association

COMPREHENSIVE ANNUAL FINANCIAL REPORT
YEAR ENDED DECEMBER 31, 2018

Published June 17, 2019

Prepared by:

Thomas L. Judy, Executive Director

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June 17, 2019
President Dina Minneci & the Board of Trustees
Miami Valley Risk Management Association

Re: **MVRMA CAFR for the Period Ended December 31, 2018**

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

The Comprehensive Annual Financial Report of the Miami Valley Risk Management Association (MVRMA) for the year ended December 31, 2018 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, 2018. 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.

3085 Woodman Drive, Suite 200 • Kettering, Ohio 45420
(937) 438-8878 • Fax (937) 438-8330
www.mvrma.com

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 31, 2016, MVRMA had twenty (20) 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 and the City of Englewood, City of Bellbrook and City of Centerville joining in 2004. 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 overall economic outlook for the Dayton region was described as slow and steady which has been the mantra from Area Chamber of Commerce's Research Advisory Council (RAC) for the past couple of years. The Committee's 2018 Dayton Region Economic Outlook included the following:

- The Dayton region is starting to rebound in the manufacturing sector, with big wins like Fuyao Glass America in Moraine, but also with growth and expansion in medium to small manufacturers.
- The RAC expects the industry to grow faster than state and the nation, however, employers in the region say they are struggling to find candidates who can pass a drug test.
- The demand for housing downtown is on the rise and the city has answered the call. Since the release of the Greater Downtown Dayton Plan in 2010, 332 housing units have been added to the core of downtown.

The unemployment rate for the Dayton MSA was 4.6% for 2018 which is an increase of 0.4% from 2017.

Cincinnati Area

Greater Cincinnati's forecast shows long-term growth according to Lohre & Associates, Norada Real Estate and Cincinnati.com:

- The Supply Management's (ISM) Semiannual Economic Forecast paints an optimistic picture for ongoing economic growth for both the manufacturing and non-manufacturing sectors as part of the recovery that kicked off in earnest in mid-2009.
- The Cincinnati housing market has an unusual combination of consistently high home values with a low cost of living. Homes sales were down 76% compared with a year ago.
- The Greater Cincinnati's economy topped \$138 billion last year, outpacing U.S. Growth, new federal data shows.

The unemployment rate for the Cincinnati was 4.0% for 2018 which is an increase of 0.2% from 2017.

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. 2018 was the fourth-costliest year since 1980 in terms of insured losses. This was due to an accumulation of severe and costly events in the second half of the year. The overall economic impact was \$160 billion, of which \$80 billion was insured, which was significantly higher than the 30-year average of \$41 billion. Weather extremes, wildfires, catastrophic losses and investment earnings remain areas of concern for re/insurers. Looking ahead, upward pressure on property rates is expected and buyers of property insurance should budget conservatively. General casualty lines of coverage may see modest increases, while others such as law enforcement liability, commercial automobile liability and employment practices liability (EPL) may see higher price increases. Dramatic price increases and reductions in coverage can be expected for Sexual Abuse and Molestation.

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 2018 was \$2,350,000 while the Shock Loss Fund balance as of 12/31/18 was \$3,127,017. A recent actuarial study indicated this balance is sufficient at a confidence level in excess of 99% to satisfy the pool's claims liabilities under any feasible scenario.
- 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 2018.
- MVRMA modified its investment policy and approach in 2013 to increase its allocation in high-grade corporate bonds and to increase the duration of the portfolio to better match the Association's liabilities. This approach has created greater investment yield with minimal additional risk exposure. MVRMA continued to contract with SJS Investment Consulting, Inc. for investment advisory services in 2018. The investment portfolios continue to outperform established benchmarks.
- The Association entered into a bank letter of credit agreement in 2018 to enable borrowing up to \$1 million for short term cash flow needs. This arrangement is intended to avoid the need to sell investments at a loss in the event a significant amount of cash is required to liquidate a claim.
- Pursuant to its policy of returning unused loss funds to its members when a loss year is closed. In 2018, MVRMA made refunds of \$1,408,465 and \$1,556,020 to its members from the closure of Loss Year 24 (2012) and Loss Year 25 (2013). In 2017, MVRMA made refunds of \$1,519,932 to its members from the closure of Loss Year 23 (2011). MVRMA has refunded over \$19 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 March 2018 and is reviewed annually.

Major MVRMA Initiatives During 2018

Among the Association's achievements during the fiscal period ending December 31, 2018 were the following:

- Over 1,200 participants attended 56 MVRMA-sponsored training courses throughout the year. This year marked the highest number of attendees on record.
- 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 comprehensive annual financial report for the fiscal year ended December 31, 2017. This was the 25th 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 comprehensive annual 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 comprehensive annual financial report for the year ended December 31, 2018 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

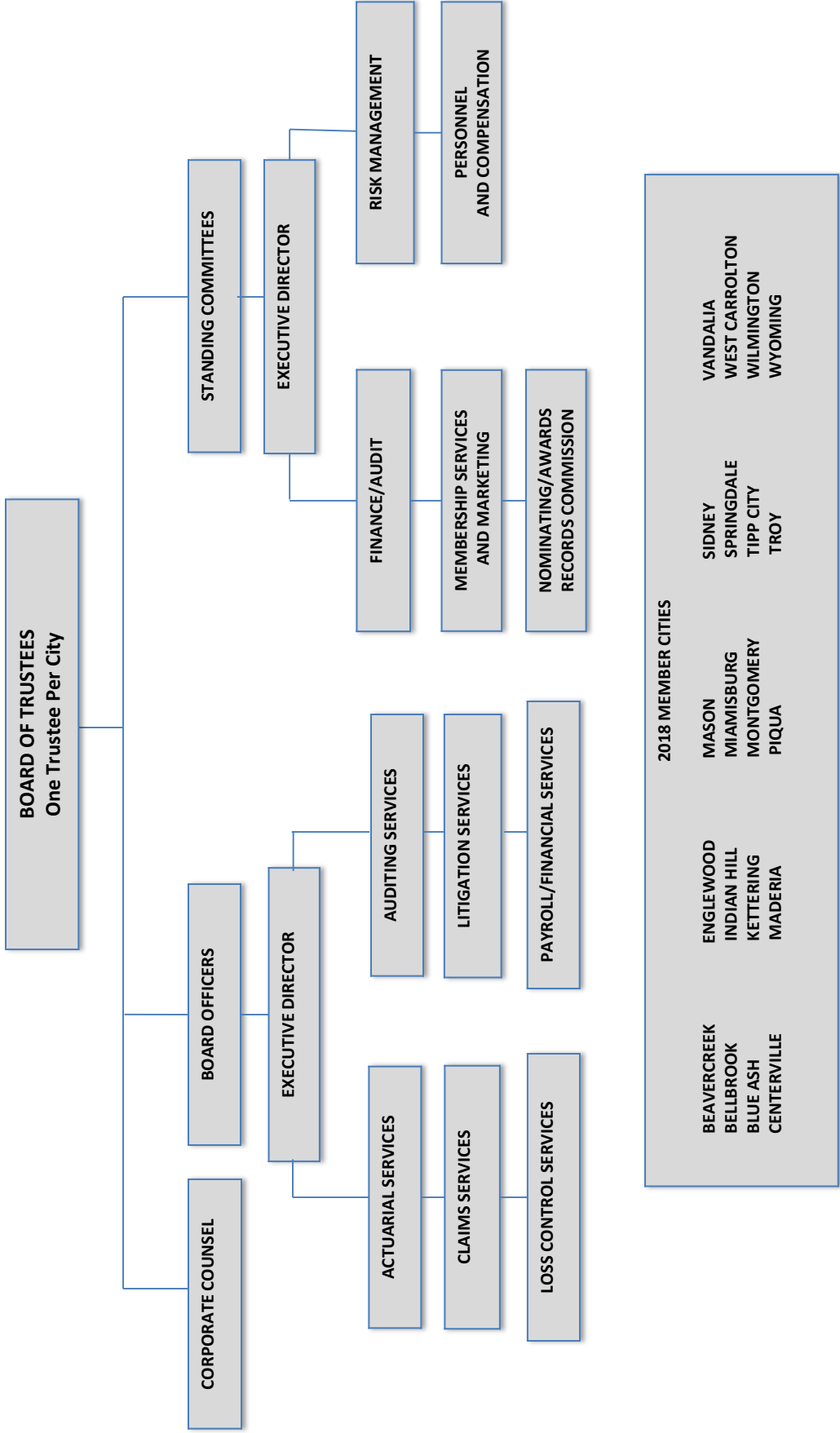
**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION
MEMBERS OF THE BOARD OF TRUSTEES
As of December 31, 2018**

<u>Member City</u>	<u>Trustee</u>	<u>Alternate</u>
Beavercreek	Bill Kucera	Jill Bissinger
Bellbrook	Melissa Dodd	Melissa Jones
Blue Ash	Sherry Poppe	Amy Moore
Centerville	Jonathan Hudson	Wayne Davis
Englewood	Eric A. Smith	Barbara McCormick
Indian Hill	Dina Minneci	Scott Gully
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	Cynthia Holtzapple
Sidney	Ginger Adams	Mark Cundiff
Springdale	Amanda Zimmerlin	John Jones
Tipp City	John Green	Timothy Eggleston
Troy	Patrick Titterington	Sue Knight
Vandalia	Julie Trick	Bridgette Leiter
West Carrollton	Thomas Reilly	Teresa Brooks
Wilmington	Jeanne Pope	Marian Miller
Wyoming	Lynn Tetley	Rusty Herzog

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION
OFFICERS OF THE BOARD OF TRUSTEES
As of December 31, 2018**

<u>Board Office</u>	<u>Office Holder</u>	<u>Member City</u>
President	Dina Minneci	Village of Indian Hill
Vice-President	Bill Kucera	City of Beavercreek
Treasurer	Ginger Adams	City of Sidney
Secretary	Julie Trick	City of Vandalia

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION ORGANIZATIONAL CHART





Government Finance Officers Association

Certificate of
Achievement
for Excellence
in Financial
Reporting

Presented to

**Miami Valley Risk
Management Association, Ohio**

For its Comprehensive Annual
Financial Report
for the Fiscal Year Ended

December 31, 2017

Christopher P. Morrill

Executive Director/CEO

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Julian & Grube, Inc.

Serving Ohio Local Governments

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Independent Auditor's Report

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

To the Board of Trustees:

Report on the Financial Statements

We have audited the accompanying financial statements of the Miami Valley Risk Management Association (MVRMA), Montgomery County, Ohio (a not-for-profit corporation), as of and for the year ended December 31, 2018, and the related notes to the financial statements, which collectively comprise the MVRMA's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for preparing and fairly presenting these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes designing, implementing, and maintaining internal control relevant to preparing and fairly presenting financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to opine on these financial statements based on our audit. We audited in accordance with auditing standards generally accepted in the United States of America and the financial audit standards in the Comptroller General of the United States' *Government Auditing Standards*. Those standards require us to plan and perform the audit to reasonably assure the financial statements are free from material misstatement.

An audit requires obtaining evidence about financial statement amounts and disclosures. The procedures selected depend on our judgment, including assessing the risks of material financial statement misstatement, whether due to fraud or error. In assessing those risks, we consider internal control relevant to the MVRMA's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not to the extent needed to opine on the effectiveness of the MVRMA's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of management's accounting policies and the reasonableness of their significant accounting estimates, as well as our evaluation of the overall financial statement presentation.

We believe the audit evidence we obtained is sufficient and appropriate to support our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the MVRMA, Montgomery County, Ohio, as of December 31, 2018, and the changes in its financial position and its cash flows for the year then ended in accordance with the accounting principles generally accepted in the United States of America.

Emphasis of Matter

As discussed in Note 2 to the financial statements, during 2018, the MVRMA adopted new accounting guidance in Governmental Accounting Standards Board (GASB) Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*. We did not modify our opinion regarding this matter.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require this presentation to include *management's discussion and analysis*, claims information, and schedules of net pension and other postemployment benefit liabilities and pension and other postemployment benefit contributions, listed in the table of contents, to supplement the basic financial statements. Although this information is not part of the basic financial statements, the Governmental Accounting Standards Board considers it essential for placing the basic financial statements in an appropriate operational, economic, or historical context. We applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, consisting of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries to the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not opine or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to opine or provide any other assurance.

Supplementary and Other Information

Our audit was conducted to opine on the MVRMA's basic financial statements taken as a whole.

The introductory section, the statistical section and the actuarial report section information present additional analysis and are not a required part of the basic financial statements.

We did not subject the introductory section, the statistical section and the actuarial report section information to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we express no opinion or any other assurance on them.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated June 17, 2019, on our consideration of the MVRMA's internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements and other matters. That report describes the scope of our internal control testing over financial reporting and compliance, and the results of that testing, and does not opine on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the MVRMA's internal control over financial reporting and compliance.

Julian & Grube, Inc.

Julian & Grube, Inc.
June 17, 2019

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

Management's Discussion And Analysis

For The Year Ended December 31, 2018

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, 2018. 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.

In 2015, the Association adopted GASB Statement 68, "Accounting and Financial Reporting for Pensions—an Amendment of GASB Statement 27," which significantly revises accounting for pension costs and liabilities. 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 the net pension liability to the reported net position and subtracting deferred outflows related to pension.

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

Under the new standards required by GASB 68, the net pension liability equals the Association's proportionate share of the plan's collective:

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

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

Management's Discussion And Analysis
For The Year Ended December 31, 2018

GASB notes that pension 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. GASB noted that the unfunded portion of this pension 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 this liability. 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 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 pension system. In Ohio, there is no legal means to enforce the unfunded liability of the pension system *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 pension system is responsible for the administration of the plan.

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. As explained above, changes in pension benefits, contribution rates, and return on investments affect the balance of the net pension liability, 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 pension 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 is satisfied, this liability is separately identified within the long-term liability section of the statement of net position.

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

The tables presented in this Management's Discussion and Analysis provide a summary of the Association's financial position and results of operations for 2018 and 2017, respectively.

The Statement of Net Position

This statement reports all of the Association's assets and liabilities as of December 31, 2018 categorized as current and non-current assets and liabilities. Assets consist mainly of cash and investments. Liabilities consist mainly of claims reserves and members' refunds 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.”

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

Management's Discussion And Analysis

For The Year Ended December 31, 2018

The table below presents a condensed summary information of the Association's net position as of December 31, 2018 compared to December 31, 2017.

	2018	Restated 2017
Condensed Statement of Net Position		
CURRENT ASSETS		
Cash and cash equivalents	\$862,000	\$801,836
Accounts receivable	145,775	116,334
Prepaid Expenses	290,458	245,817
NONCURRENT ASSETS		
Investments	17,086,396	17,735,141
Net pension asset	354	46
Capital assets less depreciation	3,890	2,839
Total assets	<u>18,388,873</u>	<u>18,902,013</u>
DEFERRED OUTFLOWS OF RESOURCES		
Deferred outflows of resources related to pension	86,919	196,252
Deferred outflows of resources related to OPEB	20,817	4,951
Total deferred outflows of resources	<u>107,736</u>	<u>201,203</u>
CURRENT LIABILITIES		
Claims reserve	2,173,822	1,168,428
Members' refunds	5,691,620	4,493,300
Members' credits	10,000	55,000
Accounts payable and accrued liabilities	35,050	26,068
Total current liabilities	<u>7,910,492</u>	<u>5,742,796</u>
NONCURRENT LIABILITIES		
Claims reserve	1,511,543	2,573,880
Net pension liability	324,586	488,683
Net OPEB liability	251,935	244,379
Total noncurrent liabilities	<u>2,088,064</u>	<u>3,306,942</u>
Total Liabilities	<u>9,998,556</u>	<u>9,049,738</u>
DEFERRED INFLOWS OF RESOURCES		
Deferred inflows of resources related to pension	86,737	15,101
Deferred inflows of resources related to OPEB	24,688	0
Total deferred inflows of resources	<u>111,425</u>	<u>15,101</u>
TOTAL NET POSITION		
Invested in capital assets	3,890	2,839
Unrestricted	8,382,738	10,035,538
Total net position	<u>\$8,386,628</u>	<u>\$10,038,377</u>

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

Management's Discussion And Analysis
For The Year Ended December 31, 2018

The net pension liability (NPL) is the largest single liability reported by the Association at December 31, 2018 and is reported pursuant to GASB Statement 68, "Accounting and Financial Reporting for Pensions—an Amendment of GASB Statement 27." For 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.

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

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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.

As a result of implementing GASB 75, the Association is reporting a net OPEB liability and deferred inflows/outflows of resources related to OPEB on the accrual basis of accounting. This implementation also had the effect of restating net position at December 31, 2017 from \$10,277,805 to \$10,038,377 for business-type activities.

Claims reserve is a liability for net unpaid losses, including incurred but not reported losses, and loss adjustment expenses. This amount is established annually with the assistance of an outside actuary. Claims liability is separated into current and noncurrent portions based upon a combination of an analysis of outstanding claims and historical experience. In 2018, claims reserves decreased by \$57,000, or 1.5%, due to decreases in the estimates of ultimate losses for prior years. This follows increases of about \$629,000 and \$415,000 in 2017 and 2016, respectively.

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

<u>Line of Business</u>	<u>2018</u>	<u>2017</u>
Auto Liability	3%	3%
General Liability	81%	91%
Property	16%	6%

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

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The liability for members' refunds 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' refunds liability increased in 2018 due to the closure of a loss year and the members' choice to leave a portion of that amount in the GRF.

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 \$2,839 to \$3,890 during 2018 due to purchases of capital assets during the year. Total net position decreased in 2018 by \$1,651,749, or 16.5%, due to the closure of two loss years totaling about \$3 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 16.5% from 2017 to 2018.

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

	<u>2018</u>	<u>2017</u>
Operating Revenue	4,378,464	4,304,449
Operating Expenses:		
Incurred claims and claims adjustment expenses	1,298,832	1,984,627
Reinsurance premiums	988,162	947,406
Members' dividends	3,035,305	1,636,299
General and administrative expenses	881,436	835,464
Total Operating Expenses	6,203,735	5,403,796
Operating Income (Loss)	(1,825,271)	(1,099,347)
Nonoperating Revenue (Expense):		
Interest income and realized and unrealized gains (losses) on investments	173,522	182,821
Other nonoperating revenue (expense)	0	0
Changes in Net Position	(1,651,749)	(916,526)
Net position, beginning of year	10,038,377	11,194,331
Net position, end of year	8,386,628	10,277,805

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

Management's Discussion And Analysis

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The information necessary to restate the 2017 beginning balances and the 2017 OPEB expense amounts for the effects of the initial implementation of GASB 75 is not available. Therefore, 2017 functional expenses still include OPEB expense of \$4,951 computed under GASB 45. GASB 45 required recognizing OPEB expense equal to the contractually required contributions to the plan. Under GASB 75, OPEB expense represents additional amounts earned, adjusted by deferred inflows/outflows. The contractually required contribution is no longer a component of OPEB expense. Under GASB 75, the 2018 statements report OPEB expense of \$18,655. Consequently, in order to compare 2018 total program expenses to 2017, the following adjustments are needed:

	<u>Restatement</u>
Total 2018 operating expenses under GASB 75	\$ 6,203,735
OPEB expense under GASB 75	(18,655)
2018 contractually required contributions	<u>2,277</u>
Adjusted 2018 operating expenses	6,187,357
Total 2017 operating expenses under GASB 45	<u>5,403,796</u>
Increase (decrease) in operating expenses not related to OPEB	<u>\$ 783,561</u>

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

Member contributions made up 94% of the Association's operating revenue in 2018 and 2017.

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MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

Management's Discussion And Analysis
For The Year Ended December 31, 2018

Members' contributions are tracked so each year may be evaluated independently. When preparing its annual budget, MVRMA determines the total amount needed to fund its operations and collects the amount needed from members in proportion to their claims history and risk exposures. Each member's allocation is determined by dividing the sum of the following seven factors by 9:

1. The member's population as of the most recent census as a percentage of the total of all members' populations;
2. The number of the member's sworn full-time police personnel as a percentage of the total of all members' full-time sworn police;
3. The number of the member's other full-time employees as a percentage of the total of all members' other full-time employees;
4. The number of the member's titled vehicles as a percentage of the total of all members' titled vehicles;
5. The member's insurable property values as a percentage of the total of all members' insurable property values;
6. The member's net operating expenses as a percentage of the total of all members' net operating expenses; and
7. The member's average annual adjusted losses for the last four years as the percentage of the total of all members' average annual adjusted losses for the last four years (weighted three times).

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.

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MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

Management's Discussion And Analysis

For The Year Ended December 31, 2018

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 60,164 in 2018 as cash provided by investment activities was offset by cash used in operating activities primarily cash dividends paid to members.

	<u>2018</u>	<u>2017</u>
Cash flows from operating activities	(\$827,287)	(\$91,758)
Cash flows used in capital and related financing activities	(3,642)	0
Cash flows from (used in) investing activities	<u>891,093</u>	<u>(323,372)</u>
Net change in cash and cash equivalents	60,164	(415,130)
Cash and Cash Equivalents - Beginning of year	<u>801,836</u>	<u>1,216,966</u>
Cash and Cash Equivalents - End of year	<u><u>\$862,000</u></u>	<u><u>\$801,836</u></u>

2019 Projects and Future Plans

For 2019, 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 \$4.5 million excess of the Association's self-insured retention of \$500,000. The next layer of reinsurance with General Reinsurance Corporation is \$7 million excess of \$5 million.

Property insurance for the period 7/1/18-7/1/19 was again placed with the Alliant Property Insurance Program (APIP). MVRMA's premium rate increased by 8.5% following rate decreases in each of the four previous years. The increase was due to the impact upon the property insurance market of large weather-related claims. At this time, MVRMA is preparing for its 7/1/19 renewal and is anticipating a rate increase in excess of 10% due to a general hardening of the property insurance market.

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
STATEMENT OF NET POSITION
DECEMBER 31, 2018

ASSETS	2018
CURRENT ASSETS:	
Cash and cash equivalents	\$862,000
Accounts receivable:	
Claims deductibles	57,252
Interest and Other	88,523
Prepaid items	290,458
Total current assets	1,298,233
NONCURRENT ASSETS:	
Investments	17,086,396
Net pension asset	354
Capital Assets:	
Audio-visual material	70,684
Equipment	33,170
Leasehold improvements	12,281
Office furniture	16,894
Total capital assets	133,029
Accumulated depreciation	(129,139)
Capital assets - net	3,890
Total noncurrent assets	17,090,640
Total Assets	18,388,873
DEFERRED OUTFLOWS OF RESOURCES	
Deferred outflows of resources related to pension	86,919
Deferred outflows of resources related to OPEB	20,817
Total Deferred Outflows	107,736
LIABILITIES	
CURRENT LIABILITIES:	
Claims reserve	2,173,822
Members' refunds	5,691,620
Members' credits	10,000
Accounts payable and accrued liabilities	35,050
Total current liabilities	7,910,492
NONCURRENT LIABILITIES:	
Claims reserve	1,511,543
Net pension liability	324,586
Net OPEB liability	251,935
Total noncurrent liabilities	2,088,064
Total Liabilities	9,998,556
DEFERRED INFLOWS OF RESOURCES	
Deferred inflows of resources related to pension	86,737
Deferred inflows of resources related to OPEB	24,688
Total Deferred Inflows	111,425
NET POSITION	
Investment in capital assets	3,890
Unrestricted	8,382,738
Total net position	\$8,386,628

See notes to the basic financial statements

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION
STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
FOR THE YEAR ENDED DECEMBER 31, 2018

	<u>2018</u>
OPERATING REVENUES:	
Members' contributions	\$4,124,647
Claim deductibles	205,147
Other	48,670
	<u>4,378,464</u>
OPERATING EXPENSES:	
Claim expenses:	
Incurred claims and claim adjustment expenses	1,298,832
Reinsurance/insurance premiums	988,162
Members' Dividends	3,035,305
	<u>5,322,299</u>
Total claim expenses	
	<u>5,322,299</u>
General and administrative expenses:	
Professional fees	167,997
Salaries and benefits	517,097
Depreciation	2,591
Rent	36,400
Other	157,351
	<u>881,436</u>
Total general and administrative fees	
	<u>881,436</u>
Total operating expenses	<u>6,203,735</u>
OPERATING INCOME (LOSS)	<u>(1,825,271)</u>
NON-OPERATING REVENUE (EXPENSE):	
Interest income	245,073
Net gain/(loss) on investments	(71,551)
	<u>173,522</u>
Total Non-operating Revenue (Expense)	
	<u>173,522</u>
CHANGE IN NET POSITION	(1,651,749)
NET POSITION	
Beginning of year, restated	<u>10,038,377</u>
End of year	<u><u>\$8,386,628</u></u>

See notes to the basic financial statements

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION
STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED DECEMBER 31, 2018

	<u>2018</u>
CASH FLOWS FROM OPERATING ACTIVITIES:	
Cash received for member contributions	\$4,079,647
Cash received for deductible reimbursements	185,306
Cash received from other sources	45,843
Cash payments for claims	(1,355,775)
Cash payments for general reserve fund payouts	(1,912,584)
Cash payments for reinsurance premiums	(1,031,773)
Cash payments for professional fees	(168,659)
Cash payments for employment expenses	(485,824)
Cash payments for rent	(36,400)
Cash payments for other expenses	<u>(147,068)</u>
Net cash provided by (used in) operating activities	<u>(827,287)</u>
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES:	
Purchase of capital assets	<u>(3,642)</u>
Net cash provided by (used in) capital and related financing activities	<u>(3,642)</u>
CASH FLOWS FROM INVESTING ACTIVITIES:	
Investment purchases	(2,444,136)
Investment sales/maturities	3,021,330
Interest and dividends on investments	<u>313,899</u>
Net cash provided by (used in) investing activities	<u>891,093</u>
NET CHANGE IN CASH AND CASH EQUIVALENTS	60,164
CASH AND CASH EQUIVALENTS:	
Beginning of Year	<u>801,836</u>
End of Year	<u><u>\$862,000</u></u>

See notes to the basic financial statements

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION
STATEMENT OF CASH FLOWS (Continued)
FOR THE YEAR ENDED DECEMBER 31, 2018

	<u>2018</u>
RECONCILIATION OF OPERATING INCOME (LOSS) TO NET CASH PROVIDED BY (USED IN) OPERATING ACTIVITIES	
Operating Income (Loss)	(\$1,825,271)
Adjustments to reconcile change in net position to net cash provided by (used in) operating activities:	
Depreciation	2,591
(Increase) / decrease in assets:	
Claims deductibles receivable	(19,841)
Other receivables	(2,827)
Prepaid items	(44,641)
Net pension asset	(308)
(Increase) / decrease in deferred outflows:	
Deferred outflows of resources related to pension	109,333
Deferred outflows of resources related to OPEB	(15,866)
Increase / (decrease) in liabilities:	
Claims reserve	(56,943)
Accounts payable, accrued liabilities, members' credits and members' refunds	1,086,703
Net pension liability	(164,097)
Net OPEB liability	7,556
Increase / (decrease) in deferred inflows:	
Deferred inflows of resources related to pension	71,636
Deferred inflows of resources related to OPEB	<u>24,688</u>
Net cash provided by (used in) operating activities	<u><u>(\$827,287)</u></u>

NON-CASH INVESTING ACTIVITIES:

- Miami Valley Risk Management Association had a decrease in the fair value of investments in the amount \$648,745 during 2018.

See notes to the basic financial statements

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2018

NOTE 1 – ORGANIZATION AND SIGNIFICANT ACCOUNTING POLICIES

Miami Valley Risk Management Association (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, 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. 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 7) may occur, in lieu of supplemental contributions. There were no supplemental contributions in 2018.

Cash and cash equivalents consist of deposits with financial institutions, and a State of Ohio depository institution, having an original maturity of 90 days or less.

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

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

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 2018

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 are carried at cost. 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, except audio-visual material which is three years.

Claim Reserves and Unallocated Loss Adjustment Expenses – Provisions for claims reserves and claims adjustment expenses are based on information reported by members and are calculated by the Association's claims administrator and 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 claims reserves 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 claims reserves 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, 2018, member contributions are presented net of a credit of \$10,000.

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 2018

Member Dividends – Dividends to members consist of refunds from closed loss years and refunds from the Shock Loss Fund. Closed loss year refunds were \$2,964,307 in 2018. Refunds are made to members from the Shock Loss Fund (see Note 7) to the extent the member’s Shock Loss Fund balance exceeds its required balance by greater than forty percent. Such refunds were \$70,998 in 2018.

Net Position – Net position represents the difference between assets plus deferred outflows of resources and liabilities plus deferred inflows of resources. 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, 2018, 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, 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.

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 2018

Operating Revenues and Expenses – Operating revenues are those revenues that are generated directly from primary activities. For the Association, these revenues are 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 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 – Payments to vendors for services that will benefit periods beyond December 31, 2018, are recorded as prepaid items using the consumption method by recording a current asset for the prepaid amount and reflecting the expenditure/expense in the year in which the services are consumed.

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 represents 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 9 and 10 for deferred outflows of resources related to the Associations net pension liability and net OPEB liability, 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 9 and 10 for deferred outflows of resources related to the Associations net pension liability and net OPEB liability, respectively.

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MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2018

NOTE 2 - ACCOUNTABILITY AND COMPLIANCE

Change in Accounting Principles/Restatement of Net Position

For fiscal year 2018, the Association has implemented GASB Statement No. 75, "Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions", GASB Statement No. 85, "Omnibus 2017" and GASB Statement No. 86, "Certain Debt Extinguishments".

GASB Statement No. 75 improves the accounting and financial reporting by state and local governments for postemployment benefits other than pensions (OPEB). It also improves information provided by state and local governmental employers about financial support for OPEB that is provided by other entities. The implementation of GASB Statement No. 75 effected the Association's postemployment benefit plan disclosures, as presented in Note 10 to the basic financial statements and added required supplementary information which is presented after the notes to the basic financial statements.

GASB Statement No. 85 addresses practice issues that have been identified during implementation and application of certain GASB Statements. This Statement addresses a variety of topics including issues related to blending component units, goodwill, fair value measurement and application, and OPEB. The implementation of GASB Statement No. 85 did not have an effect on the financial statements of the Association.

GASB Statement No. 86 improves consistency in accounting and financial reporting for in-substance defeasance of debt by providing guidance for transactions in which cash and other monetary assets acquired with only existing resources - resources other than the proceeds of refunding debt - are placed in an irrevocable trust for the sole purpose of extinguishing debt. This Statement also improves accounting and financial reporting for prepaid insurance on debt that is extinguished and notes to financial statements for debt that is defeased in substance. The implementation of GASB Statement No. 86 did not have an effect on the financial statements of the Association.

A net position restatement is required in order to implement GASB Statement No 75. The net position at January 1, 2018 has been restated as follows:

	<u>Restatement</u>
Net position as previously reported	\$ 10,277,805
Deferred outflows - payments subsequent to measurement date	4,951
Net OPEB liability	<u>(244,379)</u>
Restated net position at January 1, 2018	<u>\$ 10,038,377</u>

Other than employer contributions subsequent to the measurement date, the Association made no restatement for deferred inflows/outflows of resources as the information needed to generate these restatements was not available.

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2018

NOTE 3 – DEPOSITS AND INVESTMENTS

Deposits as of December 31, 2018

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, 2018, the carrying amount of the Association’s deposits was \$862,000. The bank balance was \$867,652, and of this amount, \$250,000 was insured by federal depository insurance. Based on the criteria described in GASB Statement No. 40, “Deposit and Investment Risk Disclosures”, \$617,652 of the Association’s bank balance was exposed to custodial risk.

Investments as of December 31, 2018

At December 31, 2018, the Association had the following investments:

<u>Investment</u>	Measurement Value	Investment Maturities			
		Less than 6 months	6 mo. to 1 year	1 to 3 years	Greater than 3 years
U.S. Treasury Bills	\$ 219,600	\$ 219,600	\$ -	\$ -	\$ -
FHLB	2,027,755	-	-	996,424	1,031,331
FFCB	2,392,202	249,008	643,748	637,773	861,673
FHLMC	2,884,226	349,373	420,682	1,915,381	198,790
FNMA	850,925	850,925	-	-	-
Corporate Bonds	7,961,688	1,786,921	1,044,226	1,750,610	3,379,931
Government Entities					
Mutual, Inc. (see Note 7)	750,000	-	-	-	750,000
Total	\$ 17,086,396	\$ 3,455,827	\$ 2,108,656	\$ 5,300,188	\$ 6,221,725

The Association’s investments in U.S. Treasury Bills, federal agency securities (FHLB, FFCB, FHLMC, FNMA), Corporate Bonds and Government Entities Mutual, Inc. 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.

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 2018

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 U.S. Treasury Bills, and Federal Home Loan Mortgage Corporation, Federal Home Loan Bank, Federal National Mortgage Association and Federal Farm Credit Bank are rated 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 12/31/18, 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 U.S. Treasury Bills, 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, 2018:

<u>Investment</u>	<u>% as of 12/31/18</u>
Federal Home Loan Bank	11.9%
Federal Farm Credit Bank	14.0%
Federal Home Loan Mortgage Corporation	16.9%
Federal National Mortgage Association	5.0%

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MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2018

NOTE 4 – CAPITAL ASSETS

Capital assets activity for the year ended December 31, 2018, was as follows:

	Balance 01/01/18	Additions	Transfers/ Disposals	Balance 12/31/18
Capital Assets Being Depreciated:				
Audio-Visual	\$70,684	\$0	\$0	\$70,684
Equipment	29,528	3,642	0	\$33,170
Leasehold Improvements	12,281	0	0	\$12,281
Office Furniture	16,894	0	0	\$16,894
Total Property and Equipment	<u>129,387</u>	<u>3,642</u>	<u>0</u>	<u>133,029</u>
Less: Accumulated Depreciation				
Audio-Visual	(70,446)	(78)	0	(\$70,524)
Equipment	(28,689)	(2,404)	0	(\$31,093)
Leasehold Improvements	(12,281)	0	0	(\$12,281)
Office Furniture	(15,132)	(109)	0	(\$15,241)
Total Accumulated Depreciation	<u>(126,548)</u>	<u>(2,591)</u>	<u>0</u>	<u>(129,139)</u>
Total Capital Assets Being Depreciated, net	<u>\$2,839</u>	<u>\$1,051</u>	<u>\$0</u>	<u>\$3,890</u>

NOTE 5 – NONCURRENT LIABILITIES

Noncurrent liability activity for the year ended December 31, 2018 was as follows:

	Beginning Balance	Additions	Reductions	Ending Balance
Net Pension Liability	\$488,683	\$0	\$164,097	\$324,586
Net OPEB Liability	\$244,379	\$7,556	\$0	\$251,935

NOTE 6 – 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 2018. Property claims had an all-risk per-occurrence retention limit of \$250,000 for 2018. 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.

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2018

NOTE 7 – 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, 2018, the Association purchased the following types of insurance/reinsurance in excess of the Association's self-insured retention:

<u>Excess Insurance / Reinsurance</u>	<u>Limits of Coverage</u>
General liability (including law enforcement) per occurrence	\$9,500,000
Automobile liability per occurrence	\$9,500,000
Public official liability:	
Per occurrence	\$9,500,000
Per member annual aggregate	\$9,500,000
Employment practices liability:	
Per occurrence	\$9,500,000
Per member annual aggregate	\$9,500,000
Property (excluding flood and earthquake) per occurrence	\$1,000,000,000
Flood and earthquake property coverage – per occurrence and annual aggregate	\$25,000,000

In 2018, MVRMA reinsured its casualty 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% 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.

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2018

NOTE 8 – CLAIMS RESERVE

As discussed in Note 1, the Association establishes a claims reserve 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 2018	December 31 2017
Unpaid claims and claim adjustment expenses - Beginning of Year	<u>\$3,742,308</u>	<u>\$3,113,308</u>
Incurred claims and claim adjustment expenses:		
Provision for insured events of the current year	1,795,709	1,860,931
Change in provision for insured events of prior years	(709,612)	(150,927)
Change in unallocated expense provision	<u>9,215</u>	<u>18,001</u>
Total incurred claims and claim adjustment expenses	<u>1,095,312</u>	<u>1,728,005</u>
Payments:		
Claims and claim adjustment expenses attributable to insured events of the current year	220,738	256,061
Claims and claim adjustment expenses attributable to insured events of prior years	931,517	842,944
Aggregate Adjustment		
Total Payments	<u>1,152,255</u>	<u>1,099,005</u>
Unpaid claims and claim adjustment expenses - End of Year	<u><u>\$3,685,365</u></u>	<u><u>\$3,742,308</u></u>

NOTE 9 - PUBLIC EMPLOYEES RETIREMENT SYSTEM DEFINED BENEFIT PENSION PLAN

Net Pension Liability/Asset

The net pension liability/asset reported on the statement of net position represents a liability or asset to employees for pensions. Pensions 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 obligation to sacrifice resources for pensions is a present obligation because it was created as a result of employment exchanges that already have occurred.

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 2018

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

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

GASB 68 assumes any net pension liability/asset is solely the obligation of the employer, because (1) they benefit from employee services; and (2) State statute requires all funding to come from these employers. All contributions to date have come solely from these employers (which also includes costs paid in the form of withholdings from employees). State statute requires the pension plans to amortize unfunded liabilities within 30 years. If the amortization period exceeds 30 years, each pension plan's board must propose corrective action to the State legislature. Any resulting legislative change to benefits or funding could significantly affect the net pension liability. Resulting adjustments to the net pension liability would be effective when the changes are legally enforceable.

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 cost-sharing, multiple-employer defined benefit pension plan with defined contribution features. While members (e.g. Association employees) may elect the Member-Directed Plan and the Combined Plan, substantially all employee members are in OPERS' Traditional Pension Plan.

OPERS provides retirement, disability, survivor and death benefits, and annual cost of living adjustments to members of the Traditional Pension Plan. 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.

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 2018

Senate Bill (SB) 343 was enacted into law with an effective date of January 7, 2013. In the legislation, members 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 Pension Plan as per the reduced benefits adopted by SB 343 (see OPERS CAFR referenced above for additional information):

Group A	Group B	Group C
Eligible to retire prior to January 7, 2013 or five years after January 7, 2013	20 years of service credit prior to January 7, 2013 or eligible to retire ten years after January 7, 2013	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
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	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	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

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.

When a benefit recipient has received benefits for 12 months, an annual cost of living adjustment (COLA) is provided. This COLA is calculated on the base retirement benefit at the date of retirement and is not compounded. For those retiring prior to January 7, 2013, the COLA will continue to be a 3.00% simple annual COLA. For those retiring subsequent to January 7, 2013, beginning in calendar year 2019, the COLA will be based on the average percentage increase in the Consumer Price Index, capped at 2.25%.

Benefits in the Combined Plan consist of both an age-and-service formula benefit (defined benefit) and a defined contribution element. The defined benefit element is calculated on the basis of age, FAS, and years of service. Eligibility regarding age and years of service in the Combined Plan is the same as the Traditional Pension Plan. The benefit formula for the defined benefit component of the plan for State and Local members in transition Groups A and B applies a factor of 1.00% to the member's FAS for the first 30 years of service.

A factor of 1.25% is applied to years of service in excess of 30. The benefit formula for transition Group C applies a factor of 1.0% to the member's FAS and the first 35 years of service and a factor of 1.25% is applied to years in excess of 35. Persons retiring before age 65 with less than 30 years of service credit receive a percentage reduction in benefit. The defined contribution portion of the benefit is based on accumulated member contributions plus or minus any investment gains or losses on those contributions. Members retiring under the Combined Plan receive a 2.25% COLA adjustment on the defined benefit portion of their benefit.

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 2018

Defined contribution plan benefits are established in the plan documents, which may be amended by the OPERS's Board of Trustees. 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 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% each year. For additional information, see the Plan Statement in the OPERS CAFR.

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

	<u>State and Local</u>
2018 Statutory Maximum Contribution Rates	
Employer	14.0 %
Employee	10.0 %
2018 Actual Contribution Rates	
Employer:	
Pension	14.0 %
Post-employment Health Care Benefits	<u>0.0 %</u>
Total Employer	<u>14.0 %</u>
Employee	<u>10.0 %</u>

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

The Association's contractually required contribution for the Traditional Pension Plan, the Combined Plan and Member-Directed Plan was \$45,144 for 2018. Of this amount, \$1,945 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 the OPERS Traditional Pension Plan, Combined Plan and Member-Directed Plan, respectively, were measured as of December 31, 2017, 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.

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2018

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	0.00215200%	0.01105500%	
Proportion of the net pension liability/asset current measurement date	<u>0.00206900%</u>	<u>0.01013200%</u>	
Change in proportionate share	<u>-0.00008300%</u>	<u>-0.00092300%</u>	
Proportionate share of the net pension liability	\$ 324,586	\$ -	\$ 324,586
Proportionate share of the net pension asset	-	(354)	(354)
Pension expense	61,823	(115)	61,708

At December 31, 2018, the Association reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	OPERS - Traditional	OPERS - Member- Directed	Total
Deferred outflows of resources			
Differences between expected and actual experience	\$ 332	\$ 688	\$ 1,020
Changes of assumptions	38,791	41	38,832
Changes in employer's proportionate percentage/difference between employer contributions	1,923	-	1,923
Association contributions subsequent to the measurement date	<u>39,452</u>	<u>5,692</u>	<u>45,144</u>
Total deferred outflows of resources	<u>\$ 80,498</u>	<u>\$ 6,421</u>	<u>\$ 86,919</u>

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MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2018

Deferred inflows of resources			
Differences between expected and actual experience	\$ 6,396	\$ -	\$ 6,396
Net difference between projected and actual earnings on pension plan investments	69,687	100	69,787
Changes in employer's proportionate percentage/difference between employer contributions	10,554	-	10,554
Total deferred inflows of resources	\$ 86,637	\$ 100	\$ 86,737

\$45,144 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 the net pension liability/asset in the year ending December 31, 2019.

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

	<u>OPERS - Traditional</u>	<u>OPERS - Member- Directed</u>	<u>Total</u>
Year Ending December 31:			
2019	\$ 24,613	\$ 79	\$ 24,692
2020	(10,883)	77	(10,806)
2021	(30,685)	63	(30,622)
2022	(28,636)	65	(28,571)
2023	-	96	96
Thereafter	-	249	249
Total	\$ (45,591)	\$ 629	\$ (44,962)

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.

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MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 2018

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, 2017, using the following actuarial assumptions applied to all prior periods included in the measurement in accordance with the requirements of GASB 67.

Wage inflation	3.25%
Future salary increases, including inflation COLA or ad hoc COLA	3.25% to 10.75% including wage inflation Pre 1/7/2013 retirees: 3.00%, simple Post 1/7/2013 retirees: 3.00%, simple through 2018, then 2.15% simple
Investment rate of return	7.50%
Actuarial cost method	Individual entry age

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 for both healthy and disabled retiree mortality tables are determined by applying the MP-2015 mortality improvement scale to the above described tables.

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

The long-term 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.

During 2017, 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 16.82% for 2017.

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2018

The allocation of investment assets with the Defined Benefit portfolio is approved by the OPERS 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 table below displays the Board-approved asset allocation policy for 2017 and the long-term expected real rates of return:

Asset Class	Target Allocation	Weighted Average Long-Term Expected Real Rate of Return (Arithmetic)
Fixed income	23.00 %	2.20 %
Domestic equities	19.00	6.37
Real estate	10.00	5.26
Private equity	10.00	8.97
International equities	20.00	7.88
Other investments	18.00	5.26
Total	100.00 %	5.66 %

Discount Rate - The discount rate used to measure the total pension liability/asset was 7.50%, post-experience study results, for the Traditional Pension Plan, the Combined Plan and Member-Directed Plan. The projection of cash flows used to determine the discount rate assumed that contributions from plan members and those of the contributing employers are made at the contractually required rates, as actuarially determined. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future 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 Association's proportionate share of the net pension liability/asset calculated using the current period discount rate assumption of 7.50%, as well as what the Association's proportionate share of the net pension liability/asset would be if it were calculated using a discount rate that is one-percentage-point lower (6.50%) or one-percentage-point higher (8.50%) than the current rate:

	1% Decrease (6.50%)	Current Discount Rate (7.50%)	1% Increase (8.50%)
Association's proportionate share of the net pension liability (asset):			
Traditional Pension Plan	\$ 576,382	\$ 324,586	\$ 114,664
Member-Directed Plan	(203)	(354)	(507)

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2018

NOTE 10 – DEFINED BENEFIT OPEB PLANS

Net OPEB Liability

The net OPEB liability reported on the statement of net position represents a liability to employees for OPEB. OPEB is a component of exchange transactions—between an employer and its employees—of salaries and benefits for employee services. OPEB are provided to an employee—on a deferred-payment basis—as part of the total compensation package offered by an employer for employee services each financial period. The obligation to sacrifice resources for OPEB is a present obligation because it was created as a result of employment exchanges that already have occurred.

The net OPEB liability represents the Association’s proportionate share of each OPEB plan’s collective actuarial present value of projected benefit payments attributable to past periods of service, net of each OPEB plan’s fiduciary net position. The net OPEB liability 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 these estimates 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 OPEB are financed; however, the Association does receive the benefit of employees’ services in exchange for compensation including OPEB.

GASB 75 assumes the liability is solely the obligation of the employer, because they benefit from employee services. OPEB contributions come from these employers and health care plan enrollees which pay a portion of the health care costs in the form of a monthly premium. The Ohio Revised Code permits, but does not require, the retirement systems to provide healthcare to eligible benefit recipients. Any change to benefits or funding could significantly affect the net OPEB liability. Resulting adjustments to the net OPEB liability would be effective when the changes are legally enforceable. The retirement systems may allocate a portion of the employer contributions to provide for these OPEB benefits.

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

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.

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 2018

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

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. Health care coverage for disability benefit recipients and qualified survivor benefit recipients is available. The health care coverage provided by OPERS meets the definition of an Other Post Employment Benefit (OPEB) as described in GASB Statement 75. See OPERS' CAFR 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 requiring 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, health care is not being funded.

Employer contribution rates are expressed as a percentage of the earnable salary of active members. In 2018, state and local employers contributed at a rate of 14.0 percent of earnable salary. 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. The portion of employer contributions allocated to health care for members in the Traditional Pension Plan and Combined Plan was 1.0 percent during calendar year 2017. As recommended by OPERS' actuary, the portion of employer contributions allocated to health care beginning January 1, 2018 decreased to 0 percent for both plans. The OPERS Board is also authorized to establish rules for the retiree or their surviving beneficiaries to pay a portion of the health care provided. Payment amounts vary depending on the number of covered dependents and the coverage selected. The employer contribution as a percentage of covered payroll deposited into the RMA for participants in the Member-Directed Plan for 2018 was 4.0 percent.

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2018

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

The Association's contractually required contribution was \$2,277 for 2018. Of this amount, \$98 is reported as accounts payable and accrued liabilities.

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

The net OPEB liability and total OPEB liability for OPERS were determined by an actuarial valuation as of December 31, 2016, rolled forward to the measurement date of December 31, 2017, by incorporating the expected value of health care cost accruals, the actual health care payment, and interest accruals during the year. The Association's proportion of the net OPEB liability was based on the Association's share of contributions to the retirement plan relative to the contributions of all participating entities. Following is information related to the proportionate share and OPEB expense:

	<u>OPERS</u>
Proportion of the net OPEB liability prior measurement date	0.00242000%
Proportion of the net OPEB liability current measurement date	<u>0.00232000%</u>
Change in proportionate share	<u>-0.00010000%</u>
Proportionate share of the net OPEB liability	\$ 251,935
OPEB expense	\$ 18,655

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MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2018

At December 31, 2018, the Association reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

	<u>OPERS</u>
Deferred outflows of resources	
Differences between expected and actual experience	\$ 196
Changes of assumptions	18,344
Association contributions subsequent to the measurement date	<u>2,277</u>
Total deferred outflows of resources	<u>\$ 20,817</u>
 Deferred inflows of resources	
Net difference between projected and actual earnings on pension plan investments	\$ 18,767
Changes in employer's proportionate percentage/difference between employer contributions	<u>5,921</u>
Total deferred inflows of resources	<u>\$ 24,688</u>

\$2,277 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 the net OPEB liability in the year ending December 31, 2019.

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

	<u>OPERS</u>
Year Ending December 31:	
2019	\$ 1,341
2020	1,341
2021	(4,139)
2022	<u>(4,691)</u>
Total	<u>\$ (6,148)</u>

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MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2018

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 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, 2016, rolled forward to the measurement date of December 31, 2017. 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 percent
Projected Salary Increases, including inflation	3.25 to 10.75 percent including wage inflation
Single Discount Rate:	
Current measurement date	3.85 percent
Prior Measurement date	4.23 percent
Investment Rate of Return	6.50 percent
Municipal Bond Rate	3.31 percent
Health Care Cost Trend Rate	7.5 percent, initial 3.25 percent, ultimate in 2028
Actuarial Cost Method	Individual Entry Age

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.

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 2018

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 2017, OPERS managed investments in three investment portfolios: the Defined Benefit portfolio, the Health Care portfolio and the Defined Contribution portfolio. The Health Care portfolio includes the assets for health care expenses for the Traditional Pension Plan, Combined Plan and Member-Directed Plan eligible members. Within the Health Care portfolio, contributions into the plans are assumed to be received continuously throughout the year based on the actual payroll payable at the time contributions are made, and health care-related payments are assumed to occur mid-year. Accordingly, the money-weighted rate of return is considered to be the same for all plans within the portfolio. The annual money-weighted rate of return expressing investment performance, net of investment expenses and adjusted for the changing amounts actually invested, for the Health Care portfolio is 15.2 percent for 2017.

The allocation of investment assets with 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 table below displays the Board-approved asset allocation policy for 2017 and the long-term expected real rates of return:

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Weighted Average Long-Term Expected Real Rate of Return (Arithmetic)</u>
Fixed Income	34.00 %	1.88 %
Domestic Equities	21.00	6.37
Real Estate Investment Trust	6.00	5.91
International Equities	22.00	7.88
Other investments	17.00	5.39
Total	<u>100.00 %</u>	<u>4.98 %</u>

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MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2018

Discount Rate A single discount rate of 3.85 percent was used to measure the OPEB liability on the measurement date of December 31, 2017. A single discount rate of 4.23 percent was used to measure the OPEB liability on the measurement date of December 31, 2016. Projected benefit payments are required to be discounted to their actuarial present value using a single discount rate that reflects (1) a long-term expected rate of return on OPEB plan investments (to the extent that the health care fiduciary net position is projected to be sufficient to pay benefits), and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate are not met). This single discount rate was based on an expected rate of return on the health care investment portfolio of 6.50 percent and a municipal bond rate of 3.31 percent. 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 2034. As a result, the long-term expected rate of return on health care investments was applied to projected costs through the year 2034, and the municipal bond rate was applied to all health care costs after that date.

Sensitivity of the Association’s Proportionate Share of the Net OPEB Liability to Changes in the Discount Rate The following table presents the Association’s proportionate share of the net OPEB liability calculated using the single discount rate of 3.85 percent, as well as what the Association’s proportionate share of the net OPEB liability would be if it were calculated using a discount rate that is one-percentage-point lower (2.85 percent) or one-percentage-point higher (4.85 percent) than the current rate:

	1% Decrease (2.85%)	Current Discount Rate (3.85%)	1% Increase (4.85%)
Association's proportionate share of the net OPEB liability	\$ 334,706	\$ 251,935	\$ 184,974

Sensitivity of the Association’s Proportionate Share of the Net OPEB Liability to Changes in the Health Care Cost Trend Rate Changes in the health care cost trend rate may also have a significant impact on the net OPEB liability. The following table presents the net OPEB liability calculated using the assumed trend rates, and the expected net OPEB liability if it were calculated using a health care cost trend rate that is 1.0 percent lower or 1.0 percent higher than the current rate.

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MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

NOTES TO THE BASIC FINANCIAL STATEMENTS FOR THE YEAR ENDED DECEMBER 31, 2018

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 2018 is 7.50 percent. 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 3.25 percent in the most recent valuation.

	<u>1% Decrease</u>	<u>Current Health Care Trend Rate Assumption</u>	<u>1% Increase</u>
Association's proportionate share of the net OPEB liability	\$ 241,048	\$ 251,935	\$ 263,181

NOTE 11 – COMMITMENTS

Leases - The Association leases office space under a lease which was renewed for five years effective July 1, 2014. Rental expense for the lease was \$36,400 in 2018. Future minimum annual lease payments are \$36,400 through June 30, 2019. An option to purchase the building was also included in the agreement. MVRMA may purchase the building for \$320,000 at any time during the lease term.

NOTE 12 – 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.

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REQUIRED SUPPLEMENTARY INFORMATION

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION
REQUIRED SUPPLEMENTARY INFORMATION
COMPARATIVE SCHEDULE OF CLAIMS DEVELOPMENT, EARNED ASSESSMENTS AND UNALLOCATED EXPENSES
FOR THE YEARS ENDED DECEMBER 31, 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011, 2010 AND 2009

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Earned assessments and interest income:										
Earned	\$4,551,986	\$4,487,270	\$4,243,039	\$4,223,535	\$4,908,192	\$4,316,800	\$4,433,255	\$4,388,732	\$4,259,382	\$4,642,131
Ceded	988,162	947,406	864,407	885,468	878,317	870,249	807,647	761,789	753,793	695,576
Net	\$3,563,824	\$3,539,864	\$3,378,632	\$3,338,067	\$4,029,875	\$3,446,551	\$3,625,608	\$3,626,943	\$3,505,589	\$3,946,555
Unallocated loss expenses										
Original estimates ultimate incurred claims and expenses for the policy year, including members' deductibles (1)	\$881,436	\$835,464	\$826,140	\$758,871	\$757,719	\$751,099	\$733,355	\$691,571	\$677,469	\$668,721
	\$2,051,000	\$2,055,000	\$1,413,000	\$1,459,000	\$2,771,000	\$1,798,849	\$2,032,756	\$2,587,500	\$1,997,755	\$2,409,147
Cummulative incurred claims, net of reinsurance, including members' deductibles, as of:										
End of policy year	\$972,843	\$963,801	\$577,160	\$626,239	\$1,480,995	\$729,736	\$664,220	\$1,681,382	\$519,228	\$432,941
One year later		1,113,265	998,670	947,321	1,626,822	952,440	810,718	1,430,501	689,893	581,765
Two years later			1,090,294	1,018,542	2,130,715	1,180,592	889,541	1,195,774	1,141,553	857,095
Three years later				1,049,615	2,119,389	1,421,688	964,041	1,195,250	1,391,993	1,159,198
Four years later					2,209,389	1,435,920	1,003,672	1,247,570	1,481,047	1,605,343
Five years later						1,428,162	1,139,987	1,291,472	1,523,508	1,560,680
Six years later							1,139,987	1,291,472	1,523,508	1,533,450
Seven years later								1,291,472	1,523,508	1,533,450
Eight years later									1,523,508	1,533,450
Nine years later										1,533,450
Re-estimated ultimate incurred claims and expenses, including members' deductibles:										
End of policy year	\$2,051,000	\$2,055,000	\$1,413,000	\$1,459,000	\$2,771,000	\$1,798,849	\$2,032,756	\$2,587,500	\$1,997,755	\$2,409,147
One year later		1,827,000	1,769,000	1,502,478	2,334,000	1,621,700	1,587,710	2,136,224	1,742,370	1,764,438
Two years later			1,475,758	1,277,747	2,637,033	1,431,006	1,167,878	1,326,059	1,394,990	1,221,597
Three years later				1,223,584	2,417,033	1,547,491	1,137,378	1,339,671	1,544,150	1,288,589
Four years later					2,327,033	1,506,279	1,067,378	1,312,671	1,554,895	1,724,400
Five years later						1,419,374	1,139,987	1,318,671	1,523,508	1,634,638
Six years later							1,139,987	1,291,472	1,523,508	1,533,450
Seven years later								1,291,472	1,523,508	1,533,450
Eight years later									1,523,508	1,533,450
Nine years later										1,533,450
Increase (decrease) in estimate incurred claims and expenses from original estimate		(\$228,000)	\$356,000	\$43,478	(\$133,967)	(\$251,358)	(\$965,378)	(\$1,268,829)	(\$474,247)	(\$875,697)

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

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION
REQUIRED SUPPLEMENTARY INFORMATION
Reconciliation of Claims Liabilities by Type of Contract
For the Year Ended December 31, 2018

	General Liability	Automobile Liability	Property	Total
Unpaid claims and claim adjustment expenses - Beginning of Year - including Aggregate Adjustment	\$ 3,387,712	\$ 120,293	\$ 234,303	\$ 3,742,308
Incurred claims and claim adjustment expenses:				
Provision for insured events of the current year	958,461	45,267	791,980	1,795,708
Change in provision for insured events of prior years	(778,325)	(33,106)	111,034	(700,397)
Total incurred claims and claim adjustment expenses	180,136	12,161	903,014	1,095,311
Payments:				
Claims and claim adjustment expenses attributable to insured events of the current year	13,002	(16,443)	224,178	220,737
Claims and claim adjustment expenses attributable to insured events of prior years	562,235	46,091	323,191	931,517
Total Payments	575,237	29,648	547,369	1,152,254
Unpaid claims and claim adjustment expenses - End of Year	\$ 2,992,611	\$ 102,806	\$ 589,948	\$ 3,685,365

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 FIVE YEARS (1)

	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
<i>Traditional Plan:</i>					
Association's proportion of the net pension liability	0.002069%	0.002152%	0.002093%	0.002411%	0.002411%
Association's proportionate share of the net pension liability	\$ 324,586	\$ 488,683	\$ 362,534	\$ 289,865	\$ 283,973
Association's covered payroll	\$ 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	118.88%	183.32%	126.83%	96.06%	84.17%
Plan fiduciary net position as a percentage of the total pension liability	84.66%	77.25%	81.08%	86.45%	86.36%
<i>Member Directed Plan:</i>					
Association's proportion of the net pension asset	0.010132%	0.011055%	0.010468%		
Association's proportionate share of the net pension asset	\$ 354	\$ 46	\$ 40		
Association's covered payroll	\$ 55,540	\$ 57,389	\$ 73,642		
Association's proportionate share of the net pension asset as a percentage of its covered payroll	0.64%	0.08%	0.05%		
Plan fiduciary net position as a percentage of the total pension asset	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)

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
<i>Traditional Plan:</i>										
Contractually required contribution	\$ 39,452	\$ 35,494	\$ 31,989	\$ 34,302	\$ 36,212	\$ 43,861	\$ 31,306	\$ 28,316	\$ 29,018	\$ 21,892
Contributions in relation to the contractually required contribution	(39,452)	(35,494)	(31,989)	(34,302)	(36,212)	(43,861)	(31,306)	(28,316)	(29,018)	(21,892)
Contribution deficiency (excess)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Association's covered payroll	\$ 281,800	\$ 273,031	\$ 266,575	\$ 285,853	\$ 301,763	\$ 337,396	\$ 313,064	\$ 283,158	\$ 325,313	\$ 269,276
Contributions as a percentage of covered payroll	14.00%	13.00%	12.00%	12.00%	12.00%	13.00%	10.00%	10.00%	8.92%	8.13%

Member Directed Plan:

Contractually required contribution	\$ 5,692	\$ 5,554	\$ 5,452	\$ 6,996
Contributions in relation to the contractually required contribution	(5,692)	(5,554)	(5,452)	(6,996)
Contribution deficiency (excess)	\$ -	\$ -	\$ -	\$ -
Association's covered payroll	\$ 56,920	\$ 55,540	\$ 57,389	\$ 73,642
Contributions as a percentage of covered payroll	10.00%	10.00%	9.50%	9.50%

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

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

SEE ACCOMPANYING NOTES TO THE REQUIRED SUPPLEMENTARY INFORMATION

MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

SCHEDULES OF THE REQUIRED SUPPLEMENTARY INFORMATION

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

LAST TWO YEARS (1)

	<u>2018</u>	<u>2017</u>
Association's proportion of the net OPEB liability	0.002320%	0.002420%
Association's proportionate share of the net OPEB liability	\$ 251,935	\$ 244,379
Association's covered payroll	\$ 328,571	\$ 323,964
Association's proportionate share of the net OPEB liability as a percentage of its covered payroll	76.68%	75.43%
Plan fiduciary net position as a percentage of the total OPEB liability	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

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Contractually required contribution	\$ 2,277	\$ 4,951	\$ 7,913	\$ 6,157	\$ 6,116	\$ 3,174	\$ 12,567	\$ 11,659	\$ 13,598	\$ 18,213
Contributions in relation to the contractually required contribution	(2,277)	(4,951)	(7,913)	(6,157)	(6,116)	(3,174)	(12,567)	(11,659)	(13,598)	(18,213)
Contribution deficiency (excess)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Association's covered payroll	\$ 338,720	\$ 328,571	\$ 323,964	\$ 359,495	\$ 301,763	\$ 337,396	\$ 313,064	\$ 283,158	\$ 325,313	\$ 269,276
Contributions as a percentage of covered payroll	0.67%	1.51%	2.44%	1.71%	2.03%	0.94%	4.01%	4.12%	4.18%	6.76%

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, 2018

PENSION

OHIO PUBLIC EMPLOYEES RETIREMENT SYSTEM (OPERS)

Changes in benefit terms : There were no changes in benefit terms from the amounts reported for 2014-2018.

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.

OTHER POSTEMPLOYMENT BENEFITS (OPEB)

OHIO PUBLIC EMPLOYEES RETIREMENT SYSTEM (OPERS)

Changes in benefit terms : There were no changes in benefit terms from the amounts reported for 2017-2018.

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%.

STATISTICAL SECTION

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION
STATISTICAL SECTION
DECEMBER 31, 2018**

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

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These schedules contain trend information to help the reader understand and assess how the Association's financial position has changed over time.

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This schedule contains information to help the reader understand the sources of the Association's revenues.

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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.

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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.

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

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Invested in capital assets	\$ 10,400	\$ 10,299	\$ 9,621	\$ 19,641	\$ 17,192	\$ 11,747	\$ 8,756	\$ 6,395	\$ 2,839	\$ 3,890
Unrestricted	11,774,165	11,504,656	12,359,793	12,783,463	11,216,080	11,275,275	10,575,137	11,187,936	10,274,966	8,382,738
Total Net Position	<u>\$ 11,784,565</u>	<u>\$ 11,514,955</u>	<u>\$ 12,369,414</u>	<u>\$ 12,803,104</u>	<u>\$ 11,233,272</u>	<u>\$ 11,287,022</u>	<u>\$ 10,583,893</u>	<u>\$ 11,194,331</u>	<u>\$ 10,277,805</u>	<u>\$ 8,386,628</u>

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 2009-2018

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

Schedule 2

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
EXPENSES:										
Claim expenses										
Incurred claims and claim adjustment expenses	\$ 2,004,526	\$ 1,195,748	\$ 2,080,913	\$ 1,182,409	\$ 1,010,964	\$ 1,892,603	\$ 651,209	\$ 1,890,342	\$ 1,984,627	\$ 1,298,832
Reinsurance/insurance premiums	695,576	753,793	761,789	807,647	870,249	878,317	885,468	864,407	947,406	988,162
Members' dividends	369,300	1,901,982	-	1,276,154	3,254,320	1,325,803	2,389,527	51,712	1,636,299	3,035,305
Total claim expense	3,069,402	3,851,523	2,842,702	3,266,210	5,135,533	4,096,723	3,926,204	2,806,461	4,568,332	5,322,299
Total general and administrative expenses	668,721	677,469	691,571	733,355	751,099	757,719	758,871	826,140	835,464	881,436
Total operating expenses	3,738,123	4,528,992	3,534,273	3,999,565	5,886,632	4,854,442	4,685,075	3,632,601	5,403,796	6,203,735
REVENUES:										
Operating revenues										
Members' contributions	3,837,608	3,947,859	4,027,567	3,965,398	4,139,860	4,173,334	4,208,593	4,211,279	4,039,646	4,124,647
Claims deductibles	225,728	176,920	229,751	169,168	195,194	251,166	214,597	188,899	229,033	205,147
Other	131,146	18,700	26,620	36,482	24,862	37,437	39,109	93,488	35,770	48,670
Total operating revenues	4,194,482	4,143,479	4,283,938	4,171,048	4,359,916	4,461,937	4,462,299	4,493,666	4,304,449	4,378,464
Non-operating revenues										
Gain/Loss on disposal of capital assets			(151)	(580)	(265)	-	166	(304)	-	-
Interest income	225,581	41,066	104,281	75,136	55,996	119,888	151,016	201,828	245,259	245,073
Unrealized gain/loss on investment	222,068	74,837	664	187,651	(98,847)	326,367	(389,946)	(452,151)	(62,438)	(71,551)
Total non-operating revenues	447,649	115,903	104,794	262,207	(43,116)	446,255	(238,764)	(250,627)	182,821	173,522
Total revenues	4,642,131	4,259,382	4,388,732	4,433,255	4,316,800	4,908,192	4,223,535	4,243,039	4,487,270	4,551,986
CHANGES IN NET POSITION:										
Increase (decrease) in net position	904,008	(269,610)	854,459	433,690	(1,569,832)	53,750	(461,540)	610,438	(916,526)	(1,651,749)

Source: Audited Financial Statements for the years 2009-2018

Loss Development Report-Comparison of Dollar Losses and Claims Counts by Loss Year - As of December 31, 2018 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 12/31/18	Paid to Date 12/31/18
Loss Year 21 12/31/08-12/31/09 20 Member Cities	\$432,941 (320/36)	\$581,765 (343/6)	\$857,095 (347/8)	\$1,159,198 (347/5)	\$1,605,343 (347/5)	\$1,560,680 (347/1)	\$1,533,450 (347/0)	\$1,533,450 (347/0)	\$1,533,450 (347/0)	\$1,533,450 (347/0)	\$0 - LY 21 Closed	\$1,533,450
Loss Year 22 12/31/09-12/31/10 20 Member Cities	\$519,228 (331/40)	\$689,893 (363/7)	\$1,141,553 (366/6)	\$1,391,993 (367/4)	\$1,481,047 (368/4)	\$1,587,679 (368/0)	\$1,587,679 (368/0)	\$1,587,679 (368/0)	\$1,587,679 (368/0)		\$0 - LY 22 Closed	\$1,587,679
Loss Year 23 12/31/10-12/31/11 20 Member Cities	\$2,908,228 (416/51)	\$2,657,347 (439/4)	\$2,422,620 (443/6)	\$2,422,096 (443/3)	\$2,474,416 (444/3)	\$2,518,318 (444/2)	\$2,504,348 (444/0)	\$2,504,348 (444/0)			\$0 - LY 23 Closed	\$2,504,348
Loss Year 24 12/31/11-12/31/12 20 Member Cities	\$664,220 (337/57)	\$810,718 (366/3)	\$889,541 (368/3)	\$964,041 (368/2)	\$1,003,672 (368/2)	\$1,139,987 (368/0)	\$1,139,987 (368/0)				\$0 - LY 24 Closed	\$1,139,987
Loss Year 25 12/31/12-12/31/13 20 Member Cities	\$729,736 (360/43)	\$952,440 (371/9)	\$1,180,592 (374/6)	\$1,421,688 (374/5)	\$1,435,920 (375/2)	\$1,428,162 (375/0)					\$0 - LY 25 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)						\$1,245,335	\$1,822,344
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)							\$1,859,667	\$1,030,809
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)								\$1,894,699	\$992,357
Loss Year 29 12/31/16-12/31/17 20 Member Cities	\$963,801 (352/74)	\$1,113,265 (374/10)									\$1,535,225	\$1,056,860
Loss Year 30 12/31/17-12/31/18 20 Member Cities	\$972,843 (438/78)										\$2,080,426	\$399,041

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

Year Ended December 31

Member	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Beavercreek	\$221,747	\$221,919	\$235,484	\$247,239	\$243,516	\$272,287	\$252,044	\$404,225	\$396,331	\$376,481
Bellbrook	\$46,591	\$42,485	\$43,061	\$54,946	\$74,118	\$77,140	\$69,985	\$58,945	\$43,586	\$41,654
Blue Ash	\$276,742	\$262,775	\$227,704	\$240,172	\$256,961	\$274,384	\$242,578	\$270,782	\$305,552	\$272,335
Centerville	\$219,474	\$239,595	\$247,794	\$192,074	\$198,140	\$182,291	\$183,871	\$194,763	\$165,657	\$163,297
Englewood	\$171,505	\$231,831	\$205,979	\$145,508	\$157,223	\$142,257	\$143,500	\$122,470	\$110,777	\$121,263
Indian Hill	\$103,124	\$84,708	\$98,718	\$116,972	\$114,673	\$135,918	\$124,962	\$102,159	\$96,127	\$92,846
Kettering	\$463,568	\$513,606	\$480,720	\$488,029	\$527,445	\$569,468	\$504,942	\$510,029	\$483,326	\$482,101
Madeira	\$34,126	\$47,158	\$47,529	\$50,156	\$51,720	\$37,293	\$37,718	\$35,798	\$43,778	\$53,754
Mason	\$260,169	\$284,894	\$314,081	\$316,748	\$358,149	\$346,946	\$304,519	\$252,994	\$258,915	\$297,685
Miamisburg	\$218,096	\$188,032	\$174,104	\$204,148	\$232,959	\$214,458	\$227,484	\$248,201	\$218,238	\$234,983
Montgomery	\$83,948	\$105,152	\$116,047	\$123,881	\$131,749	\$114,304	\$120,712	\$104,255	\$104,963	\$110,282
NAWA ¹	\$25,089	\$23,071	\$24,422	\$26,426	\$7,939	\$12,481	\$11,835	\$11,018	\$7,807	\$7,630
Piqua	\$266,853	\$315,950	\$276,213	\$321,935	\$308,575	\$370,336	\$342,528	\$312,389	\$286,932	\$326,311
Sidney	\$242,884	\$262,532	\$276,769	\$274,799	\$297,323	\$275,604	\$291,276	\$267,186	\$248,446	\$268,006
Springdale	\$134,413	\$144,575	\$141,082	\$133,556	\$150,283	\$142,950	\$157,690	\$155,822	\$147,329	\$144,919
Tipp City	\$110,289	\$114,577	\$94,419	\$113,611	\$132,256	\$148,587	\$194,349	\$263,477	\$188,514	\$203,316
Troy	\$231,814	\$233,605	\$248,487	\$253,633	\$271,031	\$272,050	\$276,511	\$304,759	\$288,345	\$282,197
Vandalia	\$179,998	\$182,625	\$185,520	\$210,005	\$213,809	\$208,679	\$186,839	\$165,571	\$181,551	\$163,633
West Carrollton	\$127,426	\$117,440	\$99,912	\$87,456	\$104,785	\$104,806	\$149,097	\$152,266	\$114,605	\$121,320
Wilmington	\$254,970	\$303,332	\$265,297	\$229,142	\$230,042	\$237,165	\$257,999	\$199,029	\$204,166	\$180,841
Wyoming	\$98,285	\$107,990	\$144,226	\$144,962	\$137,163	\$123,930	\$93,154	\$99,813	\$119,701	\$134,793
Total	\$3,771,111	\$4,027,852	\$3,947,568	\$3,975,398	\$4,199,859	\$4,263,334	\$4,173,593	\$4,235,951	\$4,014,646	\$4,079,647

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 premiums.

Source: Association's internal records

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

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

DAYTON MSA	<u>2018</u>	<u>2017</u>
Population:	*	803,416
Total Personal Income (thousands \$):	*	\$36,722,900
Per Capita Personal Income:	*	\$45,708
GDP (million \$):	*	\$41,111
Wage and Salary Jobs:	*	398,960
Unemployment Rate:	4.6	4.2

Ten Largest Employers (employee count and %):

	Count	%		Count	%
Wright Patterson Air Force	28,000		Wright Patterson Air Force Base	27,585	7.08%
Premier Health	12,138		Premier Health Partners	13,858	3.56%
Kettering Health Network	8,909		Kettering Health Network	8,415	2.16%
Kroger Co.	4,855		Kroger Co.	5,151	1.32%
Montgomery County	4,366		Montgomery County	4,383	1.13%
Miami University	3,777		Miami University	3,778	0.97%
Sinclair Community College	3,085		Honda of America Manufacturing	3,300	0.85%
University of Dayton	3,028		Sinclair Community College	3,094	0.79%
Honda of America	3,000		LexisNexis	3,000	0.77%
LexisNexis	3,000		University of Dayton	2,964	

CINCINNATI MSA	<u>2018</u>	<u>2017</u>
Population:	*	2,179,082
Total Personal Income (thousands \$):	*	\$112,301,900
Per Capita Personal Income:	*	\$51,536
GDP (million \$):	*	\$138,034
Wage and Salary Jobs:	*	1,111,262
Unemployment Rate:	4.0	3.8

Ten Largest Employers (employee count and %):

	Count	%		Count	%
Kroger	21,263		Kroger	20,000	5.13%
Cincinnati Children's Hospital	15,429		University of Cincinnati	15,000	3.85%
Cincinnati/Northern KY Airport	12,682		Cincinnati Children's Hospital	12,000	3.08%
TriHealth	12,000		Proctor & Gamble	12,000	3.08%
UC Health	11,241		TriHealth Inc.	10,000	2.57%
University of Cincinnati	10,551		UC Health	8,000	2.05%
GE Transportation	10,500		GE Transportation	7,500	1.93%
Mercy Health	10,422		St. Elizabeth Healthcare	7,000	1.80%
Proctor and Gamble	10,000		Fifth Third Bank	7,000	1.80%

* This information is not yet available

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

Schedule 5

	<u>2016</u>	<u>2015</u>
DAYTON MSA		
Population:	800,683	800,909
Total Personal Income (thousands \$):	\$34,966,720	\$34,204,726
Per Capita Personal Income:	\$43,671	\$42,707
GDP (thousands \$):	\$394,216	\$39,206
Wage and Salary Jobs:	400,572	389,565
Unemployment Rate:	4.5%	4.5%

Ten Largest Employers (employee count and %):

	Count	%		Count	%
Wright Patterson Air Force Base	27,585	7.20%	Wright Patterson Air Force Base	26,270	6.74%
Premier Health Partners	13,500	3.52%	Premier Health Partners	13,500	3.47%
Kettering Health Network	8,288	2.16%	Kettering Health Network	8,259	2.12%
Montgomery County	4,389	1.14%	Montgomery County	4,343	1.11%
Kroger Co.	4,267	1.11%	Kroger Co.	4,335	1.11%
Wright State University	3,715	0.97%	Miami University	3,655	0.94%
Miami University	3,685	0.96%	LexisNexis	3,000	0.77%
Sinclair Community College	3,206	0.84%	Honda of America	2,800	0.72%
LexisNexis	3,000	0.78%	Wright State University	2,469	0.63%
Honda of America	2,850	0.74%	University of Dayton	2,453	0.63%

	<u>2016</u>	<u>2015</u>
CINCINNATI MSA		
Population:	2,165,139	2,157,719
Total Personal Income (thousands \$):	\$105,372,017	\$101,960,460
Per Capita Personal Income:	\$48,668	\$47,254
GDP (thousands \$):	\$132,010	\$127,057
Wage and Salary Jobs:	1,096,885	1,077,899
Unemployment Rate:	3.8%	4.3%

Ten Largest Employers (employee count and %):

	Count	%		Count	%
Kroger Co.	20,000	5.22%	Kroger Co.	21,646	2.01%
University of Cincinnati	15,000	3.91%	University of Cincinnati	16,016	1.49%
Cincinnati Children's Hospital	12,000	3.13%	Cincinnati Children's Hospital	14,944	1.39%
Proctor & Gamble	12,000	3.13%	TriHealth Inc	11,800	1.09%
TriHealth Inc.	10,000	2.61%	Proctor & Gambe	11,000	1.02%
UC Health	8,000	2.09%	UC Health	10,000	0.93%
GE Transportation	7,500	1.96%	GE Aviation	7,800	0.72%
St. Elizabeth Healthcare	7,000	1.83%	Mercy Health - Cincinnati	7,500	0.70%
Fifth Third Bank	7,000	1.83%	St. Elizabeth Healthcare	7,479	0.69%
			Fifth Third Bancorp	6,882	0.64%

Miami Valley Risk Management Association
Demographic Statistics
Last 10 Years

Schedule 5

	<u>2014</u>	<u>2013</u>
DAYTON MSA		
Population:	800,836	802,489
Total Personal Income (thousands \$):	33,143,730	\$32,382,822
Per Capita Personal Income:	41,386	\$40,353
GDP (thousands \$):	38,178,000	\$37,534,000
Wage and Salary Jobs:	383,380	378,185
Unemployment Rate:	5.8%	7.8%

Ten Largest Employers (employee count and %):

	Count	%		Count	%
Wright Patterson Air Force Base	27,500	7.17%	Wright Patterson Air Force Base	29,000	7.67%
Premier Health Partners	13,500	3.52%	Premier Health Partners	14,765	3.90%
Kettering Health Network	7,115	1.86%	Kettering Health Network	7,000	1.85%
Kroger Company	5,582	1.46%	Kroger Company	4,950	1.31%
Montgomery County	4,328	1.13%	Montgomery County	3,884	1.03%
Miami University	3,564	0.93%	LexisNexis	3,600	0.95%
Wright State University	3,303	0.86%	Miami University	3,313	0.88%
LexisNexis	3,200	0.83%	Sinclair College	2,613	0.69%
Sinclair Community College	2,601	0.68%	Honda of America	2,500	0.66%
Honda of America	2,600	0.68%	Wright State University	2,403	0.64%

	<u>2014</u>	<u>2013</u>
CINCINNATI MSA		
Population:	2,149,449	2,150,524
Total Personal Income (thousands \$):	\$98,613,244	\$93,882,332
Per Capita Personal Income:	\$45,878	\$43,923
GDP (thousands \$):	121,407,000	\$119,090,000
Wage and Salary Jobs:	\$1,507,998	\$1,040,070
Unemployment Rate:	5.4%	7.2%

Ten Largest Employers (employee count and %):

	Count	%		Count	%
Kroger Company	17,000	1.13%	Kroger Company	17,000	1.63%
University of Cincinnati	15,162	1.01%	University of Cincinnati	15,162	1.46%
Procter & Gamble Co.	14,000	0.93%	Procter & Gamble Co.	14,000	1.35%
Cincinnati Children's Hospital	12,057	0.80%	Cincinnati Children's Hospital	12,057	1.16%
TriHealth Inc.	8,898	0.59%	TriHealth Inc.	8,898	0.86%
Mercy Health Partners	8,550	0.57%	Mercy Health Partners	8,550	0.82%
Archdiocese of Cincinnati	8,000	0.53%	Archdiocese of Cincinnati	8,000	0.77%
GE Aviation	7,300	0.48%	GE Aviation	7,300	0.70%
Wal-Mart Stores	6,932	0.46%	Wal-Mart Stores	6,932	0.67%
St. Elizabeth Healthcare	6,839	0.45%	St. Elizabeth Healthcare	6,839	0.66%

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

Schedule 5

	<u>2012</u>	<u>2011</u>
DAYTON MSA		
Population:	803,185	802,970
Total Personal Income (thousands \$):	\$31,933,183	\$31,082,885
Per Capita Personal Income:	\$39,758	\$38,710
GDP (thousands \$):	\$37,211,000	\$35,776,000
Wage and Salary Jobs:	378,169	374,633
Unemployment Rate:	7.8%	9.4%

Ten Largest Employers (employee count and %):

	Count	%		Count	%
Wright Patterson Air Force Base	27,400	7.25%	Wright Patterson Air Force Base	27,400	7.31%
Premier Health Partners	14,548	3.85%	Premier Health Partners	14,135	3.77%
Kettering Health Network	5,496	1.45%	Kettering Health Network	5,029	1.34%
Kroger Co.	4,950	1.31%	Montgomery County	4,559	1.22%
Montgomery County	4,363	1.15%	Kroger Co.	4,100	1.09%
LexisNexis	3,400	0.90%	LexisNexis	3,100	0.83%
Sinclair Community College	2,726	0.72%	Sinclair Community College	2,726	0.73%
Dayton City Schools	2,574	0.68%	Dayton Public Schools	2,574	0.69%
AK Steel Holding Corp.	2,400	0.63%	Wright State University	2,417	0.65%
Honda of America Manufacturing	2,400	0.63%	AK Steel Holding Corp.	2,400	0.64%
			Honda of America Manufacturing	2,400	0.64%

	<u>2012</u>	<u>2011</u>
CINCINNATI MSA		
Population:	2,128,603	2,138,038
Total Personal Income (thousands \$):	92,431,519	88,297,133
Per Capita Personal Income:	\$43,454	\$40,918
GDP (thousands \$):	\$115,124,000	\$108,509,000
Wage and Salary Jobs:	1,027,637	1,013,214
Unemployment Rate:	7.4%	8.9%

Ten Largest Employers (employee count and %):

	Count	%		Count	%
Kroger Company	20,646	2.01%	Kroger Co.	19,000	1.88%
University of Cincinnati	15,329	1.49%	University of Cincinnati	15,374	1.52%
Cincinnati Children's Hospital	12,564	1.22%	Procter & Gamble Co.	12,500	1.23%
Procter & Gamble Co.	12,000	1.17%	Cincinnati Children's Hospital	12,332	1.22%
TriHealth Inc.	10,400	1.01%	TriHealth Inc.	10,197	1.01%
Mercy Health Partners	8,940	0.87%	Mercy Health	8,817	0.87%
UC Health	8,670	0.84%	Archdiocese of Cincinnati	7,500	0.74%
GE Aviation	7,500	0.73%	GE Aviation	7,400	0.73%
St. Elizabeth Healthcare	7,251	0.71%	St. Elizabeth Healthcare	7,300	0.72%
Fifth Third Bancorp	7,180	0.70%	Fifth Third Bankcorp	7,063	0.70%

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

Schedule 5

	<u>2010</u>	<u>2009</u>
DAYTON MSA		
Population:	801,899	798,895
Total Personal Income (thousands \$):	\$29,319,944	\$28,659,908
Per Capita Personal Income:	\$36,563	\$35,874
GDP (thousands \$):	\$34,271,000	\$33,234,000
Wage and Salary Jobs:	369,829	373,351
Unemployment Rate:	11.0%	11.3%

Ten Largest Employers (employee count and %):

	<u>Count</u>	<u>%</u>		<u>Count</u>	<u>%</u>
Wright Patterson Air Force Base	25,000	6.61%	Wright Patterson Air Force Base	25,000	6.67%
Premier Health Partners	14,070	3.72%	Premier Health Partners	14,334	3.83%
Kettering Health Network	5,452	1.44%	Kettering Health Network	5,630	1.50%
Kroger Co.	4,800	1.27%	Montgomery County	4,635	1.24%
Montgomery County	4,595	1.22%	Honda of America Manufacturing	3,000	0.80%
LexisNexis	3,000	0.79%	Kroger Co.	3,000	0.80%
Sinclair Community College	2,720	0.72%	LexisNexis	3,000	0.80%
Honda of America Manufacturing	2,710	0.72%	Dayton Public Schools	2,674	0.71%
Dayton Public Schools	2,574	0.68%	Sinclair Community College	2,650	0.71%
AK Steel Corp.	2,400	0.63%	Wright State University	2,279	0.61%

	<u>2010</u>	<u>2009</u>
CINCINNATI MSA		
Population:	2,132,415	2,123,378
Total Personal Income (thousands \$):	82,796,790	81,507,977
Per Capita Personal Income:	\$39,105	\$38,332
GDP (thousands \$):	\$104,538,000	\$100,626,000
Wage and Salary Jobs:	1,005,942	1,020,410
Unemployment Rate:	9.9%	9.5%

Ten Largest Employers (employee count and %):

	<u>Count</u>	<u>%</u>		<u>Count</u>	<u>%</u>
Kroger Co.	17,000	0.01%	Kroger Co.	17,000	0.02%
University of Cincinnati	15,162	0.01%	University of Cincinnati	15,340	0.01%
Procter & Gamble	14,000	0.01%	Procter & Gamble	13,000	0.01%
Cincinnati Children's Hospital	12,057	0.01%	Cincinnati Children's Hospital	11,385	0.01%
TriHealth Inc.	9,898	0.01%	Hlth Alliance of Greater Cinn.	10,000	0.01%
Mercy Health Partners	8,550	0.01%	TriHealth	9,875	0.01%
Archdiocese of Cincinnati	8,000	0.01%	Archdiocese of Cincinnati	8,000	0.01%
GE Aviation	7,300	0.01%	Walmart Stores	7,375	0.01%
Walmart Stores	6,932	0.01%	Mercy Health Partners SW Ohio	7,316	0.01%
St. Elizabeth Healthcare	6,839	0.01%	Fifth Third Bancorp	7,219	0.01%

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 -- 2018 / Loss Year 30
2018 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	48	95	120	\$37,187,098	\$21,017,345	\$135,665	9.22284%
Bellbrook	6,943	12	21	30	\$14,736,814	\$5,369,753	\$2,047	1.02625%
Blue Ash	12,114	34	108	113	\$105,131,960	\$34,591,458	\$75,207	6.67274%
Centerville	23,999	40	82	94	\$36,781,533	\$17,718,617	\$24,017	4.01142%
Englewood	13,465	20	55	62	\$40,160,603	\$13,014,472	\$24,923	2.97189%
Indian Hill	5,785	20	57	61	\$26,967,014	\$15,599,813	\$13,638	2.27816%
Kettering	56,163	83	318	247	\$195,435,379	\$68,350,197	\$61,532	11.82233%
Madeira	8,726	13	15	19	\$5,332,383	\$4,294,613	\$13,214	1.31149%
Mason	30,712	51	145	143	\$140,956,150	\$44,218,344	\$44,279	7.28050%
Miamisburg	20,181	32	103	109	\$55,052,862	\$22,562,604	\$65,361	5.76218%
Montgomery	10,251	20	44	48	\$26,924,102	\$12,817,762	\$27,123	2.70052%
NAWA	-	0	4	2	\$14,845,395	\$1,243,673	\$0	0.18806%
Piqua	20,522	35	194	171	\$151,770,240	\$53,283,347	\$59,231	7.99167%
Sidney	21,229	38	156	137	\$84,685,154	\$26,291,667	\$61,988	6.56709%
Springdale	11,223	33	77	75	\$40,731,377	\$19,599,494	\$26,807	3.55462%
Tipp City	9,689	19	49	91	\$39,794,060	\$25,387,218	\$71,892	4.99390%
Troy	25,058	43	144	137	\$100,457,084	\$30,957,316	\$61,483	6.92206%
Vandalia	15,246	30	99	115	\$61,158,045	\$21,542,534	\$22,012	4.01040%
West Carrollton	13,143	21	41	63	\$31,845,415	\$11,680,441	\$29,753	2.98267%
Wilmington	12,520	22	113	136	\$76,895,258	\$17,968,248	\$32,821	4.43738%
Wyoming	8,428	18	31	37	\$31,614,419	\$9,655,236	\$46,015	3.29184%
MVRMA Totals	370,590	645	1938	2010	\$1,318,462,345	\$477,164,152	\$899,008	100.00000%

Notes:

- The data is as of 8/31/17 unless otherwise noted.
- "Avg. Annual Adjusted Losses" are calculated by averaging each member's losses for the years 2013, 2014, 2015 & 2016.
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 15, 2017.
- 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.
- "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.
- 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:

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

Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)						Net Operating Expenditures	
	Average Annual Losses	Population	Full-Time Employees	Full-Time Sworn Police	Titled Vehicles	PP/RP Values		
2009	\$708,014	348,100	2,032	645	1,933	\$914,069,611	\$396,081,790	100.00%
2010	\$847,609	348,100	2,020	642	1,926	\$959,970,282	\$396,536,755	100.00%
2011	\$768,322	348,100	1,954	632	1,920	\$1,018,755,061	\$412,734,256	100.00%
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	1,938	645	2,010	\$1,318,462,345	\$477,164,152	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%

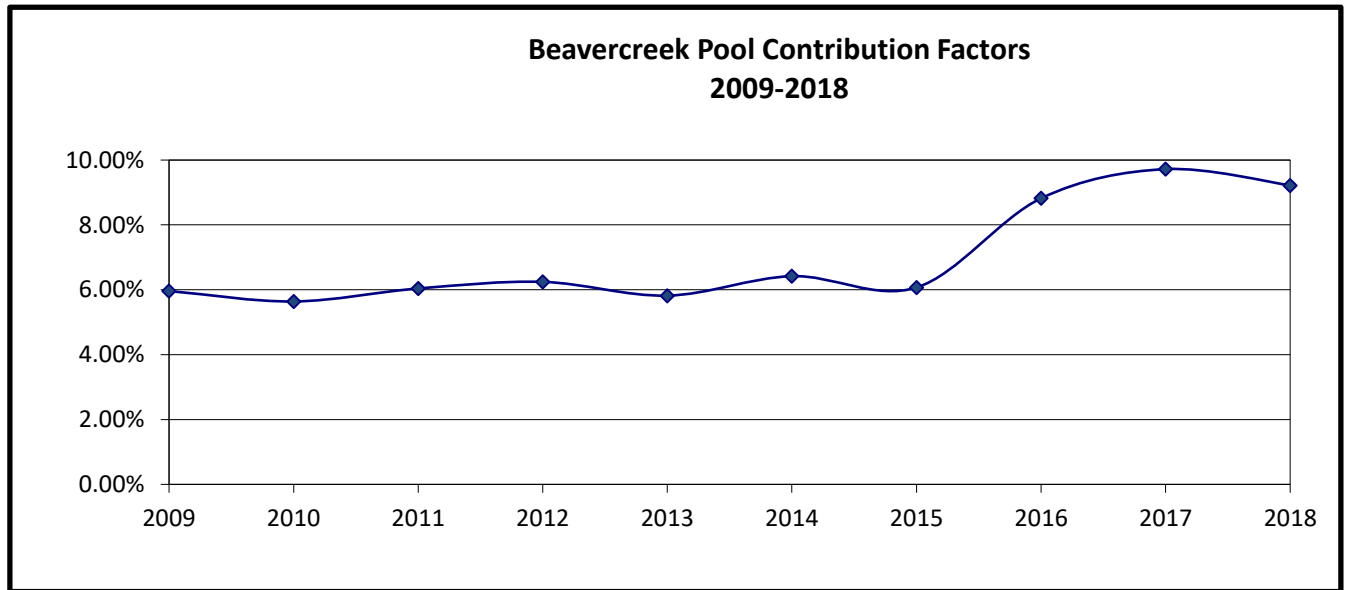
Note: In 2007, NAWA, a joint venture water authority shared by the cities of Tipp City and Vandalia, was included as a separate entity when co factors were calculated for each member of the pool. Calculating a separate contribution factor for NAWA was simply a means of separating it from the cities of Tipp City and Vandalia. The 2007-2010 totals above include the following information submitted for NAWA:

NAWA - 2009	\$8,750	0	3	0	1	\$12,300,907	\$819,802	0.61%
NAWA - 2010	\$8,750	0	3	0	1	\$12,601,281	\$862,624	0.54%
NAWA - 2011	\$8,750	0	4	0	1	\$12,384,113	\$1,060,718	0.57%
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%

Source: Association's internal records

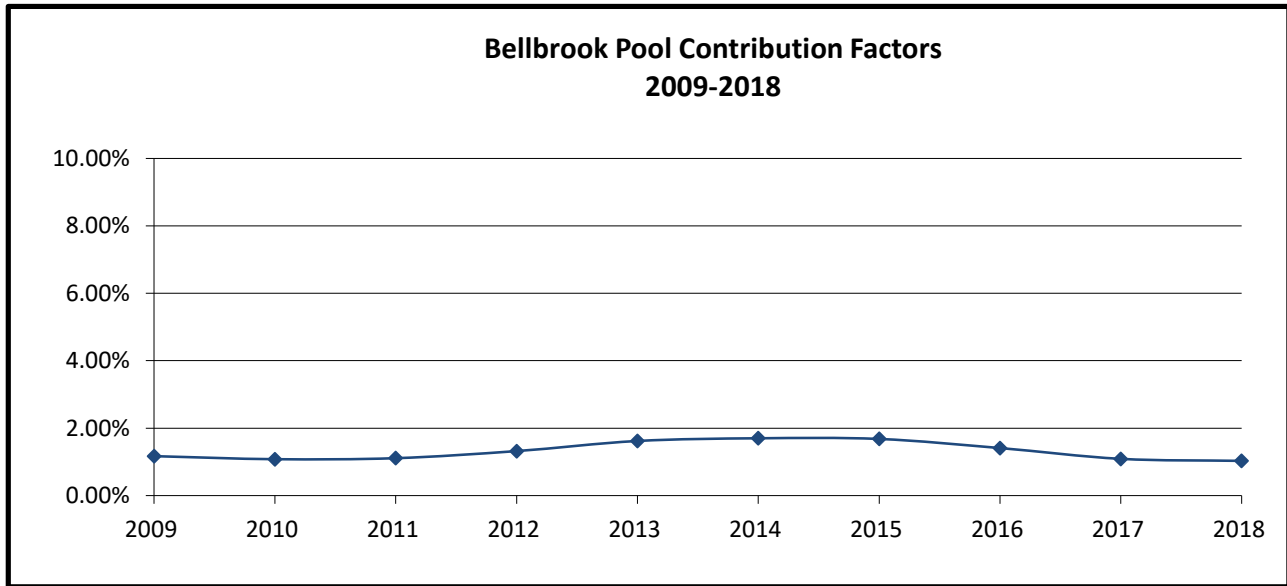
Membership Year	Risk Exposure							Pool Contribution Factors
	Average Annual Losses	Population	(Non-Police)				Net Operating Expenditures	
			Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values		
2009	\$44,102	37,984	48	84	104	\$26,337,822	\$16,759,148	5.96%
2010	\$45,982	37,984	46	82	96	\$26,848,883	\$18,056,350	5.64%
2011	\$50,220	37,984	46	88	96	\$26,944,472	\$18,189,385	6.04%
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	\$37,187,098	\$21,017,345	8.82%
2017	\$139,604	45,193	48	86	115	\$34,916,451	\$19,362,614	9.74%
2018	\$135,665	45,193	48	95	120	\$37,187,098	\$21,017,345	9.22%

Source: Association's internal records



Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2009	\$3,425	7,009	12	25	33	\$11,359,892	\$4,086,026	1.17%
2010	\$1,517	7,009	12	26	33	\$11,598,240	\$4,316,695	1.08%
2011	\$1,380	7,009	12	26	34	\$13,620,523	\$4,383,111	1.11%
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	1.10%
2018	\$2,047	6,943	12	21	30	\$14,736,814	\$5,369,753	1.03%

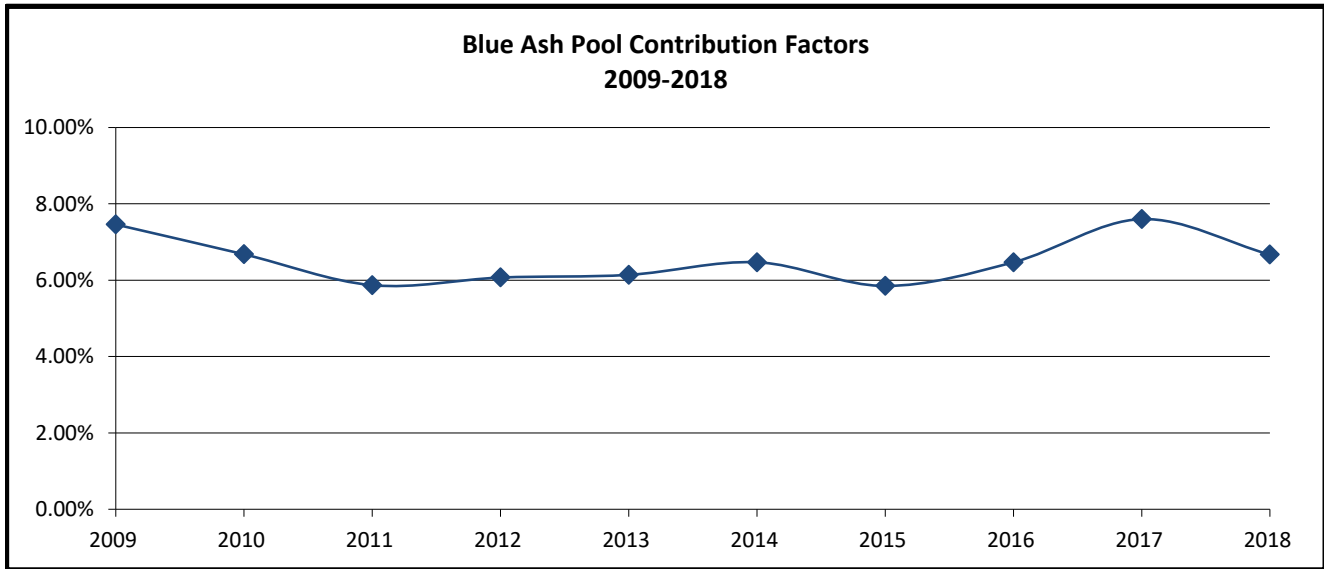
Source: Association's internal records



Last Ten Years

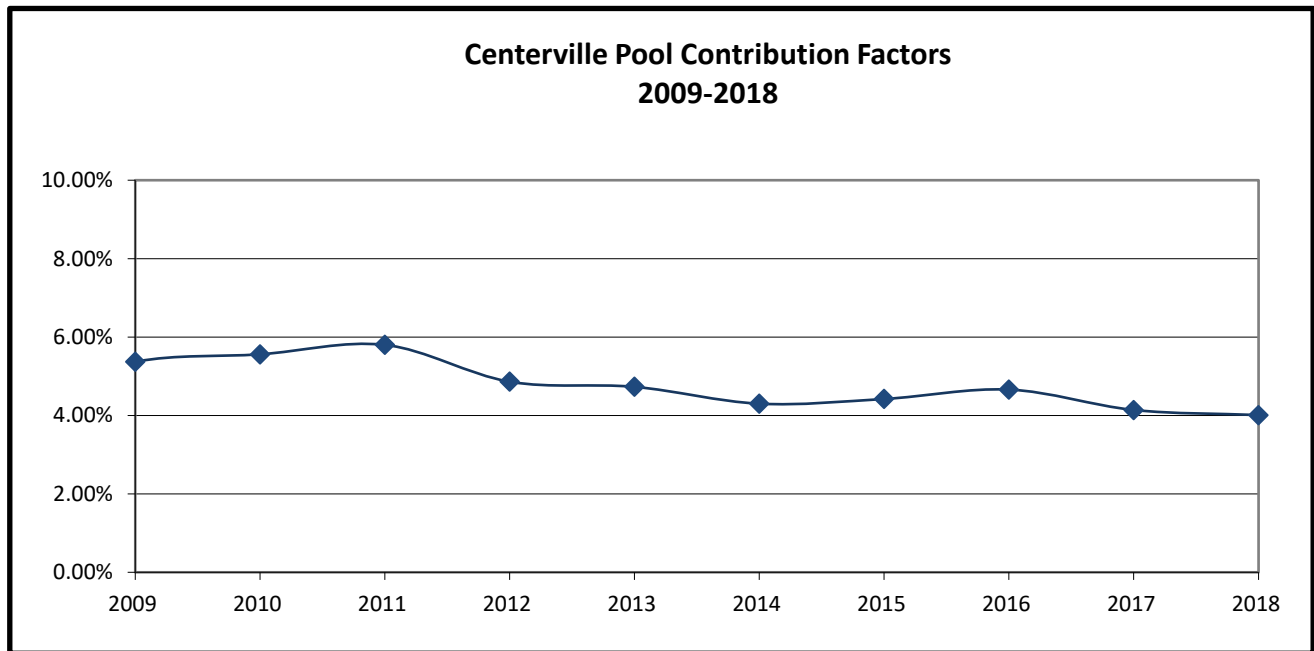
Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2009	\$77,204	12,513	38	110	109	\$70,756,876	\$24,211,958	7.46%
2010	\$71,848	12,513	37	106	115	\$76,921,838	\$24,173,860	6.68%
2011	\$45,746	12,513	37	104	108	\$87,598,219	\$24,786,830	5.87%
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	7.61%
2018	\$75,207	12,114	34	108	113	\$105,131,960	\$34,591,458	6.67%

Source: Association's internal records



Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2009	\$45,062	23,024	41	79	90	\$29,783,636	\$17,647,206	5.37%
2010	\$59,427	23,024	43	80	88	\$36,455,615	\$13,498,803	5.56%
2011	\$58,028	23,024	42	78	88	\$34,958,605	\$17,809,067	5.80%
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	4.16%
2018	\$24,017	23,999	40	82	94	\$36,781,533	\$17,718,617	4.01%

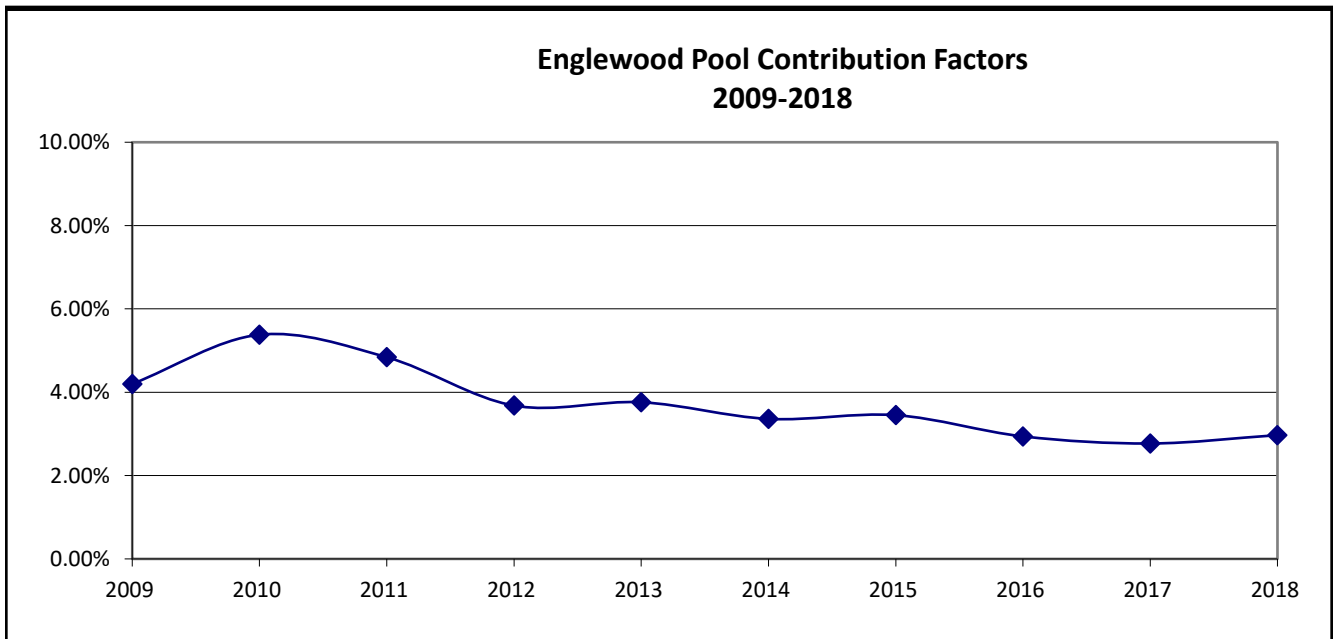
Source: Association's internal records



Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2009	\$46,536	12,235	20	45	68	\$28,179,154	\$10,664,007	4.20%
2010	\$85,660	12,235	20	44	66	\$29,955,893	\$10,779,062	5.38%
2011	\$65,485	12,235	20	45	66	\$29,697,266	\$11,102,203	4.84%
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	13465	20	50	63	\$32,153,474	\$11,290,786	3.45%
2016	\$22,670	13465	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	2.94%
2018	\$24,923	13465	20	55	62	\$40,160,603	\$13,014,472	2.97%

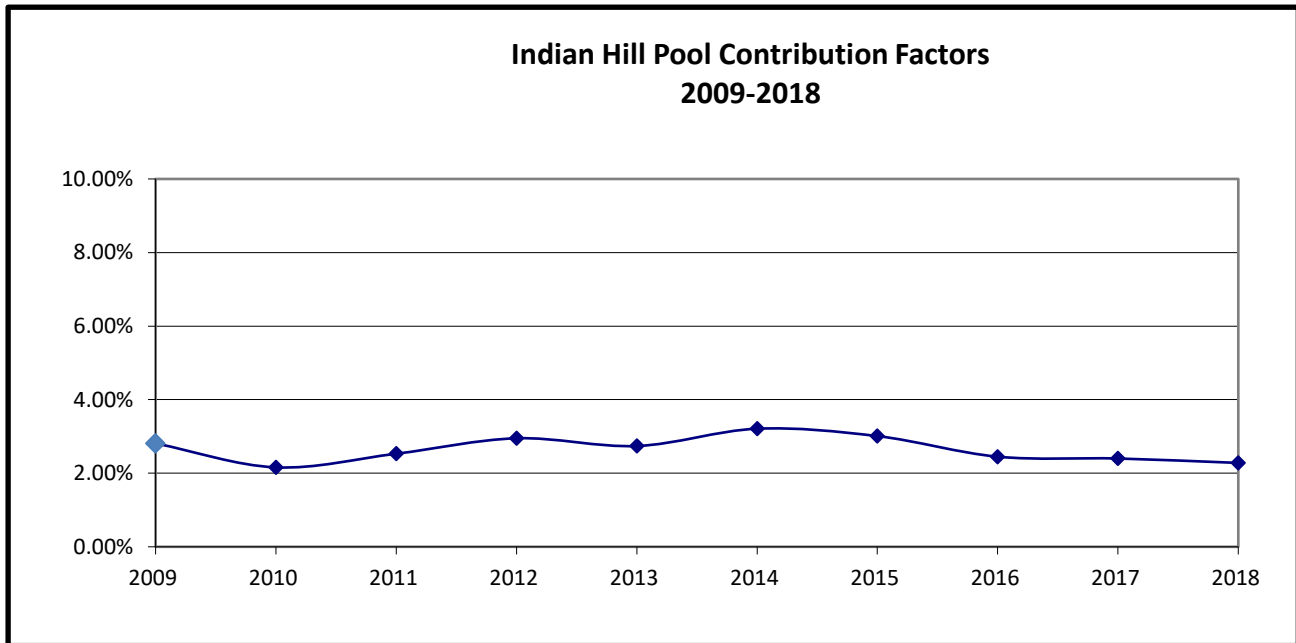
Source: Association's internal records



Last Ten Years

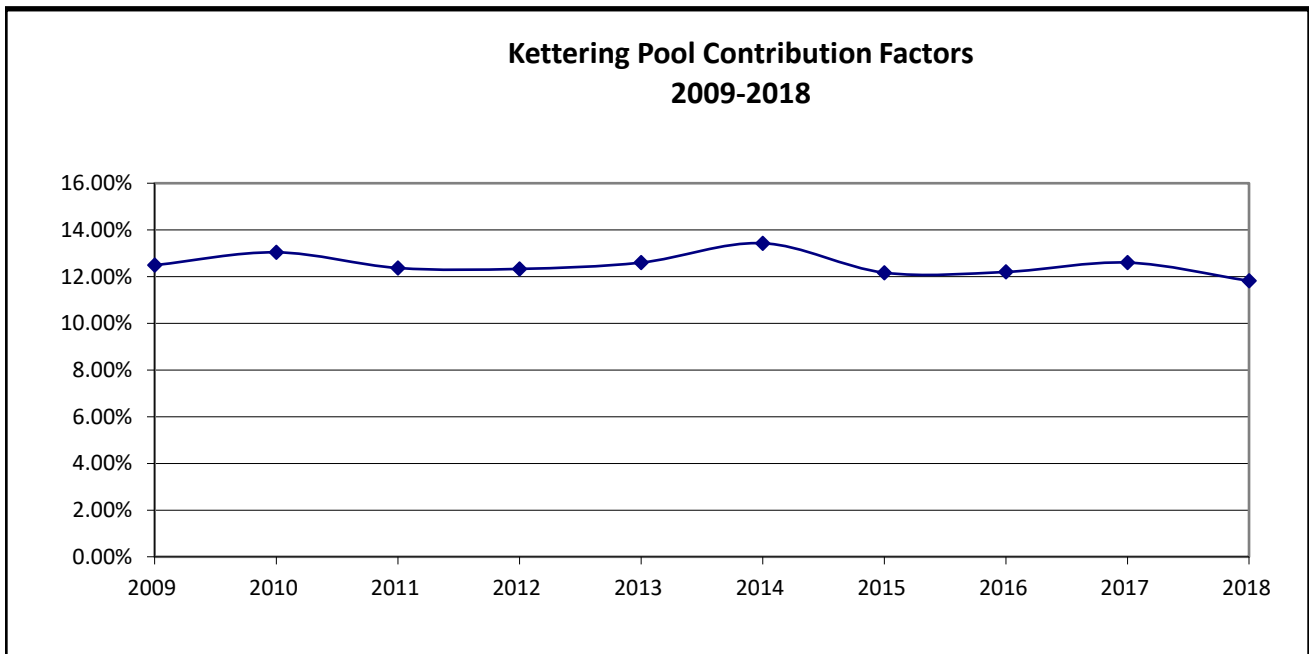
Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2009	\$22,065	5,907	20	63	67	\$17,217,305	\$10,520,453	2.81%
2010	\$11,308	5,907	19	59	65	\$23,536,511	\$7,930,463	2.16%
2011	\$17,119	5,907	20	59	58	\$24,018,096	\$11,520,812	2.53%
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	\$13,638	5,785	20	57	61	\$26,967,014	\$15,599,813	2.28%

Source: Association's internal records



Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2009	\$59,798	57,502	82	303	267	\$142,973,189	\$53,256,573	12.49%
2010	\$81,829	57,502	83	312	260	\$146,813,009	\$58,321,082	13.04%
2011	\$62,797	57,502	81	298	254	\$157,357,696	\$55,958,354	12.37%
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	12.08%
2018	\$61,532	56,163	83	318	247	\$195,435,379	\$68,350,197	11.82%

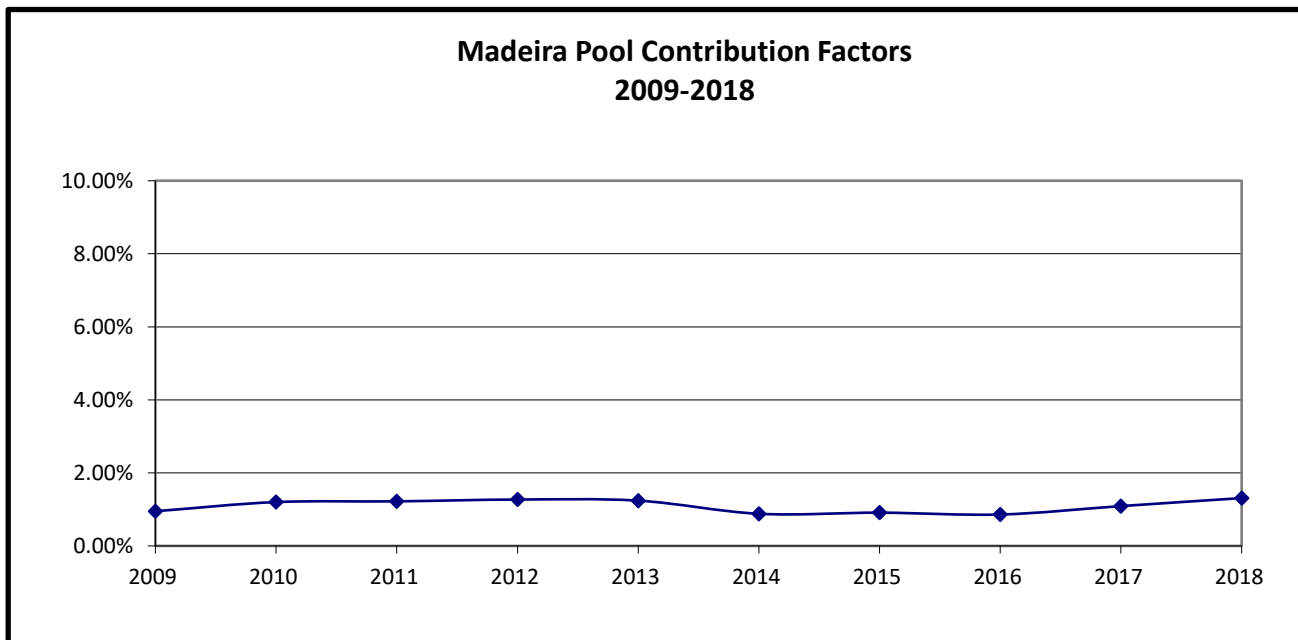
Source: Association's internal records



Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2009	\$2,627	8,923	13	11	18	\$4,679,431	\$3,405,316	0.95%
2010	\$9,568	8,923	12	12	18	\$4,763,287	\$3,641,039	1.20%
2011	\$9,568	8,923	13	12	20	\$4,750,274	\$2,090,829	1.22%
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	\$13,214	8,726	13	15	19	\$5,332,383	\$4,294,613	1.31%

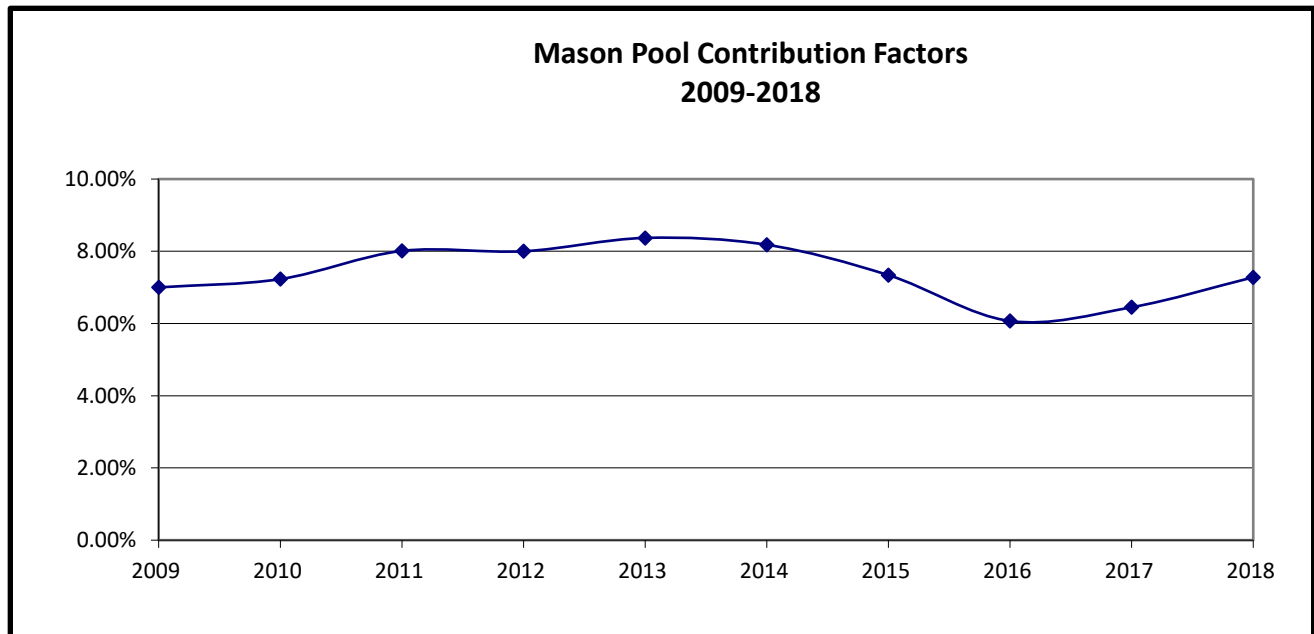
Source: Association's internal records



Last Ten Years

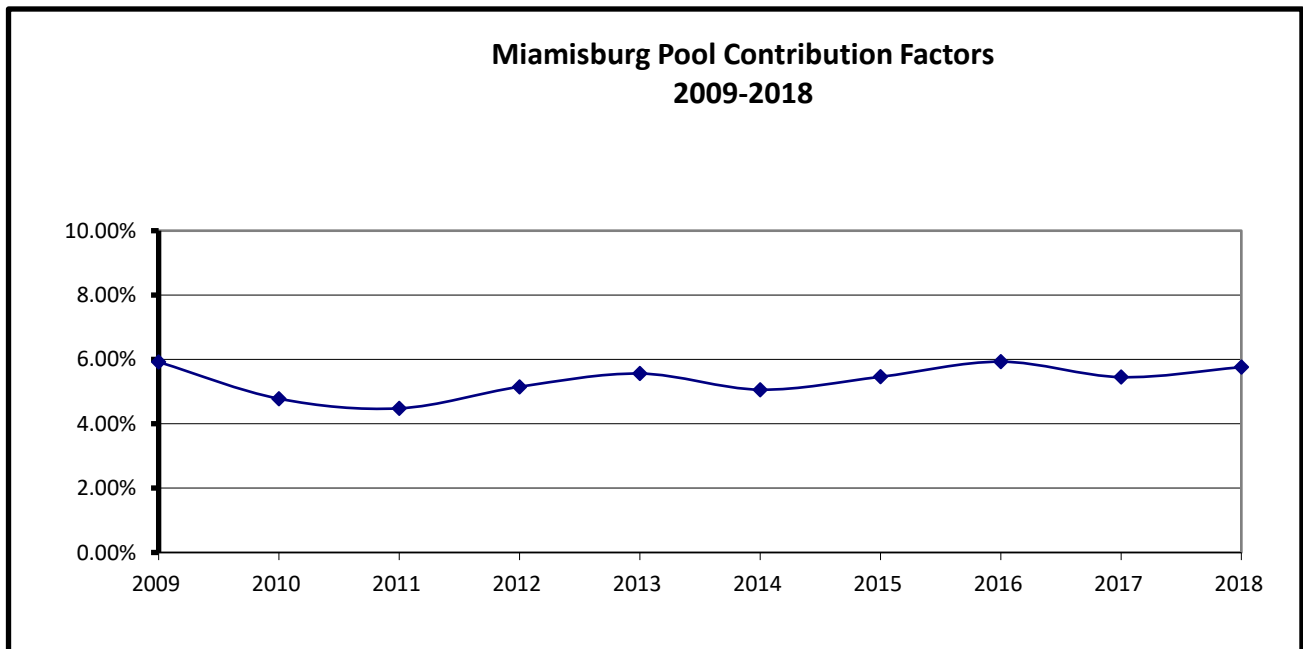
Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2009	\$44,785	22,016	43	142	120	\$96,742,995	\$28,900,206	7.00%
2010	\$59,237	22,016	43	149	128	\$99,265,213	\$26,767,913	7.23%
2011	\$64,269	22,016	43	148	131	\$116,229,359	\$33,361,055	8.01%
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	6.46%
2018	\$44,279	30,712	51	145	143	\$140,956,150	\$44,218,344	7.28%

Source: Association's internal records



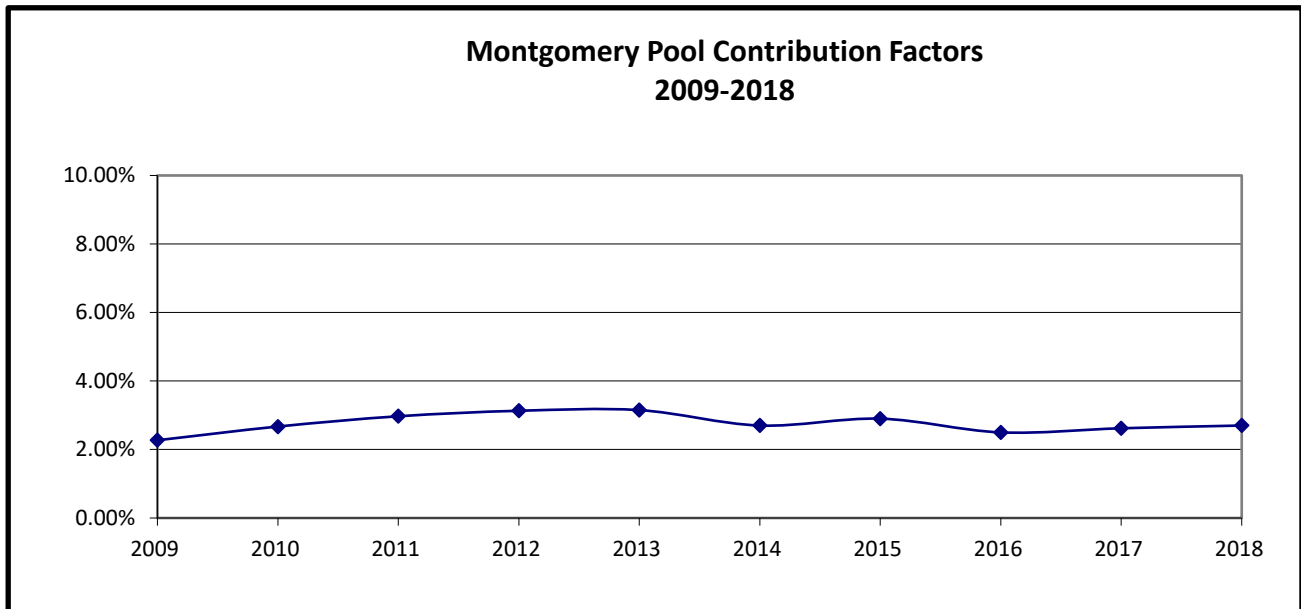
Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2009	\$41,982	19,489	41	144	124	\$42,746,457	\$21,082,751	5.92%
2010	\$22,345	19,489	40	138	122	\$44,344,585	\$21,937,415	4.78%
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	5.46%
2018	\$65,361	20,181	32	103	109	\$55,052,862	\$22,562,604	5.76%

Source: Association's internal records



Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2009	\$12,643	10,163	21	43	47	\$16,251,860	\$10,011,595	2.27%
2010	\$23,895	10,163	21	44	53	\$17,180,169	\$10,465,396	2.67%
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	\$27,123	10,251	20	44	48	\$26,924,102	\$12,817,762	2.70%

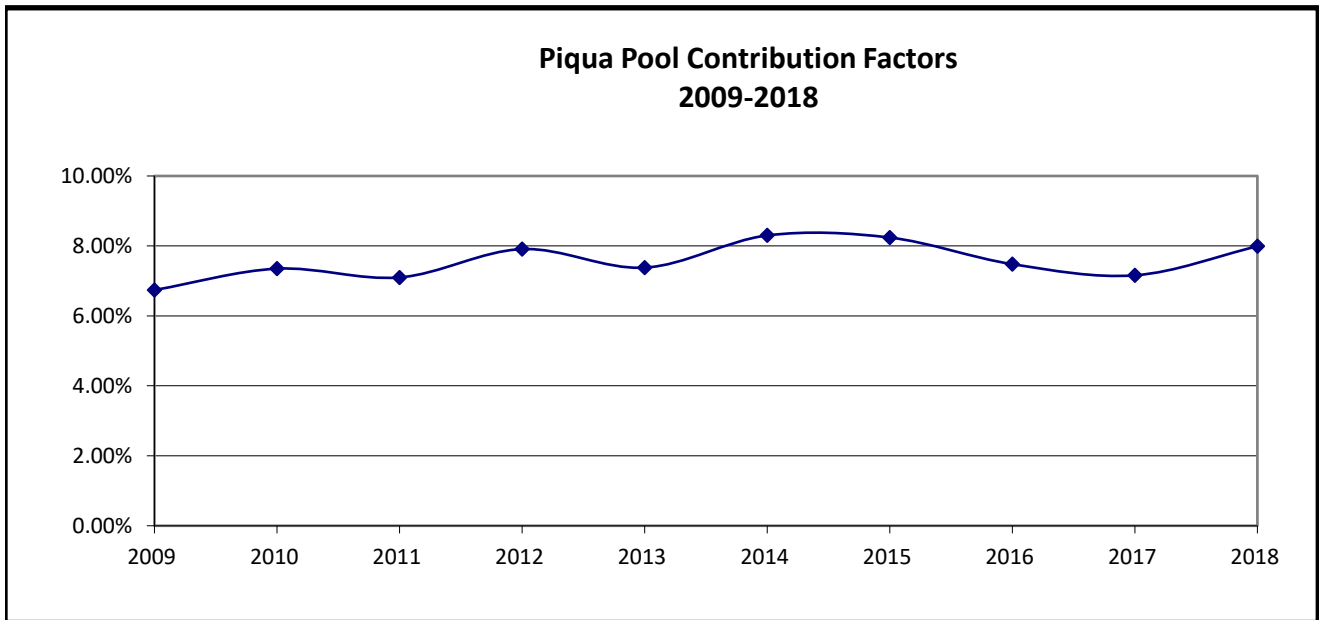
Source: Association's internal records



Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2009	\$42,118	20,738	31	170	141	\$57,301,594	\$40,094,414	6.74%
2010	\$60,917	20,738	33	168	142	\$62,544,120	\$44,851,674	7.35%
2011	\$54,193	20,738	31	160	140	\$62,925,749	\$42,344,214	7.10%
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	7.17%
2018	\$59,231	20,522	35	194	171	\$151,770,240	\$53,283,347	7.99%

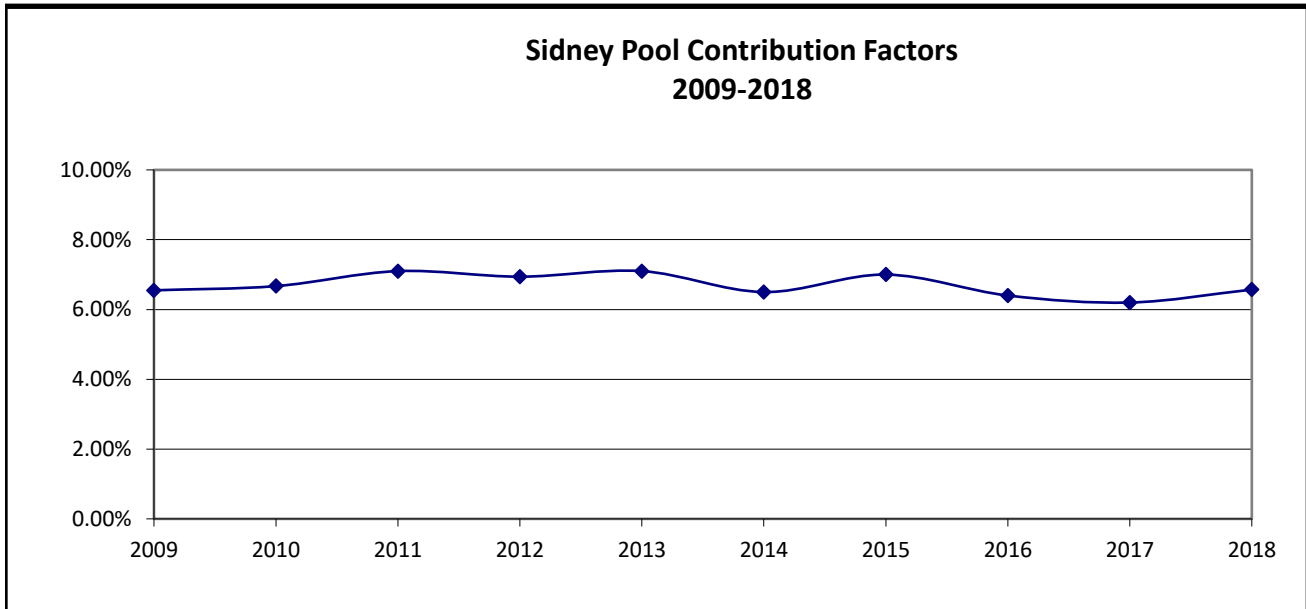
Source: Association's internal records



Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2009	\$39,636	20,211	40	170	158	\$67,197,507	\$24,766,441	6.55%
2010	\$49,652	20,211	40	160	152	\$72,897,123	\$27,683,855	6.67%
2011	\$58,830	20,211	40	153	154	\$71,697,298	\$24,349,332	7.10%
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	6.21%
2018	\$61,988	21,229	38	156	137	\$84,685,154	\$26,291,667	6.57%

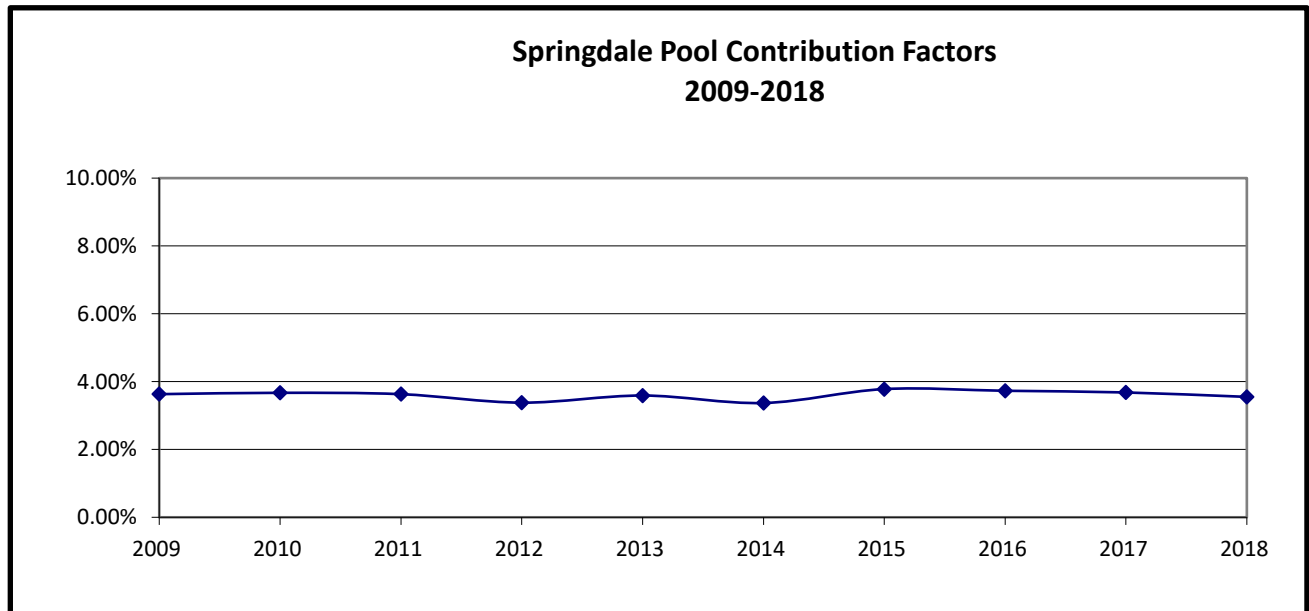
Source: Association's internal records



Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2009	\$17,448	10,563	39	88	74	\$35,005,878	\$16,818,005	3.63%
2010	\$22,180	10,563	38	83	74	\$35,784,392	\$18,081,809	3.67%
2011	\$20,750	10,563	36	82	73	\$37,207,591	\$17,144,932	3.63%
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	3.69%
2018	\$26,807	11,223	33	77	75	\$40,731,377	\$19,599,494	3.55%

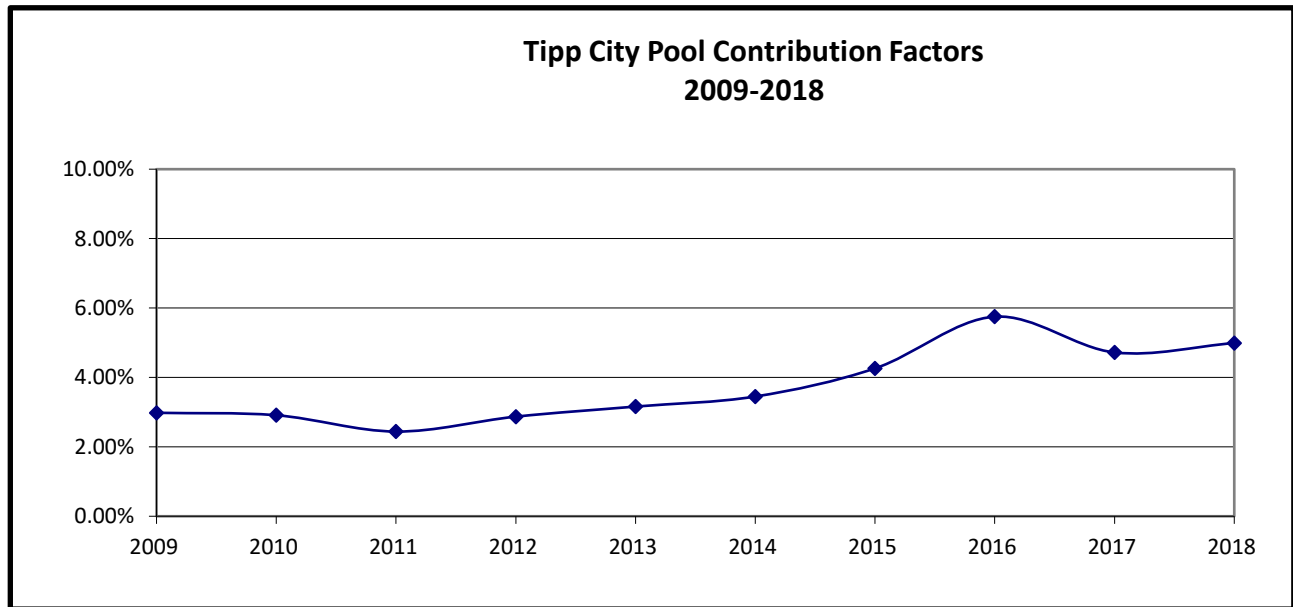
Source: Association's internal records



Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2009	\$18,922	9,221	19	49	76	\$24,987,692	\$16,376,219	2.98%
2010	\$20,083	9,221	19	48	77	\$25,772,171	\$17,518,594	2.91%
2011	\$6,357	9,221	19	52	78	\$25,554,338	\$18,924,381	2.44%
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	4.73%
2018	\$71,892	9,689	19	49	91	\$39,794,060	\$25,387,218	4.99%

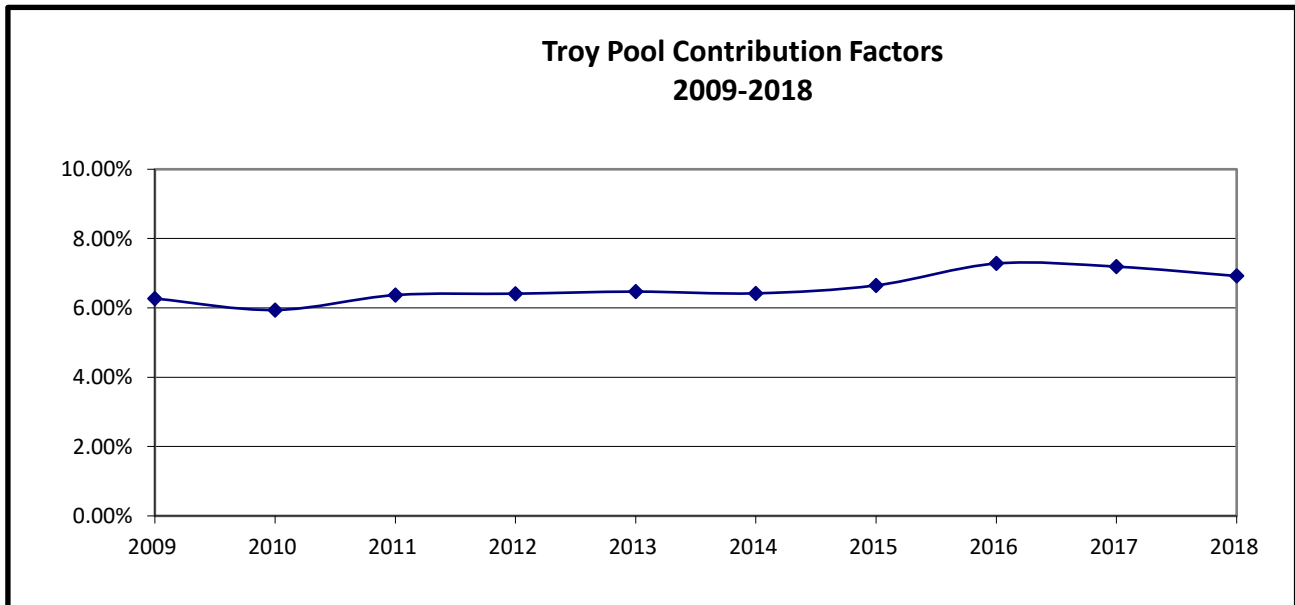
Source: Association's internal records



Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2009	\$33,829	21,999	41	161	117	\$80,322,304	\$26,193,873	6.27%
2010	\$33,879	21,999	41	165	116	\$77,486,302	\$25,605,656	5.94%
2011	\$43,029	21,999	40	149	118	\$77,867,665	\$26,778,965	6.37%
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	7.20%
2018	\$61,483	25,058	43	144	137	\$100,457,084	\$30,957,316	6.92%

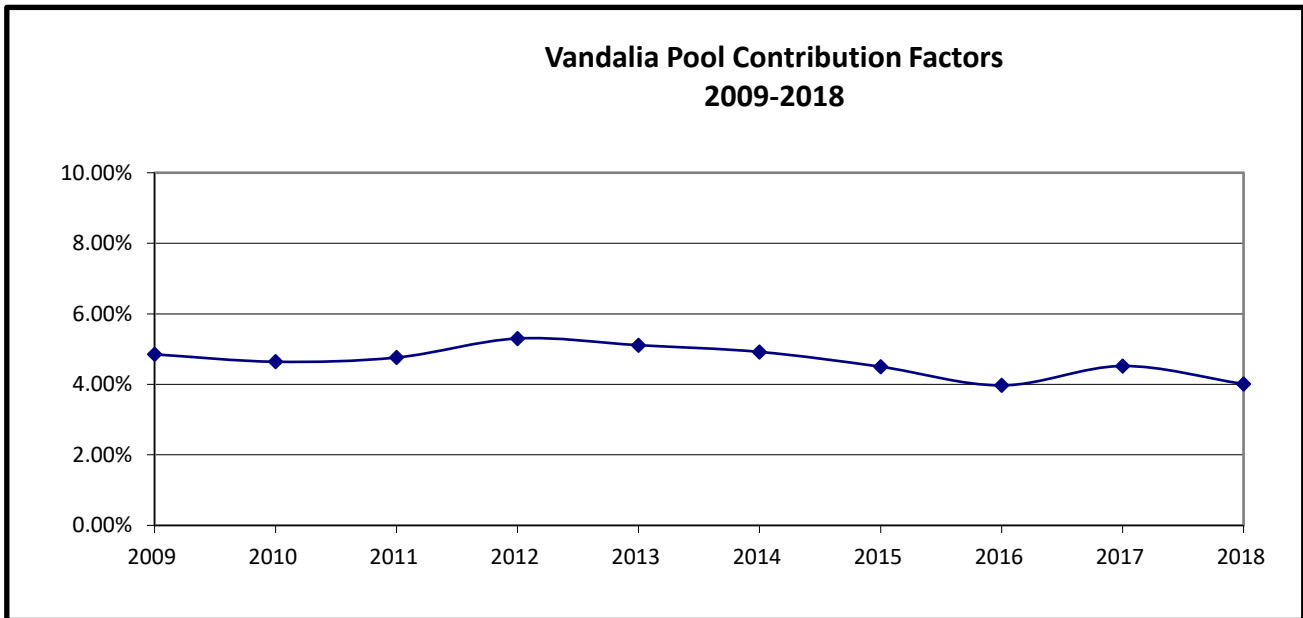
Source: Association's internal records



Last Ten Years

Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Employees	Full-Time Sworn Police	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2009	\$27,000	14,603	117	27	98	\$46,902,604	\$31,347,819	4.85%
2010	\$33,159	14,603	111	30	99	\$47,826,976	\$21,950,659	4.64%
2011	\$30,926	14,603	105	31	102	\$51,524,679	\$24,564,802	4.76%
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	4.53%
2018	\$22,012	15,246	30	99	115	\$61,158,045	\$21,542,534	4.01%

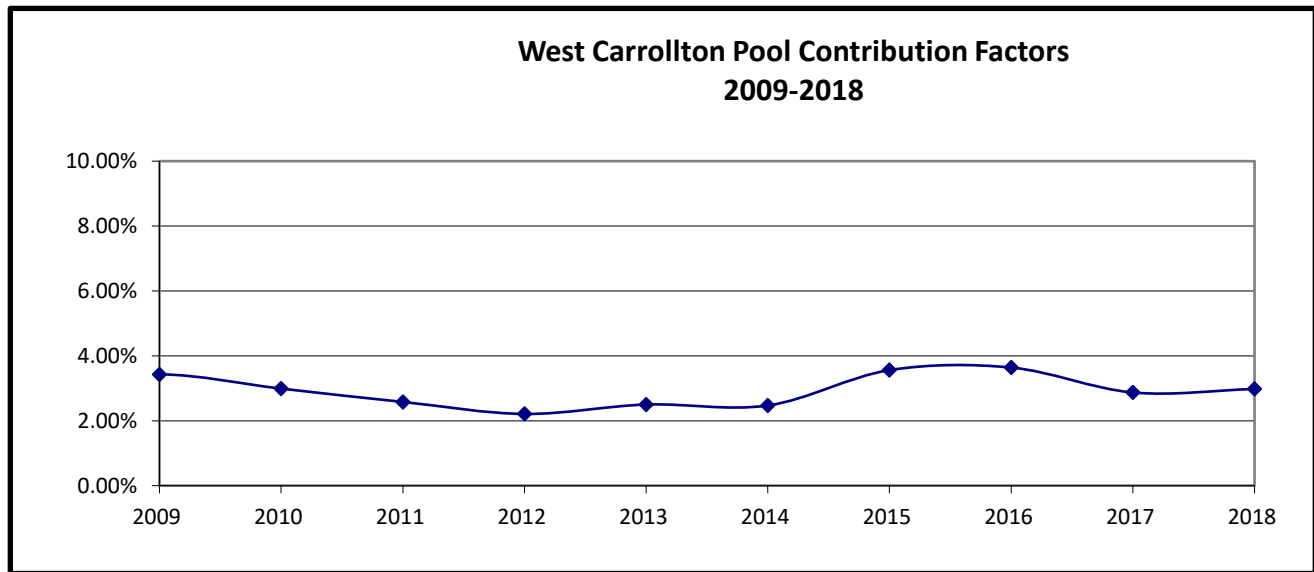
Source: Association's internal records



Last Ten Years

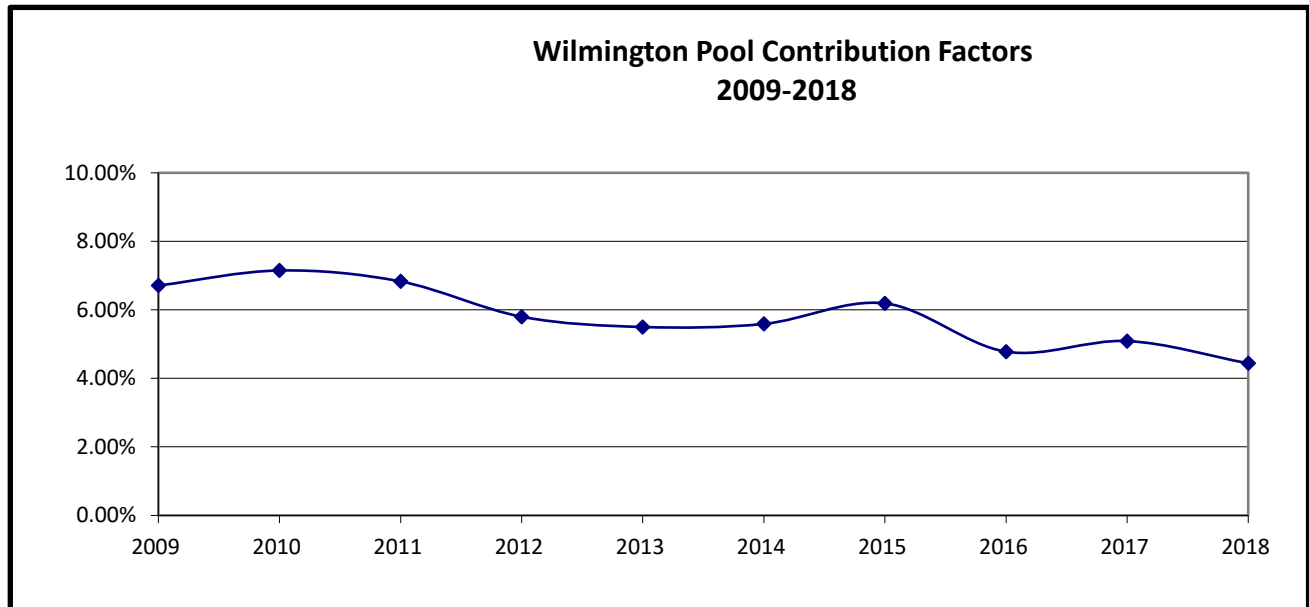
Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2009	\$27,640	13,818	24	58	62	\$26,000,157	\$9,970,084	3.43%
2010	\$22,032	13,818	23	59	62	\$26,531,747	\$10,387,085	2.99%
2011	\$11,150	13,818	23	54	62	\$27,224,795	\$10,652,767	2.58%
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	2.88%
2018	\$29,753	13,143	21	41	63	\$31,845,415	\$11,680,441	2.98%

Source: Association's internal records



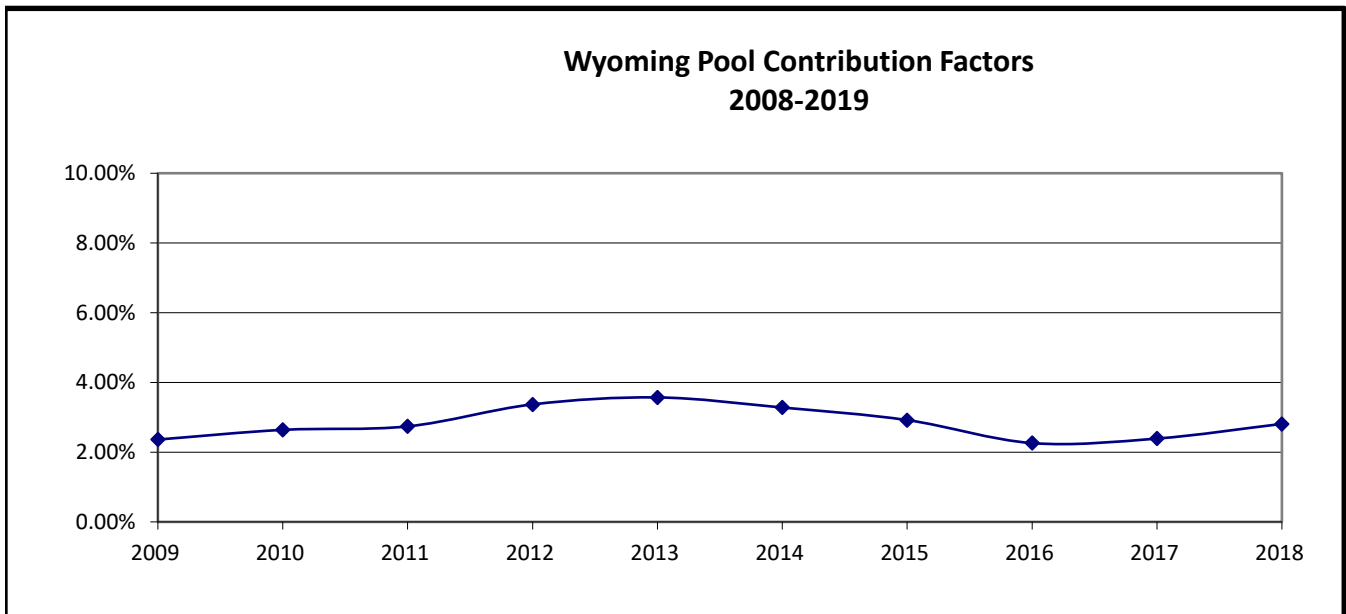
Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2009	\$69,919	11,921	26	134	120	\$50,923,011	\$19,574,067	6.71%
2010	\$94,831	11,921	23	137	124	\$53,447,136	\$19,616,027	7.15%
2011	\$76,912	11,921	22	124	124	\$69,015,342	\$20,294,238	6.83%
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	\$32,821	12,520	22	113	136	\$76,895,258	\$17,968,248	4.44%

Source: Association's internal records



Membership Year	Risk Exposure							Pool Contribution Factors
	(Non-Police)							
	Average Annual Losses	Population	Full-Time Sworn Police	Full-Time Employees	Titled Vehicles	PP/RP Values	Net Operating Expenditures	
2009	\$22,523	8,261	19	33	39	\$26,099,340	\$9,575,827	2.64%
2010	\$29,510	8,261	19	34	35	\$27,395,791	\$10,090,694	2.74%
2011	\$40,342	8,261	19	35	36	\$27,060,852	\$11,717,375	3.37%
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	2.81%
2018	\$46,015	8,428	18	31	37	\$31,614,419	\$9,655,236	3.29%

Source: Association's internal records



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

Schedule 28

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Number of Members	20	20	20	20	20	20	20	20	20	20
Number of Staff	4	4	4	4	4	4	4	4	4	4
Number of Claims	314	334	406	349	344	401	348	348	360	368
Number of Training Sessions	41	31	23	31	24	22	24	32	34	57

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



***ANALYSIS OF UNPAID LOSS AND LAE
AS OF DECEMBER 31, 2018***

APRIL 1, 2019



1 Glenlake Parkway, Suite 1285
Atlanta, GA 30328
770.587.0351
pinnacleactuaries.com

Commitment Beyond Numbers



One Glenlake Parkway, Suite 1285
Atlanta, GA 30328
770.587.0351
pinnacleactuaries.com

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

April 1, 2019

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, 2018

Dear Mr. Judy:

Attached is Pinnacle Actuarial Resources, Inc.'s (Pinnacle's) draft report on the unpaid loss and loss adjustment expense (LAE) amounts of Miami Valley Risk Management Association (MVRMA) as of December 31, 2018.

This draft report is intended for discussion purposes only, and should not be relied upon by MVRMA or referenced or distributed to third parties without Pinnacle's express written consent. We look forward to the opportunity to discuss our analysis and findings with you and will issue a final report shortly thereafter, which will replace this draft.

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 2018 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

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

Nicholas Alicea

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

Miami Valley Risk Management Association
Analysis of Unpaid Loss and LAE as of December 31, 2018

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Miami Valley Risk Management Association

Analysis of Unpaid Loss and LAE as of December 31, 2018

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, 2018.

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, 2018. 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, 2018 is the date used to separate paid and unpaid claim amounts in MVRMA's financial statement. Transactions through the "valuation date" of December 31, 2018 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 March 15, 2019.

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.

Miami Valley Risk Management Association
Analysis of Unpaid Loss and LAE as of December 31, 2018

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.

Miami Valley Risk Management Association
Analysis of Unpaid Loss and LAE as of December 31, 2018

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.

Miami Valley Risk Management Association

Analysis of Unpaid Loss and LAE as of December 31, 2018

BACKGROUND

MVRMA has provided insurance coverage for its members since December 1, 1988. As of December 31, 2018 the pool was comprised of the following 20 entities: Beavercreek, Bellbrook, Blue Ash, Centerville, Englewood, Kettering, Madeira, Mason, Miamisburg, Montgomery, 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, 2018. 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 2012 through 2018. MVRMA also provided summaries by line of business for accident periods 2012 through 2018. 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 and Craig Blair, Claims Manager 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.

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Analysis of Unpaid Loss and LAE as of December 31, 2018

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
2010-2018	\$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	GEM

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	\$8M excess of \$2M	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
2016-2018	\$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.

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Analysis of Unpaid Loss and LAE as of December 31, 2018

FINDINGS

Based on our analysis of MVRMA's experience as of December 31, 2018, 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, 2018

The estimated total undiscounted unpaid loss and LAE as of December 31, 2018 is \$3,685,365. This amount is net of reinsurance and member deductibles. It compares to an estimated unpaid amount of \$3,742,308 from our analysis at December 31, 2017.

Development in Net Loss Estimates from Prior Analysis

The table below compares our net ultimate loss estimate as of December 31, 2018 to our estimate as of December 31, 2017 for accident years 2017 and prior. Our estimates have decreased by \$0.8 million.

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Comparison of Net Ultimate Loss to Prior Ultimate Loss (in \$000s)				
Prior to Consideration of Member's Deductibles				
Accident Year	Evaluation Date		Difference	Percent Change
	@12/31/2017	@12/31/2018		
1989-2007	\$16,484	\$16,484	\$0	0.0%
2008	1,648	1,648	0	0.0%
2009	1,533	1,533	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	1,506	1,419	(87)	-5.8%
2014	2,417	2,327	(90)	-3.7%
2015	1,278	1,224	(54)	-4.2%
2016	1,769	1,476	(293)	-16.6%
2017	2,055	1,827	(228)	-11.1%
Total	\$32,645	\$31,893	(\$752)	-2.3%

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Analysis of Unpaid Loss and LAE as of December 31, 2018

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

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Analysis of Unpaid Loss and LAE as of December 31, 2018

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 23 exhibits. Exhibit 23 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 19 through 22. Exhibit 21 shows AL's historical reported claim experience and our selected development factors. For nearly all years, all claims are reported by 36 months. Exhibit 19 summarizes the claim indications including indicated IBNR claims.

Exhibits 15 and 16 show the incurred and paid loss triangles limited to \$500,000 and our initial selected development factors, respectively. Exhibits 17 and 18 show the average incurred and average paid loss triangles limited to \$500,000 and our initial selected development factors, respectively. On Exhibits 13 and 14, we estimate \$1,000,000 limits development patterns based on the \$500,000 limits development patterns and an assumed 6 month lag.

Exhibits 7 through 12 contain the development method indications using the selected development factors from Exhibits 13 and 14.

Exhibits 6.1 through 6.3 calculate the expected loss cost used in the B-F methods found in Exhibits 4 and 5. First, a limit factor is selected to adjust all AY's to a \$500,000 limit (Exhibit 6.3). Second, an initial ultimate loss is selected based on the development methods (Exhibit 6.2). Next, AY loss costs based on the initial selected ultimate losses are trended to AY 2018 with an initial loss cost selected for AY 2018. Finally, the expected loss cost for all AY's are calculated by detrending the selected AY 2018 loss cost (Exhibit 6.1).

We select ultimate losses at retained limits on Exhibit 3. Exhibit 2 provides a comparison of selected ultimate losses to those selected in our prior analysis. Exhibit 1 summarizes the loss indications including indicated IBNR losses.

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

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Analysis of Unpaid Loss and LAE as of December 31, 2018

RELIANCES AND LIMITATIONS

Inherent Uncertainty

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

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

Sensitivity Analysis

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

Data Reliance

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

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

Extraordinary Future Emergence

We have not anticipated any extraordinary changes to the legal, social, or economic environment that might affect the cost, frequency, or future reporting of claims. In addition, our estimates make no provision for potential future claims arising from loss causes not represented in the historical data (e.g.,

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Analysis of Unpaid Loss and LAE as of December 31, 2018

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.

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Analysis of Unpaid Loss and LAE as of December 31, 2018

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.

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Analysis of Unpaid Loss and LAE as of December 31, 2018

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.

Counts and Averages Method

The counts and averages method calculates ultimate losses by separately projecting ultimate claim counts and ultimate claim severity (cost per claim) for each experience period. Typically, loss development methods are used to project ultimate claims and severity based on historical data. Ultimate losses are calculated as the product of the two items. This method is intended to avoid distortions that may exist with the other methods for the most recent years as the result of changes in case reserve levels, settlement rates, etc. In addition, it may provide insight into the drivers of the loss experience.

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Analysis of Unpaid Loss and LAE as of December 31, 2018

EXHIBITS

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Summary
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Indicated Reserves

Gross of Member Deductible		
(1)	Selected Ultimate Loss	\$33,943,780
(2)	Application of Aggregate Retention	\$144,133
(3)	Retained Ultimate Loss	\$33,799,647
(4)	Retained Paid Loss	\$30,182,517
(5)	Indicated Loss Reserves	\$3,617,131
Member Deductible		
(6)	Indicated Ultimate Loss	\$2,837,470
(7)	Paid Loss	\$2,752,822
(8)	Indicated Loss Reserves	\$84,648
Net of Member Deductible		
(9)	Indicated Loss Reserves	\$3,532,483
(10)	Indicated Unallocated Loss Expense Reserves	\$152,883
(11)	Indicated Loss and Loss Expense Reserves	\$3,685,365

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)



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

Accident Year	Ultimate Loss						Paid Loss				
	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	1,060,000	1,162,693	2,327,033		2,327,033	104,340	541,145	1,162,693	1,808,178	1,808,178
2015	82,316	490,000	651,268	1,223,584		1,223,584	82,316	297,225	651,268	1,030,809	1,030,809
2016	147,000	880,000	448,758	1,475,758		1,475,758	135,625	408,529	448,203	992,357	992,357
2017	90,000	1,125,000	612,000	1,827,000		1,827,000	65,054	386,031	605,776	1,056,860	1,056,860
2018	97,000	1,025,000	929,000	2,051,000		2,051,000	25,849	48,041	325,151	399,041	399,041
Total	\$4,645,581	\$17,942,769	\$11,355,430	\$33,943,780		\$33,799,647	\$4,538,109	\$15,043,738	\$10,744,802	\$30,326,650	\$30,182,517

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
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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	40,251	54,455	112,692	207,398	40,251	54,455	112,692	207,398
2014	63,241	72,365	103,894	239,500	63,241	72,365	103,894	239,500
2015	49,288	64,046	94,439	207,773	49,288	64,046	94,439	207,773
2016	58,678	61,635	118,047	238,359	58,678	59,797	117,492	235,966
2017	38,850	44,795	100,657	184,302	38,600	40,277	100,157	179,034
2018	51,732	66,538	137,020	255,290	42,292	35,038	100,973	178,303
Total	\$615,954	\$788,556	\$1,432,959	\$2,837,470	\$606,264	\$750,700	\$1,395,857	\$2,752,822

Notes:

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



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Summary
December 31, 2018

Indicated Unallocated Loss Adjustment Expense Reserves

Accident Year	Case Reserves				IBNR			
	Automobile Liability	General Liability	Property Liability	Total	Automobile Liability	General Liability	Property Liability	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1989								
1990								
1991								
1992								
1993								
1994								
1995								
1996								
1997								
1998								
1999								
2000								
2001								
2002								
2003								
2004								
2005								
2006	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2007	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0
2014	0	415,045	0	415,045	0	103,810	0	103,810
2015	0	18,806	0	18,806	0	173,969	0	173,969
2016	7,952	89,431	554	97,937	3,423	382,040	0	385,464
2017	0	54,905	1,500	56,405	24,946	684,064	4,724	713,735
2018	20,940	65,493	455,369	541,802	50,211	911,467	148,480	1,110,157
Total	\$28,892	\$643,680	\$457,423	\$1,129,995	\$78,581	\$2,255,351	\$153,204	\$2,487,136
	(10)		Selected ULAE Expense to Loss Ratio		5.4%	5.1%	4.3%	5.0%
	(11)		ULAE Reserves		\$5,023	\$131,437	\$16,422	\$152,883

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, 2018

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	147,000	143,577	135,625	7,952	3,423	11,375
2017	90,000	65,054	65,054	0	24,946	24,946
2018	97,000	46,789	25,849	20,940	50,211	71,151
Total	\$4,645,581	\$4,567,001	\$4,538,109	\$28,892	\$78,581	\$107,473

Notes:

- (2) From Exhibit 3, Col (13)
- (3)-(5) Provided by MVRMA
- (6) = (2) - (3)
- (7) = (5) + (6)

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2018

Comparison of Ultimate Loss to Prior Ultimate Loss
Retained Limits

Accident Year	Selected Ultimate Loss @ 12/31/2017	Selected Ultimate Loss @ 12/31/2018	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	243,573	234,785	(8,788)	-3.6%
2014	104,340	104,340	0	0.0%
2015	76,478	82,316	5,838	7.6%
2016	165,000	147,000	(18,000)	-10.9%
2017	110,000	90,000	(20,000)	-18.2%
Total	\$4,589,532	\$4,548,581	(\$40,950)	-0.9%

Notes:

- (2) From Pinnacle's analysis of unpaid loss & LAE at 12/31/2017
- (3) From Exhibit 3, Col (13)
- (4) = (3) - (2)
- (5) = (4) / (2)

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2018

Selected Ultimate Loss
Retained Limits

Accident Year	Retention	Industry Development		MVRMA's Loss Development					MVRMA Expected Loss	MVRMA Incurred BF	MVRMA Paid BF	Selected Ultimate Loss
		Incurred Loss Method	Paid Loss Method	Incurred Loss Method	Paid Loss Method	Case Reserve Method	Average Incurred Method	Average Paid Method				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1989	\$250,000	\$111,919	\$111,919	\$111,919	\$111,919	\$111,919	\$111,919	\$111,919	\$24,009	\$111,919	\$111,919	\$111,919
1990	250,000	18,683	18,683	18,683	18,683	18,683	18,683	18,683	30,107	18,683	18,683	18,683
1991	250,000	13,946	13,946	13,946	13,946	13,946	13,946	13,946	36,554	13,946	13,946	13,946
1992	250,000	39,293	39,293	39,293	39,293	39,293	39,293	39,293	40,301	39,293	39,293	39,293
1993	250,000	329,494	329,494	329,494	329,494	329,494	329,494	329,494	47,862	329,494	329,494	329,494
1994	250,000	126,181	126,181	126,181	126,181	126,181	126,181	126,181	54,484	126,181	126,181	126,181
1995	250,000	157,537	157,537	157,537	157,537	157,537	157,537	157,537	49,206	157,537	157,537	157,537
1996	250,000	75,097	75,097	75,097	75,097	75,097	75,097	75,097	54,518	75,097	75,097	75,097
1997	500,000	572,332	572,332	572,332	572,332	572,332	572,332	572,332	62,951	572,332	572,332	572,332
1998	500,000	98,687	98,687	98,687	98,687	98,687	98,687	98,687	67,809	98,687	98,687	98,687
1999	500,000	203,725	203,725	203,725	203,725	203,725	203,725	203,725	67,891	203,725	203,725	203,725
2000	500,000	81,660	81,660	81,660	81,660	81,660	81,660	81,660	71,780	81,660	81,660	81,660
2001	500,000	555,168	555,168	555,168	555,168	555,168	555,168	555,168	72,042	555,168	555,168	555,168
2002	500,000	167,753	167,758	167,747	167,747	167,747	167,747	167,747	79,671	167,747	167,747	167,747
2003	1,000,000	168,881	168,892	168,870	168,870	168,870	168,870	168,870	81,294	168,870	168,870	168,870
2004	1,000,000	49,424	49,430	49,417	49,417	49,417	49,417	49,417	91,085	49,417	49,417	49,417
2005	1,000,000	244,031	244,095	243,966	243,966	243,966	243,966	243,966	96,372	243,966	243,966	243,966
2006	1,000,000	145,509	145,585	145,431	145,431	145,431	145,431	145,431	96,483	145,431	145,431	145,431
2007	1,000,000	276,122	276,410	275,826	275,826	275,826	275,826	275,826	98,094	275,826	275,826	275,826
2008	1,000,000	136,820	137,106	136,527	136,527	136,527	136,527	136,527	102,714	136,527	136,527	136,527
2009	1,000,000	31,256	31,387	31,122	31,122	31,122	31,122	31,122	106,045	31,122	31,122	31,122
2010	500,000	162,352	163,422	161,512	161,512	161,512	161,512	161,512	106,718	161,512	161,512	161,512
2011	500,000	88,363	89,292	87,731	87,731	87,731	87,731	87,731	107,449	87,731	87,731	87,731
2012	500,000	38,634	39,360	38,269	38,461	38,269	38,269	38,308	109,598	38,269	38,815	38,269
2013	500,000	238,303	246,979	234,785	237,611	234,785	234,785	235,725	112,806	234,785	236,127	234,785
2014	500,000	107,386	115,466	104,444	106,335	104,340	104,340	105,282	110,936	104,451	106,421	104,340
2015	500,000	88,150	102,690	83,222	85,148	82,316	82,974	83,889	110,880	83,523	86,004	82,316
2016	500,000	168,513	213,183	147,335	149,410	146,615	146,896	146,463	113,283	146,466	146,077	147,000
2017	500,000	90,477	152,360	87,451	101,765	65,054	81,866	87,844	118,040	95,285	107,636	90,000
2018	500,000	92,406	136,216	77,994	66,316	86,661	72,330	66,586	120,600	95,040	99,441	97,000
Total		\$4,678,103	\$4,863,354	\$4,625,371	\$4,636,917	\$4,609,911	\$4,613,332	\$4,617,967	\$2,441,581	\$4,649,691	\$4,672,391	\$4,645,581

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 12.1, Col (4)
- (4) From Exhibit 12.2, Col (4)
- (5) From Exhibit 7, Col (4)
- (6) From Exhibit 8, Col (4)
- (7) From Exhibit 9, Col (8)
- (8) From Exhibit 10, Col (7)
- (9) From Exhibit 11, Col (7)
- (10) From Exhibit 4, Col (4)
- (11) From Exhibit 4, Col (8)
- (12) From Exhibit 5, Col (8)

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2018

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	\$45	\$24,009	0.0%	\$0	\$111,919	\$111,919	\$210
1990	663	45	30,107	0.0%	0	18,683	18,683	28
1991	797	46	36,554	0.0%	0	13,946	13,946	17
1992	870	46	40,301	0.0%	0	39,293	39,293	45
1993	1,023	47	47,862	0.0%	0	329,494	329,494	322
1994	1,153	47	54,484	0.0%	0	126,181	126,181	109
1995	1,031	48	49,206	0.0%	0	157,537	157,537	153
1996	1,131	48	54,518	0.0%	0	75,097	75,097	66
1997	1,293	49	62,951	0.0%	0	572,332	572,332	443
1998	1,379	49	67,809	0.0%	0	98,687	98,687	72
1999	1,367	50	67,891	0.0%	0	203,725	203,725	149
2000	1,431	50	71,780	0.0%	0	81,660	81,660	57
2001	1,422	51	72,042	0.0%	0	555,168	555,168	390
2002	1,557	51	79,671	0.0%	0	167,747	167,747	108
2003	1,573	52	81,294	0.0%	0	168,870	168,870	107
2004	1,745	52	91,085	0.0%	0	49,417	49,417	28
2005	1,828	53	96,372	0.0%	0	243,966	243,966	133
2006	1,812	53	96,483	0.0%	0	145,431	145,431	80
2007	1,824	54	98,094	0.0%	0	275,826	275,826	151
2008	1,891	54	102,714	0.0%	0	136,527	136,527	72
2009	1,933	55	106,045	0.0%	0	31,122	31,122	16
2010	1,926	55	106,718	0.0%	0	161,512	161,512	84
2011	1,920	56	107,449	0.0%	0	87,731	87,731	46
2012	1,939	57	109,598	0.0%	0	38,269	38,269	20
2013	1,976	57	112,806	0.0%	0	234,785	234,785	119
2014	1,924	58	110,936	0.1%	111	104,340	104,451	54
2015	1,904	58	110,880	1.1%	1,207	82,316	83,523	44
2016	1,926	59	113,283	2.6%	2,890	143,577	146,466	76
2017	1,987	59	118,040	25.6%	30,231	65,054	95,285	48
2018	2,010	60	120,600	40.0%	48,251	46,789	95,040	47
Total	45,769		\$2,441,581		\$82,690	\$4,567,001	\$4,649,691	\$102

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 6.1, Col (8)
- (4) = (2) x (3)
- (5) Based on Exhibit 13
- (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, 2018

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	\$45	\$24,009	0.0%	\$0	\$111,919	\$111,919	\$210
1990	663	45	30,107	0.0%	0	18,683	18,683	28
1991	797	46	36,554	0.0%	0	13,946	13,946	17
1992	870	46	40,301	0.0%	0	39,293	39,293	45
1993	1,023	47	47,862	0.0%	0	329,494	329,494	322
1994	1,153	47	54,484	0.0%	0	126,181	126,181	109
1995	1,031	48	49,206	0.0%	0	157,537	157,537	153
1996	1,131	48	54,518	0.0%	0	75,097	75,097	66
1997	1,293	49	62,951	0.0%	0	572,332	572,332	443
1998	1,379	49	67,809	0.0%	0	98,687	98,687	72
1999	1,367	50	67,891	0.0%	0	203,725	203,725	149
2000	1,431	50	71,780	0.0%	0	81,660	81,660	57
2001	1,422	51	72,042	0.0%	0	555,168	555,168	390
2002	1,557	51	79,671	0.0%	0	167,747	167,747	108
2003	1,573	52	81,294	0.0%	0	168,870	168,870	107
2004	1,745	52	91,085	0.0%	0	49,417	49,417	28
2005	1,828	53	96,372	0.0%	0	243,966	243,966	133
2006	1,812	53	96,483	0.0%	0	145,431	145,431	80
2007	1,824	54	98,094	0.0%	0	275,826	275,826	151
2008	1,891	54	102,714	0.0%	0	136,527	136,527	72
2009	1,933	55	106,045	0.0%	0	31,122	31,122	16
2010	1,926	55	106,718	0.0%	0	161,512	161,512	84
2011	1,920	56	107,449	0.0%	0	87,731	87,731	46
2012	1,939	57	109,598	0.5%	545	38,269	38,815	20
2013	1,976	57	112,806	1.2%	1,341	234,785	236,127	119
2014	1,924	58	110,936	1.9%	2,081	104,340	106,421	55
2015	1,904	58	110,880	3.3%	3,688	82,316	86,004	45
2016	1,926	59	113,283	9.2%	10,452	135,625	146,077	76
2017	1,987	59	118,040	36.1%	42,583	65,054	107,636	54
2018	2,010	60	120,600	61.0%	73,592	25,849	99,441	49
Total	45,769		\$2,441,581		\$134,282	\$4,538,109	\$4,672,391	\$102

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 6.1, Col (8)
- (4) = (2) x (3)
- (5) Based on Exhibit 13
- (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, 2018

Initial Expected Loss Cost
Retained Limits

Accident Year	Number of Vehicles	Initial Ultimate Loss	Indicated Loss Cost	Limits Factor to \$500K	Trend Factor to 2018	Trended \$500K Limits Loss Cost	Expected Loss Cost
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1989	534	\$111,919	\$210	1.000	1.335	\$280	\$45
1990	663	18,683	28	1.000	1.321	37	45
1991	797	13,946	17	1.000	1.308	23	46
1992	870	39,293	45	1.000	1.295	58	46
1993	1,023	329,494	322	1.000	1.282	413	47
1994	1,153	126,181	109	1.000	1.270	139	47
1995	1,031	157,537	153	1.000	1.257	192	48
1996	1,131	75,097	66	1.000	1.245	83	48
1997	1,293	572,332	443	1.000	1.232	546	49
1998	1,379	98,687	72	1.000	1.220	87	49
1999	1,367	203,725	149	1.000	1.208	180	50
2000	1,431	81,660	57	1.000	1.196	68	50
2001	1,422	555,168	390	1.000	1.184	462	51
2002	1,557	167,747	108	1.000	1.173	126	51
2003	1,573	168,870	107	1.000	1.161	125	52
2004	1,745	49,417	28	1.000	1.149	33	52
2005	1,828	243,966	133	1.000	1.138	152	53
2006	1,812	145,431	80	1.000	1.127	90	53
2007	1,824	275,826	151	1.000	1.116	169	54
2008	1,891	136,527	72	1.000	1.105	80	54
2009	1,933	31,122	16	1.000	1.094	18	55
2010	1,926	161,512	84	1.000	1.083	91	55
2011	1,920	87,731	46	1.000	1.072	49	56
2012	1,939	38,269	20	1.000	1.062	21	57
2013	1,976	234,785	119	1.000	1.051	125	57
2014	1,924	104,444	54	1.000	1.041	56	58
2015	1,904	83,222	44	1.000	1.030	45	58
2016	1,926	147,335	76	1.000	1.020	78	59
2017	1,987	87,451	44	1.000	1.010	44	59
2018	2,010	77,994	39	1.000	1.000	39	60
Total	45,769	\$4,625,371	\$101				
					Weighted Average Ex. Hi/Lo	\$109	
					10-Year Weighted Avg	57	
					10-Year Weighted Avg Ex. Hi/Lo	53	
					5-Year Weighted Avg	52	
					Selected 2018 Loss Cost	\$60	

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 6.2, Col (5)
- (4) = (3) / (2)
- (5) From Exhibit 6.3, 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)
December 31, 2018

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	38,461	38,269	38,269
2013	234,785	237,611	234,785	234,785
2014	104,444	106,335	104,340	104,444
2015	83,222	85,148	82,316	83,222
2016	147,335	149,410	146,615	147,335
2017	87,451	101,765	65,054	87,451
2018	77,994	66,316	86,661	77,994
Total	\$4,625,371	\$4,636,917	\$4,609,911	\$4,625,371

Notes:

- (2) From Exhibit 7, Col (4)
- (3) From Exhibit 8, Col (4)
- (4) From Exhibit 9, Col (8)



Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2018

Estimated Limits Factor

Accident Year	Retention	Incurred Losses at		Incurred Limits Factors	Industry Limits Factors	Selected Limits Factors
		\$500K Limits	Retention Limits			
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1989	\$250,000	\$111,919	\$111,919	1.000		1.000
1990	250,000	18,683	18,683	1.000		1.000
1991	250,000	13,946	13,946	1.000		1.000
1992	250,000	39,293	39,293	1.000		1.000
1993	250,000	329,494	329,494	1.000		1.000
1994	250,000	126,181	126,181	1.000		1.000
1995	250,000	157,537	157,537	1.000		1.000
1996	250,000	75,097	75,097	1.000		1.000
1997	500,000	572,332	572,332	1.000	1.000	1.000
1998	500,000	98,687	98,687	1.000	1.000	1.000
1999	500,000	203,725	203,725	1.000	1.000	1.000
2000	500,000	81,660	81,660	1.000	1.000	1.000
2001	500,000	555,168	555,168	1.000	1.000	1.000
2002	500,000	167,747	167,747	1.000	1.000	1.000
2003	1,000,000	168,870	168,870	1.000	0.899	1.000
2004	1,000,000	49,417	49,417	1.000	0.896	1.000
2005	1,000,000	243,966	243,966	1.000	0.894	1.000
2006	1,000,000	145,431	145,431	1.000	0.891	1.000
2007	1,000,000	275,826	275,826	1.000	0.889	1.000
2008	1,000,000	136,527	136,527	1.000	0.886	1.000
2009	1,000,000	31,122	31,122	1.000	0.884	1.000
2010	500,000	161,512	161,512	1.000	1.000	1.000
2011	500,000	87,731	87,731	1.000	1.000	1.000
2012	500,000	38,269	38,269	1.000	1.000	1.000
2013	500,000	234,785	234,785	1.000	1.000	1.000
2014	500,000	104,340	104,340	1.000	1.000	1.000
2015	500,000	82,316	82,316	1.000	1.000	1.000
2016	500,000	143,577	143,577	1.000	1.000	1.000
2017	500,000	65,054	65,054	1.000	1.000	1.000
2018	500,000	46,789	46,789	1.000	1.000	1.000
Total		\$4,567,001	\$4,567,001			

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, 2018

Ultimate Loss Based on Incurred Loss Development Method
Retained Limits

Accident Year (1)	Cumulative Incurred Loss (2)	Loss Development Factors (3)	Projected Ultimate Loss (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	1.001	104,444
2015	82,316	1.011	83,222
2016	143,577	1.026	147,335
2017	65,054	1.344	87,451
2018	46,789	1.667	77,994
Total	\$4,567,001		\$4,625,371

Notes:

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

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2018

Ultimate Loss Based on Paid Loss Development Method
Retained Limits

Accident Year (1)	Cumulative Paid Loss (2)	Loss Development Factors (3)	Projected Ultimate Loss (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	1.005	38,461
2013	234,785	1.012	237,611
2014	104,340	1.019	106,335
2015	82,316	1.034	85,148
2016	135,625	1.102	149,410
2017	65,054	1.564	101,765
2018	25,849	2.566	66,316
Total	\$4,538,109		\$4,636,917

Notes:

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

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2018

Ultimate Loss Based on Case Reserve Development Method
Retained Limits

Accident Year (1)	Retention (2)	Cumulative Paid Loss (3)	Case Reserves (4)	Loss Development Factors			Projected Ultimate Loss (8)
				Incurred (5)	Paid (6)	Reserve (7)	
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%	99.5%	100.0%	38,269
2013	500,000	234,785	0	100.0%	98.8%	100.0%	234,785
2014	500,000	104,340	0	99.9%	98.1%	94.7%	104,340
2015	500,000	82,316	0	98.9%	96.7%	67.3%	82,316
2016	500,000	135,625	7,952	97.4%	90.8%	72.4%	146,615
2017	500,000	65,054	0	74.4%	63.9%	29.0%	65,054
2018	500,000	25,849	20,940	60.0%	39.0%	34.4%	86,661
Total		\$4,538,109	\$28,892				\$4,609,911

Notes:

- (2)-(4) Provided by MVRMA
- (5)-(6) Based on Exhibit 13
- (7) = [(5) - (6)] / [(1.0 - (6))]
- (8) = (3) + [(4) / (7)]

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2018

Ultimate Loss Based on Incurred Loss per Reported Claim Development Method
Retained Limits

Accident Year	Retention	Cumulative Incurred Loss per Reported Claim	Loss Development Factors	Projected Average Loss	Selected Ultimate Claims	Projected Ultimate Loss
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1989	\$250,000	\$2,603	1.000	\$2,603	43	\$111,919
1990	250,000	566	1.000	566	33	18,683
1991	250,000	536	1.000	536	26	13,946
1992	250,000	1,034	1.000	1,034	38	39,293
1993	250,000	5,492	1.000	5,492	60	329,494
1994	250,000	1,753	1.000	1,753	72	126,181
1995	250,000	1,853	1.000	1,853	85	157,537
1996	250,000	659	1.000	659	114	75,097
1997	500,000	5,840	1.000	5,840	98	572,332
1998	500,000	1,148	1.000	1,148	86	98,687
1999	500,000	1,684	1.000	1,684	121	203,725
2000	500,000	785	1.000	785	104	81,660
2001	500,000	6,455	1.000	6,455	86	555,168
2002	500,000	2,097	1.000	2,097	80	167,747
2003	1,000,000	1,443	1.000	1,443	117	168,870
2004	1,000,000	575	1.000	575	86	49,417
2005	1,000,000	2,489	1.000	2,489	98	243,966
2006	1,000,000	2,078	1.000	2,078	70	145,431
2007	1,000,000	2,815	1.000	2,815	98	275,826
2008	1,000,000	1,796	1.000	1,796	76	136,527
2009	1,000,000	546	1.000	546	57	31,122
2010	500,000	2,071	1.000	2,071	78	161,512
2011	500,000	1,186	1.000	1,186	74	87,731
2012	500,000	736	1.000	736	52	38,269
2013	500,000	5,104	1.000	5,104	46	234,785
2014	500,000	1,338	1.000	1,338	78	104,340
2015	500,000	1,614	1.008	1,627	51	82,974
2016	500,000	1,889	1.023	1,933	76	146,896
2017	500,000	1,276	1.258	1,605	51	81,866
2018	500,000	1,063	1.447	1,539	47	72,330
Total				\$2,096	2,201	\$4,613,332

Notes:

- (2) Provided by MVRMA
- (3) Based on data provided by MVRMA
- (4) Based on Exhibit 14
- (5) = (3) x (4)
- (6) From Exhibit 19, Col (6)
- (7) = (5) x (6)

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2018

Ultimate Loss Based on Paid Loss per Closed Claim Development Method
Retained Limits

Accident Year	Retention	Cumulative Paid Loss per Closed Claim	Loss Development Factors	Projected Average Loss	Selected Ultimate Claims	Projected Ultimate Loss
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1989	\$250,000	\$2,603	1.000	\$2,603	43	\$111,919
1990	250,000	566	1.000	566	33	18,683
1991	250,000	536	1.000	536	26	13,946
1992	250,000	1,034	1.000	1,034	38	39,293
1993	250,000	5,492	1.000	5,492	60	329,494
1994	250,000	1,753	1.000	1,753	72	126,181
1995	250,000	1,853	1.000	1,853	85	157,537
1996	250,000	659	1.000	659	114	75,097
1997	500,000	5,840	1.000	5,840	98	572,332
1998	500,000	1,148	1.000	1,148	86	98,687
1999	500,000	1,684	1.000	1,684	121	203,725
2000	500,000	785	1.000	785	104	81,660
2001	500,000	6,455	1.000	6,455	86	555,168
2002	500,000	2,097	1.000	2,097	80	167,747
2003	1,000,000	1,443	1.000	1,443	117	168,870
2004	1,000,000	575	1.000	575	86	49,417
2005	1,000,000	2,489	1.000	2,489	98	243,966
2006	1,000,000	2,078	1.000	2,078	70	145,431
2007	1,000,000	2,815	1.000	2,815	98	275,826
2008	1,000,000	1,796	1.000	1,796	76	136,527
2009	1,000,000	546	1.000	546	57	31,122
2010	500,000	2,071	1.000	2,071	78	161,512
2011	500,000	1,186	1.000	1,186	74	87,731
2012	500,000	736	1.001	737	52	38,308
2013	500,000	5,104	1.004	5,124	46	235,725
2014	500,000	1,338	1.009	1,350	78	105,282
2015	500,000	1,614	1.019	1,645	51	83,889
2016	500,000	1,808	1.080	1,953	76	148,463
2017	500,000	1,276	1.350	1,722	51	87,844
2018	500,000	760	1.863	1,417	47	66,586
Total				\$2,098	2,201	\$4,617,967

Notes:

- (2) Provided by MVRMA
- (3) Based on data provided by MVRMA
- (4) Based on Exhibit 14
- (5) = (3) x (4)
- (6) From Exhibit 19, Col (6)
- (7) = (5) x (6)

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2018

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

Accident Year (1)	Cumulative Incurred Loss (2)	Industry Loss Development Factors (3)	Projected Ultimate Loss (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	167,753
2003	168,870	1.000	168,881
2004	49,417	1.000	49,424
2005	243,966	1.000	244,031
2006	145,431	1.001	145,509
2007	275,826	1.001	276,122
2008	136,527	1.002	136,820
2009	31,122	1.004	31,256
2010	161,512	1.005	162,352
2011	87,731	1.007	88,363
2012	38,269	1.010	38,634
2013	234,785	1.015	238,303
2014	104,340	1.029	107,386
2015	82,316	1.071	88,150
2016	143,577	1.174	168,513
2017	65,054	1.391	90,477
2018	46,789	1.975	92,406
Total	\$4,567,001		\$4,678,103

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, 2018

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

Accident Year (1)	Cumulative Paid Loss (2)	Industry Loss Development Factors (3)	Projected Ultimate Loss (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	167,758
2003	168,870	1.000	168,892
2004	49,417	1.000	49,430
2005	243,966	1.001	244,095
2006	145,431	1.001	145,585
2007	275,826	1.002	276,410
2008	136,527	1.004	137,106
2009	31,122	1.009	31,387
2010	161,512	1.012	163,422
2011	87,731	1.018	89,292
2012	38,269	1.028	39,360
2013	234,785	1.052	246,979
2014	104,340	1.107	115,466
2015	82,316	1.248	102,690
2016	135,625	1.572	213,183
2017	65,054	2.342	152,360
2018	25,849	5.270	136,216
Total	\$4,538,109		\$4,863,354

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, 2018

Loss Development Patterns

Month of Development (1)	\$500K Limits % Developed		\$1M Limits % Developed		Industry % Developed	
	Incurred (2)	Paid (3)	Incurred (4)	Paid (5)	Incurred (6)	Paid (7)
360	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
348	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
336	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
324	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
312	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
300	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
288	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
276	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
264	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
252	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
240	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
228	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
216	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
204	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
192	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
180	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
168	100.0%	100.0%	100.0%	100.0%	100.0%	99.9%
156	100.0%	100.0%	100.0%	100.0%	99.9%	99.9%
144	100.0%	100.0%	100.0%	100.0%	99.9%	99.8%
132	100.0%	100.0%	100.0%	100.0%	99.8%	99.6%
120	100.0%	100.0%	100.0%	100.0%	99.6%	99.2%
108	100.0%	100.0%	100.0%	100.0%	99.5%	98.8%
96	100.0%	100.0%	100.0%	100.0%	99.3%	98.3%
84	100.0%	99.5%	100.0%	99.2%	99.1%	97.2%
72	100.0%	98.8%	100.0%	98.5%	98.5%	95.1%
60	99.9%	98.1%	99.7%	97.5%	97.2%	90.4%
48	98.9%	96.7%	98.4%	94.6%	93.4%	80.2%
36	97.4%	90.8%	92.3%	82.0%	85.2%	63.6%
24	74.4%	63.9%	68.8%	53.7%	71.9%	42.7%
12	60.0%	39.0%	43.6%	18.7%	50.6%	19.0%

Notes:

- (2) Based on Exhibit 15
- (3) Based on Exhibit 16
- (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, 2018

Severity Development Patterns

Month of Development (1)	\$500K Limits % Developed		\$1M Limits % Developed	
	Incurred (2)	Paid (3)	Incurred (4)	Paid (5)
360	100.0%	100.0%	100.0%	100.0%
348	100.0%	100.0%	100.0%	100.0%
336	100.0%	100.0%	100.0%	100.0%
324	100.0%	100.0%	100.0%	100.0%
312	100.0%	100.0%	100.0%	100.0%
300	100.0%	100.0%	100.0%	100.0%
288	100.0%	100.0%	100.0%	100.0%
276	100.0%	100.0%	100.0%	100.0%
264	100.0%	100.0%	100.0%	100.0%
252	100.0%	100.0%	100.0%	100.0%
240	100.0%	100.0%	100.0%	100.0%
228	100.0%	100.0%	100.0%	100.0%
216	100.0%	100.0%	100.0%	100.0%
204	100.0%	100.0%	100.0%	100.0%
192	100.0%	100.0%	100.0%	100.0%
180	100.0%	100.0%	100.0%	100.0%
168	100.0%	100.0%	100.0%	100.0%
156	100.0%	100.0%	100.0%	100.0%
144	100.0%	100.0%	100.0%	100.0%
132	100.0%	100.0%	100.0%	100.0%
120	100.0%	100.0%	100.0%	100.0%
108	100.0%	100.0%	100.0%	100.0%
96	100.0%	100.0%	100.0%	100.0%
84	100.0%	99.9%	100.0%	99.8%
72	100.0%	99.6%	100.0%	99.4%
60	100.0%	99.1%	100.0%	98.7%
48	99.2%	98.1%	98.7%	96.4%
36	97.7%	92.6%	93.6%	86.5%
24	79.5%	74.1%	75.5%	66.3%
12	69.1%	53.7%	56.4%	32.0%

Notes:

- (2) Based on Exhibit 17
- (3) Based on Exhibit 18
- (4) = Col (2) lagged 6 months
- (5) = Col (3) lagged 6 months

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2018

Incurred Loss at \$500K SIR

Accident Year	Maturity (Age in Months)															
	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	275,826	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	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	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	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	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	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	234,785	234,785	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	104,340	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	82,316	82,316	82,316	82,316	82,316	82,316	82,316	82,316	
2016	90,163	127,327	143,577	143,577	143,577	143,577	143,577	143,577	143,577	143,577	143,577	143,577	143,577	143,577	143,577	
2017	51,535	65,054	65,054	65,054	65,054	65,054	65,054	65,054	65,054	65,054	65,054	65,054	65,054	65,054	65,054	
2018	46,789	46,789	46,789	46,789	46,789	46,789	46,789	46,789	46,789	46,789	46,789	46,789	46,789	46,789	46,789	

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	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	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	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	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	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	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	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	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2014	1.017	1.156	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2015	0.884	1.000	1.076	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2016	1.412	1.128	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2017	1.262	1.000	1.000	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	1.524	1.321	1.074	0.984	0.934	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	1.379	1.310	1.009	1.006	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	1.135	1.288	1.011	1.017	1.012	0.988	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
10 Yr Vol Ex. H/L	1.116	1.243	1.008	1.008	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	1.105	1.355	1.011	1.014	0.984	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	1.119	1.000	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	1.178	1.103	1.014	1.023	0.976	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Prior	1.230	1.320	1.010	1.010	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Selected	1.240	1.310	1.015	1.010	1.001	1.000</										

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2018

Incurred Loss at \$500K SIR

Accident Year	Maturity (Age in Months)														
	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360
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
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
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
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	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	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	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	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	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	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	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	81,660	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	555,168	555,168	555,168	555,168	555,168	555,168	555,168	555,168	555,168
2002	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	167,747	167,747
2003	168,870	168,870	168,870	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															
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018															

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-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
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
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	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	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	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	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	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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															
2004															
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018															
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
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	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	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	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	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
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
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
% 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%

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2018

Paid Loss at \$500K SIR

Accident Year	Maturity (Age in Months)															
	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	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	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	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	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	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	234,785	234,785	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	104,340	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	82,316	82,316	82,316	82,316	82,316	82,316	82,316	82,316	
2016	50,913	115,081	135,625	135,625	135,625	135,625	135,625	135,625	135,625	135,625	135,625	135,625	135,625	135,625	135,625	
2017	35,035	65,054	65,054	65,054	65,054	65,054	65,054	65,054	65,054	65,054	65,054	65,054	65,054	65,054	65,054	
2018	25,849	25,849	25,849	25,849	25,849	25,849	25,849	25,849	25,849	25,849	25,849	25,849	25,849	25,849	25,849	

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	1.000	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	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	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	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	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	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	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	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2014	1.072	1.261	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2015	1.565	1.000	1.076	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2016	2.260	1.179	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2017	1.857	1.000	1.000	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	1.989	1.608	1.140	1.025	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	1.690	1.585	1.075	1.020	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
10 Yr Vol	1.476	1.410	1.058	1.018	1.015	1.022	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
10 Yr Vol Ex. H/L	1.417	1.288	1.030	1.008	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	1.491	1.488	1.011	1.014	0.984	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	1.448	1.179	1.000	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	1.903	1.154	1.014	1.023	0.976	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Prior	1.600	1.420	1.065	1.015	1.008	1.007	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Selected	1.640	1.420	1.065	1.015	1.007	1.007	1.005	1.								

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2018

Paid Loss at \$500K SIR

Accident Year	Maturity (Age in Months)														
	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360
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
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
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
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	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	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	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	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	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	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	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	81,660	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	555,168	555,168	555,168	555,168	555,168	555,168	555,168	555,168	555,168
2002	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	167,747	167,747
2003	168,870	168,870	168,870	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															
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018															

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-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
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
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	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	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	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	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	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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															
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2012															
2013															
2014															
2015															
2016															
2017															
2018															

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
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	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	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	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	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
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
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
% 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%

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2018

Incurred Loss per Reported Claim at \$500K SIR

Accident Year	Maturity (Age in Months)															
	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	
1989	212	205	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	
1990	317	566	566	566	566	566	566	566	566	566	566	566	566	566	566	
1991	388	363	618	536	536	536	536	536	536	536	536	536	536	536	536	
1992	560	552	825	966	1,058	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	
1993	1,744	4,779	5,615	5,677	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	
1994	913	2,152	1,749	1,764	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	
1995	1,820	1,757	1,950	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	
1996	698	745	730	679	679	672	672	677	659	659	659	659	659	659	659	
1997	2,371	2,859	6,051	5,900	5,900	5,900	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	
1998	1,015	1,084	1,113	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	
1999	1,226	1,227	1,368	1,621	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	
2000	755	772	796	785	785	785	785	785	785	785	785	785	785	785	785	
2001	1,143	5,673	7,554	10,921	9,807	6,217	6,217	6,455	6,455	6,455	6,455	6,455	6,455	6,455	6,455	
2002	1,080	2,372	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	
2003	806	1,167	1,629	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	
2004	696	646	575	575	575	575	575	575	575	575	575	575	575	575	575	
2005	1,188	1,634	2,003	2,266	2,431	2,662	2,489	2,489	2,489	2,489	2,489	2,489	2,489	2,489	2,489	
2006	1,002	1,199	2,078	2,078	2,078	2,078	2,078	2,078	2,078	2,078	2,078	2,078	2,078	2,078	2,078	
2007	969	1,869	2,743	2,813	2,815	2,815	2,815	2,815	2,815	2,815	2,815	2,815	2,815	2,815	2,815	
2008	1,140	1,177	1,736	1,796	1,796	1,796	1,796	1,796	1,796	1,796	1,796	1,796	1,796	1,796	1,796	
2009	699	546	546	546	546	546	546	546	546	546	546	546	546	546	546	
2010	1,413	1,759	2,071	2,071	2,071	2,071	2,071	2,071	2,071	2,071	2,071	2,071	2,071	2,071	2,071	
2011	1,179	1,551	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	
2012	894	750	736	736	736	736	736	736	736	736	736	736	736	736	736	
2013	2,526	2,359	5,104	5,104	5,295	5,104	5,104	5,104	5,104	5,104	5,104	5,104	5,104	5,104	5,104	
2014	1,199	1,157	1,338	1,338	1,338	1,338	1,338	1,338	1,338	1,338	1,338	1,338	1,338	1,338	1,338	
2015	1,765	1,500	1,500	1,614	1,614	1,614	1,614	1,614	1,614	1,614	1,614	1,614	1,614	1,614	1,614	
2016	1,307	1,675	1,889	1,889	1,889	1,889	1,889	1,889	1,889	1,889	1,889	1,889	1,889	1,889	1,889	
2017	1,074	1,276	1,276	1,276	1,276	1,276	1,276	1,276	1,276	1,276	1,276	1,276	1,276	1,276	1,276	
2018	1,063	1,063	1,063	1,063	1,063	1,063	1,063	1,063	1,063	1,063	1,063	1,063	1,063	1,063	1,063	

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	0.966	12.691	1.000	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	1.785	1.000	1.000	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	0.936	1.703	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	0.987	1.493	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	2.741	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	2.357	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	1.110	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	1.067	0.980	0.930	1.000	0.991	1.000	1.006	0.974	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1997	1.206	2.116	0.975	1.000	1.000	0.990	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1998	1.068	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	1.001	1.115	1.185	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	1.023	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	4.961	1.332	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	2.196	0.884	1.000	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	1.447	1.396	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	0.928	0.889	1.000	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	1.376	1.226	1.131	1.073	1.095	0.935	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2006	1.197	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	1.928	1.468	1.026	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	1.032	1.475	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	
2009	0.782	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2010	1.245	1.177	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2011	1.316	0.764	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2012	0.840	0.981	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2013	0.934	2.164	1.000	1.037	0.964	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2014	0.965	1.156	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2015	0.849	1.000	1.076	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2016	1.282	1.128	1.128	1.128	1.128	1.128	1.128	1.128	1.128	1.128	1.128	1.128	1.128	1.128	1.128	
2017	1.188	1.188	1.188	1.188	1.188	1.188	1.188	1.188	1.188	1.188	1.188	1.188	1.188	1.188	1.188	
All Yr Avg	1.399	1.644	1.027	1.004	0.986	0.997	1.002	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
All Yr Avg Ex. H/L	1.290	1.253	1.016	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 Avg	1.043	1.231	1.014	1.011	1.006	0.994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
10 Yr Avg Ex. H/L	1.042	1.173	1.008	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
5 Yr Avg	1.044	1.286	1.015	1.007	0.993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
5 Yr Avg Ex. H/L	1.029	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	
3 Yr Avg	1.107	1.095	1.025	1.012	0.988	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Prior	1.120	1.250	1.010	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Selected	1.150	1.230	1.015	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
LDFs	1.447	1.258	1.023	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
% Incurred	69.1%	79.5%	97.7%	99.2%	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, 2018

Incurred Loss per Reported Claim at \$500K SIR

Accident Year	Maturity (Age in Months)														
	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360
1989	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603
1990	566	566	566	566	566	566	566	566	566	566	566	566	566	566	566
1991	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536
1992	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034
1993	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492
1994	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753
1995	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853
1996	659	659	659	659	659	659	659	659	659	659	659	659	659	659	659
1997	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840
1998	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148
1999	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684
2000	785	785	785	785	785	785	785	785	785	785	785	785	785	785	785
2001	6,455	6,455	6,455	6,455	6,455	6,455	6,455	6,455	6,455	6,455	6,455	6,455	6,455	6,455	6,455
2002	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097
2003	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443
2004															
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018															

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-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
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
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	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	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	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	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	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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															
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2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018															
All Yr Avg	1.000	1.000	1.000	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 Avg 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 Avg	1.000	1.000	1.000	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 Avg 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
5 Yr Avg	1.000	1.000	1.000	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 Avg 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
3 Yr Avg	1.000	1.000	1.000	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
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
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
% 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%

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2018

Paid Loss per Closed Claim at \$500K SIR

Accident Year	Maturity (Age in Months)															
	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	
1989	210	205	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	
1990	301	566	566	566	566	566	566	566	566	566	566	566	566	566	566	
1991	415	370	535	536	536	536	536	536	536	536	536	536	536	536	536	
1992	498	475	610	687	706	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	
1993	645	1,009	1,403	5,494	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	
1994	520	668	1,749	1,764	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	
1995	803	834	1,642	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	
1996	502	502	668	679	679	672	672	677	659	659	659	659	659	659	659	
1997	413	736	6,017	5,900	5,900	5,900	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	
1998	613	688	813	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	
1999	386	1,202	1,301	1,483	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	
2000	646	706	728	785	785	785	785	785	785	785	785	785	785	785	785	
2001	512	5,553	5,626	5,761	6,277	6,217	6,217	6,455	6,455	6,455	6,455	6,455	6,455	6,455	6,455	
2002	634	1,340	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	
2003	646	744	1,010	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	
2004	662	588	575	575	575	575	575	575	575	575	575	575	575	575	575	
2005	672	1,526	1,651	1,810	1,980	2,269	2,489	2,489	2,489	2,489	2,489	2,489	2,489	2,489	2,489	
2006	854	1,109	2,078	2,078	2,078	2,078	2,078	2,078	2,078	2,078	2,078	2,078	2,078	2,078	2,078	
2007	881	1,612	2,557	2,813	2,815	2,815	2,815	2,815	2,815	2,815	2,815	2,815	2,815	2,815	2,815	
2008	950	1,059	1,281	1,796	1,796	1,796	1,796	1,796	1,796	1,796	1,796	1,796	1,796	1,796	1,796	
2009	596	546	546	546	546	546	546	546	546	546	546	546	546	546	546	
2010	1,115	1,652	2,071	2,071	2,071	2,071	2,071	2,071	2,071	2,071	2,071	2,071	2,071	2,071	2,071	
2011	995	1,077	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	
2012	573	750	736	736	736	736	736	736	736	736	736	736	736	736	736	
2013	1,933	1,855	5,104	5,104	5,295	5,104	5,104	5,104	5,104	5,104	5,104	5,104	5,104	5,104	5,104	
2014	1,135	1,075	1,338	1,338	1,338	1,338	1,338	1,338	1,338	1,338	1,338	1,338	1,338	1,338	1,338	
2015	1,136	1,500	1,500	1,614	1,614	1,614	1,614	1,614	1,614	1,614	1,614	1,614	1,614	1,614	1,614	
2016	1,083	1,576	1,808	1,808	1,808	1,808	1,808	1,808	1,808	1,808	1,808	1,808	1,808	1,808	1,808	
2017	876	1,276	1,276	1,276	1,276	1,276	1,276	1,276	1,276	1,276	1,276	1,276	1,276	1,276	1,276	
2018	760	760	760	760	760	760	760	760	760	760	760	760	760	760	760	

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	0.976	12.691	1.000	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	1.881	1.000	1.000	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	0.891	1.447	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	
1992	0.954	1.284	1.126	1.028	1.465	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1993	1.563	1.391	3.917	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1994	1.286	2.616	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	1.039	1.969	1.129	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	0.999	1.331	1.016	1.000	0.991	1.000	1.006	0.974	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1997	1.781	8.175	0.981	1.000	1.000	0.990	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
1998	1.122	1.181	1.412	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	3.114	1.082	1.140	1.135	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2000	1.093	1.030	1.079	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	10.852	1.013	1.024	1.090	0.990	1.000	1.038	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2002	2.113	1.564	1.000	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	1.152	1.357	1.429	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	0.889	0.977	1.000	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	2.272	1.082	1.096	1.093	1.146	1.097	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2006	1.299	1.873	1.000	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	1.829	1.586	1.100	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	1.115	1.210	1.402	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	0.917	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2010	1.482	1.253	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2011	1.083	1.101	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2012	1.310	0.981	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2013	0.960	2.751	1.000	1.037	0.964	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2014	0.947	1.245	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2015	1.320	1.000	1.076	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
2016	1.455	1.147	1.147	1.147	1.147	1.147	1.147	1.147	1.147	1.147	1.147	1.147	1.147	1.147	1.147	
2017	1.456	1.456	1.456	1.456	1.456	1.456	1.456	1.456	1.456	1.456	1.456	1.456	1.456	1.456	1.456	
All Yr Avg	1.695	2.012	1.183	1.014	1.022	1.004	1.002	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
All Yr Avg Ex. H/L	1.386	1.641	1.082	1.010	1.006	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
10 Yr Avg	1.204	1.327	1.058	1.013	1.011	1.010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
10 Yr Avg Ex. H/L	1.206	1.193	1.022	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
5 Yr Avg	1.228	1.425	1.015	1.007	0.993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
5 Yr Avg Ex. H/L	1.245	1.131	1.000	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 Avg	1.410	1.131	1.025	1.012	0.988	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Prior	1.320	1.280	1.060	1.010	1.005	1.003	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Selected	1.380	1.250	1.060	1.010	1.005	1.003	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
LDFs	1.863	1.350	1.080	1.019	1.009	1.004	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
% Incurred	53.7%	74.1%	92.6%	98.1%	99.1%	99.6%	99.9%	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, 2018

Paid Loss per Closed Claim at \$500K SIR

Accident Year	Maturity (Age in Months)														
	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360
1989	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603	2,603
1990	566	566	566	566	566	566	566	566	566	566	566	566	566	566	566
1991	536	536	536	536	536	536	536	536	536	536	536	536	536	536	536
1992	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034	1,034
1993	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492	5,492
1994	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753
1995	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853	1,853
1996	659	659	659	659	659	659	659	659	659	659	659	659	659	659	659
1997	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840	5,840
1998	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148	1,148
1999	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684	1,684
2000	785	785	785	785	785	785	785	785	785	785	785	785	785	785	785
2001	6,455	6,455	6,455	6,455	6,455	6,455	6,455	6,455	6,455	6,455	6,455	6,455	6,455	6,455	6,455
2002	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097	2,097
2003	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443	1,443
2004															
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018															

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-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
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
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	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	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	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	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	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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															
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2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018															

All Yr Avg	1.000	1.000	1.000	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 Avg 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 Avg	1.000	1.000	1.000	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 Avg 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
5 Yr Avg	1.000	1.000	1.000	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 Avg 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
3 Yr Avg	1.000	1.000	1.000	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
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
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
% 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%

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2018

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	75	1	76	0	76
2017	51	0	51	0	51
2018	34	10	44	3	47
Total	2,187	11	2,198	3	2,201

Notes:

- (2)-(4) Provided by MVRMA
- (5) = (6) - (4)
- (6) From Exhibit 20, Col (4)

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2018

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	1.005	51
2018	44	1.075	47
Total	2,198		2,201

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 21
- (4) = (2) x (3)

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2018

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	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	76	
2009	56	57	57	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	78	78	78	
2011	73	74	74	74	74	74	74	74	74	74	74	74	74	74	74	
2012	45	51	52	52	52	52	52	52	52	52	52	52	52	52	52	
2013	42	46	46	46	46	46	46	46	46	46	46	46	46	46	46	
2014	74	78	78	78	78	78	78	78	78	78	78	78	78	78	78	
2015	49	51	51	51	51	51	51	51	51	51	51	51	51	51	51	
2016	69	76	76	76	76	76	76	76	76	76	76	76	76	76	76	
2017	48	51	51	51	51	51	51	51	51	51	51	51	51	51	51	
2018	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	

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	1.000	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	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	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	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	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	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	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	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	1.000	1.000	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	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2016	1.101	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2017	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
All Yr Vol	1.064	1.013	1.000	1.000	1.001	1.001	1.000	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000
All Yr Vol Ex. H/L	1.063	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	1.062	1.004	0.999	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 Ex. H/L	1.062	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	1.071	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 Ex. H/L	1.067	1.000	1.000	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	1.072	1.000	1.000	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	1.080	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	1.070	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	1.075	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
% Developed	93.0%	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
Auto Liability (AB, AD)
December 31, 2018

Reported Claim Counts

Accident Year	Maturity (Age in Months)														
	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360
1989	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
1991	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	60
1994	72	72	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	85	85	85
1996	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114
1997	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98
1998	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86
1999	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121
2000	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
2001	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86
2002	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
2003	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117
2004															
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018															

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-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
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
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	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	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	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	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	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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															
2004															
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018															
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
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	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	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	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	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
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
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
% 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%

Miami Valley Risk Management Association
Auto Liability (AB, AD)
December 31, 2018

Closed Claim Counts

Accident Year	Maturity (Age in Months)															
	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	76	
2009	51	57	57	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	78	78	78	
2011	66	72	74	74	74	74	74	74	74	74	74	74	74	74	74	
2012	39	51	52	52	52	52	52	52	52	52	52	52	52	52	52	
2013	37	45	46	46	46	46	46	46	46	46	46	46	46	46	46	
2014	68	77	78	78	78	78	78	78	78	78	78	78	78	78	78	
2015	43	51	51	51	51	51	51	51	51	51	51	51	51	51	51	
2016	47	73	75	75	75	75	75	75	75	75	75	75	75	75	75	
2017	40	51	51	51	51	51	51	51	51	51	51	51	51	51	51	
2018	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	

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	1.024	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	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	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	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	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	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	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	1.000	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	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2015	1.186	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2016	1.553	1.027	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2017	1.275	1.000	1.000	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	1.224	1.030	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	1.220	1.028	1.013	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	1.231	1.018	1.001	1.000	1.001	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol Ex. H/L	1.216	1.015	1.000	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	1.264	1.017	1.000	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	1.225	1.017	1.000	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	1.346	1.015	1.000	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, 2018

Closed Claim Counts

Accident Year	Maturity (Age in Months)														
	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360
1989	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
1991	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	60
1994	72	72	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	85	85	85
1996	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114
1997	98	98	98	98	98	98	98	98	98	98	98	98	98	98	98
1998	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86
1999	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121
2000	104	104	104	104	104	104	104	104	104	104	104	104	104	104	104
2001	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86
2002	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
2003	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117
2004															
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018															

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-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
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
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	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	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	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	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	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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															
2004															
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															

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
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	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	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	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	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, 2018

Loss Summary

Accident Year (1)	Retention (2)	Total Limits		Retention Limits		\$500K Limits		Deductibles	
		Incurred (3)	Paid (4)	Incurred (5)	Paid (6)	Incurred (7)	Paid (8)	Incurred (9)	Paid (10)
1989	\$250,000	\$111,919	\$111,919	\$111,919	\$111,919	\$111,919	\$111,919		
1990	250,000	18,683	18,683	18,683	18,683	18,683	18,683		
1991	250,000	13,946	13,946	13,946	13,946	13,946	13,946		
1992	250,000	39,293	39,293	39,293	39,293	39,293	39,293		
1993	250,000	329,494	329,494	329,494	329,494	329,494	329,494		
1994	250,000	126,181	126,181	126,181	126,181	126,181	126,181		
1995	250,000	157,537	157,537	157,537	157,537	157,537	157,537		
1996	250,000	75,097	75,097	75,097	75,097	75,097	75,097		
1997	500,000	1,018,826	1,018,826	572,332	572,332	572,332	572,332		
1998	500,000	98,687	98,687	98,687	98,687	98,687	98,687		
1999	500,000	203,725	203,725	203,725	203,725	203,725	203,725		
2000	500,000	81,660	81,660	81,660	81,660	81,660	81,660		
2001	500,000	555,168	555,168	555,168	555,168	555,168	555,168		
2002	500,000	167,747	167,747	167,747	167,747	167,747	167,747		
2003	1,000,000	168,870	168,870	168,870	168,870	168,870	168,870		
2004	1,000,000	49,417	49,417	49,417	49,417	49,417	49,417		
2005	1,000,000	243,966	243,966	243,966	243,966	243,966	243,966		
2006	1,000,000	145,431	145,431	145,431	145,431	145,431	145,431	\$48,974	\$48,974
2007	1,000,000	275,826	275,826	275,826	275,826	275,826	275,826	76,272	76,272
2008	1,000,000	136,527	136,527	136,527	136,527	136,527	136,527	46,288	46,288
2009	1,000,000	31,122	31,122	31,122	31,122	31,122	31,122	30,922	30,922
2010	500,000	161,512	161,512	161,512	161,512	161,512	161,512	43,334	43,334
2011	500,000	87,731	87,731	87,731	87,731	87,731	87,731	43,911	43,911
2012	500,000	38,269	38,269	38,269	38,269	38,269	38,269	24,213	24,213
2013	500,000	234,785	234,785	234,785	234,785	234,785	234,785	40,251	40,251
2014	500,000	104,340	104,340	104,340	104,340	104,340	104,340	63,241	63,241
2015	500,000	82,316	82,316	82,316	82,316	82,316	82,316	49,288	49,288
2016	500,000	143,577	135,625	143,577	135,625	143,577	135,625	58,678	58,678
2017	500,000	65,054	65,054	65,054	65,054	65,054	65,054	38,850	38,600
2018	500,000	46,789	25,849	46,789	25,849	46,789	25,849	51,732	42,292
Total		\$5,013,495	\$4,984,603	\$4,567,001	\$4,538,109	\$4,567,001	\$4,538,109	\$615,954	\$606,264

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

Miami Valley Risk Management Association
General Liability
December 31, 2018

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	1,060,000	956,190	541,145	415,045	103,810	518,855
2015	490,000	316,031	297,225	18,806	173,969	192,775
2016	880,000	497,960	408,529	89,431	382,040	471,471
2017	1,125,000	440,936	386,031	54,905	684,064	738,969
2018	1,025,000	113,533	48,041	65,493	911,467	976,959
Total	\$17,942,769	\$15,687,419	\$15,043,738	\$643,680	\$2,255,351	\$2,899,031

Notes:

- (2) From Exhibit 3, Col (13)
- (3)-(5) Provided by MVRMA
- (6) = (2) - (3)
- (7) = (5) + (6)

Miami Valley Risk Management Association
General Liability
December 31, 2018

Comparison of Ultimate Loss to Prior Ultimate Loss
Retained Limits

Accident Year	Selected Ultimate Loss @ 12/31/2017	Selected Ultimate Loss @ 12/31/2018	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	680,000	601,882	(78,118)	-11.5%
2014	1,150,000	1,060,000	(90,000)	-7.8%
2015	550,000	490,000	(60,000)	-10.9%
2016	1,150,000	880,000	(270,000)	-23.5%
2017	1,400,000	1,125,000	(275,000)	-19.6%
Total	\$17,690,887	\$16,917,769	(\$773,118)	-4.4%

Notes:

- (2) From Pinnacle's analysis of unpaid loss & LAE at 12/31/2017
- (3) From Exhibit 3, Col (13)
- (4) = (3) - (2)
- (5) = (4) / (2)

Miami Valley Risk Management Association
General Liability
December 31, 2018

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
		Incurring Loss Method	Paid Loss Method	Incurring Loss Method	Paid Loss Method	Case Reserve Method	Average Incurred Method	Average Paid Method				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1989	\$250,000	\$207,853	\$207,853	\$207,853	\$207,853	\$207,853	\$207,853	\$207,853	\$71,082	\$207,853	\$207,853	\$207,853
1990	250,000	439,863	439,863	439,863	439,863	439,863	439,863	439,863	93,290	439,863	439,863	439,863
1991	250,000	84,015	84,015	84,015	84,015	84,015	84,015	84,015	109,457	84,015	84,015	84,015
1992	250,000	139,376	139,376	139,376	139,376	139,376	139,376	139,376	135,829	139,376	139,376	139,376
1993	250,000	600,979	600,979	600,979	600,979	600,979	600,979	600,979	121,509	600,979	600,979	600,979
1994	250,000	106,065	106,065	106,065	106,065	106,065	106,065	106,065	197,694	106,065	106,065	106,065
1995	250,000	156,790	156,790	156,790	156,790	156,790	156,790	156,790	211,339	156,790	156,790	156,790
1996	250,000	357,926	357,926	357,926	357,926	357,926	357,926	357,926	221,259	357,926	357,926	357,926
1997	500,000	706,526	706,526	706,526	706,526	706,526	706,526	706,526	282,467	706,526	706,526	706,526
1998	500,000	554,289	554,289	554,289	554,289	554,289	554,289	554,289	304,555	554,289	554,289	554,289
1999	500,000	657,094	657,094	657,094	657,094	657,094	657,094	657,094	333,843	657,094	657,094	657,094
2000	500,000	164,584	164,596	164,560	164,560	164,560	164,560	164,560	357,479	164,560	164,560	164,560
2001	500,000	497,567	497,643	497,423	497,423	497,423	497,423	497,423	403,265	497,423	497,423	497,423
2002	500,000	1,347,958	1,348,370	1,347,177	1,347,177	1,347,177	1,347,177	1,347,177	449,187	1,347,177	1,347,177	1,347,177
2003	1,000,000	270,075	270,240	269,762	269,762	269,762	269,762	269,762	499,076	269,762	269,762	269,762
2004	1,000,000	513,152	513,780	511,964	511,964	511,964	511,964	511,964	542,785	511,964	511,964	511,964
2005	1,000,000	861,787	863,898	857,801	857,801	857,801	857,801	857,801	599,998	857,801	857,801	857,801
2006	1,000,000	924,326	928,861	915,795	915,795	915,795	915,795	915,795	637,033	915,795	915,795	915,795
2007	1,000,000	317,962	321,089	312,120	312,120	312,120	312,120	312,120	663,887	312,120	312,120	312,120
2008	1,000,000	889,042	906,616	856,672	856,672	856,672	856,672	856,672	729,881	856,672	856,672	856,672
2009	1,000,000	1,268,504	1,319,150	1,177,813	1,187,795	1,177,813	1,177,813	1,187,795	791,041	1,177,813	1,184,461	1,177,813
2010	500,000	1,066,359	1,116,015	972,613	981,374	972,613	972,613	981,374	780,261	972,613	979,579	972,613
2011	500,000	363,532	384,176	323,802	329,332	323,802	324,126	328,352	828,376	323,802	337,713	323,802
2012	500,000	627,463	677,257	556,175	557,396	542,610	548,040	555,737	813,364	562,448	564,186	542,610
2013	500,000	727,325	811,338	623,099	630,650	601,882	610,338	622,608	829,631	630,131	639,726	601,882
2014	500,000	1,232,893	824,293	1,064,138	737,112	1,212,264	1,033,674	697,621	855,718	1,042,995	768,644	1,060,000
2015	500,000	453,530	563,668	393,914	485,833	335,549	372,791	465,794	890,843	492,165	643,064	490,000
2016	500,000	878,974	1,107,889	757,226	1,001,648	620,562	739,627	936,596	939,819	819,744	965,036	880,000
2017	500,000	1,097,428	1,811,097	1,341,025	1,987,621	714,751	1,299,609	1,895,867	980,356	1,098,946	1,175,985	1,125,000
2018	500,000	534,055	597,274	780,357	742,063	806,591	818,992	786,523	1,073,619	1,030,953	1,052,155	1,025,000
Total		\$18,047,293	\$19,038,027	\$17,734,211	\$18,384,874	\$17,052,487	\$17,641,672	\$18,202,318	\$15,747,943	\$17,895,659	\$18,054,599	\$17,942,769

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 12.1, Col (4)
- (4) From Exhibit 12.2, Col (4)
- (5) From Exhibit 7, Col (4)
- (6) From Exhibit 8, Col (4)
- (7) From Exhibit 9, Col (8)
- (8) From Exhibit 10, Col (7)
- (9) From Exhibit 11, Col (7)
- (10) From Exhibit 4, Col (4)
- (11) From Exhibit 4, Col (8)
- (12) From Exhibit 5, Col (8)

Miami Valley Risk Management Association
General Liability
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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	\$127	\$71,082	0.0%	\$0	\$207,853	\$207,853	\$370
1990	722	129	93,290	0.0%	0	439,863	439,863	609
1991	830	132	109,457	0.0%	0	84,015	84,015	101
1992	1,010	134	135,829	0.0%	0	139,376	139,376	138
1993	1,255	97	121,509	0.0%	0	600,979	600,979	479
1994	1,413	140	197,694	0.0%	0	106,065	106,065	75
1995	1,481	143	211,339	0.0%	0	156,790	156,790	106
1996	1,520	146	221,259	0.0%	0	357,926	357,926	235
1997	1,903	148	282,467	0.0%	0	706,526	706,526	371
1998	2,011	151	304,555	0.0%	0	554,289	554,289	276
1999	2,162	154	333,843	0.0%	0	657,094	657,094	304
2000	2,269	158	357,479	0.0%	0	164,560	164,560	73
2001	2,510	161	403,265	0.0%	0	497,423	497,423	198
2002	2,741	164	449,187	0.0%	0	1,347,177	1,347,177	492
2003	2,985	167	499,076	0.0%	0	269,762	269,762	90
2004	3,183	171	542,785	0.0%	0	511,964	511,964	161
2005	3,450	174	599,998	0.0%	0	857,801	857,801	249
2006	3,591	177	637,033	0.0%	0	915,795	915,795	255
2007	3,669	181	663,887	0.0%	0	312,120	312,120	85
2008	3,954	185	729,881	0.0%	0	856,672	856,672	217
2009	4,058	195	791,041	0.0%	0	1,177,813	1,177,813	290
2010	4,063	192	780,261	0.0%	0	972,613	972,613	239
2011	4,229	196	828,376	0.0%	0	323,802	323,802	77
2012	4,071	200	813,364	2.4%	19,838	542,610	562,448	138
2013	4,071	204	829,631	3.4%	28,249	601,882	630,131	155
2014	4,117	208	855,718	10.1%	86,805	956,190	1,042,995	253
2015	4,202	212	890,843	19.8%	176,134	316,031	492,165	117
2016	4,346	216	939,819	34.2%	321,784	497,960	819,744	189
2017	4,444	221	980,356	67.1%	658,010	440,936	1,098,946	247
2018	4,772	225	1,073,619	85.5%	917,420	113,533	1,030,953	216
Total	\$85,592		\$15,747,943		\$2,208,240	\$15,687,419	\$17,895,659	\$209

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 6.1, Col (8)
- (4) = (2) x (3)
- (5) Based on Exhibit 13;
\$500K limits for 1989-2002 and 2010-2018; \$1M limits for 2003-2009
- (6) = (4) x (5)
- (7) Provided by MVRMA
- (8) = (6) + (7)
- (9) = (8) / (2)

Miami Valley Risk Management Association
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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	\$127	\$71,082	0.0%	\$0	\$207,853	\$207,853	\$370
1990	722	129	93,290	0.0%	0	439,863	439,863	609
1991	830	132	109,457	0.0%	0	84,015	84,015	101
1992	1,010	134	135,829	0.0%	0	139,376	139,376	138
1993	1,255	97	121,509	0.0%	0	600,979	600,979	479
1994	1,413	140	197,694	0.0%	0	106,065	106,065	75
1995	1,481	143	211,339	0.0%	0	156,790	156,790	106
1996	1,520	146	221,259	0.0%	0	357,926	357,926	235
1997	1,903	148	282,467	0.0%	0	706,526	706,526	371
1998	2,011	151	304,555	0.0%	0	554,289	554,289	276
1999	2,162	154	333,843	0.0%	0	657,094	657,094	304
2000	2,269	158	357,479	0.0%	0	164,560	164,560	73
2001	2,510	161	403,265	0.0%	0	497,423	497,423	198
2002	2,741	164	449,187	0.0%	0	1,347,177	1,347,177	492
2003	2,985	167	499,076	0.0%	0	269,762	269,762	90
2004	3,183	171	542,785	0.0%	0	511,964	511,964	161
2005	3,450	174	599,998	0.0%	0	857,801	857,801	249
2006	3,591	177	637,033	0.0%	0	915,795	915,795	255
2007	3,669	181	663,887	0.0%	0	312,120	312,120	85
2008	3,954	185	729,881	0.0%	0	856,672	856,672	217
2009	4,058	195	791,041	0.8%	6,648	1,177,813	1,184,461	292
2010	4,063	192	780,261	0.9%	6,966	972,613	979,579	241
2011	4,229	196	828,376	1.7%	13,911	323,802	337,713	80
2012	4,071	200	813,364	2.7%	21,577	542,610	564,186	139
2013	4,071	204	829,631	4.6%	37,844	601,882	639,726	157
2014	4,117	208	855,718	26.6%	227,500	541,145	768,644	187
2015	4,202	212	890,843	38.8%	345,839	297,225	643,064	153
2016	4,346	216	939,819	59.2%	556,507	408,529	965,036	222
2017	4,444	221	980,356	80.6%	789,954	386,031	1,175,985	265
2018	4,772	225	1,073,619	93.5%	1,004,114	48,041	1,052,155	221
Total	\$85,592		\$15,747,943		\$3,010,860	\$15,043,738	\$18,054,599	\$211

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 6.1, Col (8)
- (4) = (2) x (3)
- (5) Based on Exhibit 13;
\$500K limits for 1989-2002 and 2010-2018; \$1M limits for 2003-2009
- (6) = (4) x (5)
- (7) Provided by MVRMA
- (8) = (6) + (7)
- (9) = (8) / (2)

Miami Valley Risk Management Association
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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 2018	Trended \$500K Limits Loss Cost	Expected Loss Cost
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1989	\$561	\$207,853	\$370	1.000	1.776	\$658	\$127
1990	722	439,863	609	1.000	1.741	1,061	129
1991	830	84,015	101	1.000	1.707	173	132
1992	1,010	139,376	138	1.000	1.673	231	134
1993	1,255	600,979	479	1.416	1.641	1,113	97
1994	1,413	106,065	75	1.000	1.608	121	140
1995	1,481	156,790	106	1.000	1.577	167	143
1996	1,520	357,926	235	1.000	1.546	364	146
1997	1,903	706,526	371	1.000	1.516	563	148
1998	2,011	554,289	276	1.000	1.486	409	151
1999	2,162	657,094	304	1.000	1.457	443	154
2000	2,269	164,560	73	1.000	1.428	104	158
2001	2,510	497,423	198	1.000	1.400	278	161
2002	2,741	1,347,177	492	1.000	1.373	675	164
2003	2,985	269,762	90	1.000	1.346	122	167
2004	3,183	511,964	161	1.000	1.319	212	171
2005	3,450	857,801	249	1.000	1.294	322	174
2006	3,591	915,795	255	1.000	1.268	323	177
2007	3,669	312,120	85	1.000	1.243	106	181
2008	3,954	856,672	217	1.000	1.219	264	185
2009	4,058	1,177,813	290	0.966	1.195	335	195
2010	4,063	972,613	239	1.000	1.172	280	192
2011	4,229	323,802	77	1.000	1.149	88	196
2012	4,071	556,175	137	1.000	1.126	154	200
2013	4,071	623,099	153	1.000	1.104	169	204
2014	4,117	1,064,138	258	1.000	1.082	280	208
2015	4,202	393,914	94	1.000	1.061	99	212
2016	4,346	757,226	174	1.000	1.040	181	216
2017	4,444	1,341,025	302	1.000	1.020	308	221
2018	4,772	780,357	164	1.000	1.000	164	225
Total	\$85,592	\$17,734,211	\$207				
					Weighted Average Ex. Hi/Lo	\$264	
					10-Year Weighted Avg	205	
					10-Year Weighted Avg Ex. Hi/Lo	204	
					5-Year Weighted Avg	206	
					Selected 2018 Loss Cost	\$225	

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 6.2, Col (5)
- (4) = (3) / (2)
- (5) From Exhibit 6.3, Col (7)
- (6) Based on selected trend of 2.0%
- (7) = (4) x (5) x (6)
- (8) = Selected Loss Cost / [(6) x (5)]



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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	\$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	1,187,795	1,177,813	1,177,813
2010	972,613	981,374	972,613	972,613
2011	323,802	329,332	323,802	323,802
2012	556,175	557,396	542,610	556,175
2013	623,099	630,650	601,882	623,099
2014	1,064,138	737,112	1,212,264	1,064,138
2015	393,914	485,833	335,549	393,914
2016	757,226	1,001,648	620,562	757,226
2017	1,341,025	1,987,621	714,751	1,341,025
2018	780,357	742,063	806,591	780,357
Total	\$17,734,211	\$18,384,874	\$17,052,487	\$17,734,211

Notes:

- (2) From Exhibit 7, Col (4)
- (3) From Exhibit 8, Col (4)
- (4) From Exhibit 9, Col (8)

Miami Valley Risk Management Association
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Estimated Limits Factor

Accident Year	Retention	Incurred Losses at		Incurred Limits Factors	Industry Limits Factors	Selected Limits Factors
		\$500K Limits	Retention Limits			
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1989	\$250,000	\$207,853	\$207,853	1.000		1.000
1990	250,000	439,863	439,863	1.000		1.000
1991	250,000	84,015	84,015	1.000		1.000
1992	250,000	139,376	139,376	1.000		1.000
1993	250,000	850,979	600,979	1.416		1.416
1994	250,000	106,065	106,065	1.000		1.000
1995	250,000	156,790	156,790	1.000		1.000
1996	250,000	357,926	357,926	1.000		1.000
1997	500,000	706,526	706,526	1.000	1.000	1.000
1998	500,000	554,289	554,289	1.000	1.000	1.000
1999	500,000	657,094	657,094	1.000	1.000	1.000
2000	500,000	164,560	164,560	1.000	1.000	1.000
2001	500,000	497,423	497,423	1.000	1.000	1.000
2002	500,000	1,347,177	1,347,177	1.000	1.000	1.000
2003	1,000,000	269,762	269,762	1.000	0.914	1.000
2004	1,000,000	511,964	511,964	1.000	0.911	1.000
2005	1,000,000	857,801	857,801	1.000	0.909	1.000
2006	1,000,000	915,795	915,795	1.000	0.906	1.000
2007	1,000,000	312,120	312,120	1.000	0.904	1.000
2008	1,000,000	856,672	856,672	1.000	0.901	1.000
2009	1,000,000	1,137,677	1,177,813	0.966	0.898	0.966
2010	500,000	972,613	972,613	1.000	1.000	1.000
2011	500,000	323,802	323,802	1.000	1.000	1.000
2012	500,000	542,610	542,610	1.000	1.000	1.000
2013	500,000	601,882	601,882	1.000	1.000	1.000
2014	500,000	956,190	956,190	1.000	1.000	1.000
2015	500,000	316,031	316,031	1.000	1.000	1.000
2016	500,000	497,960	497,960	1.000	1.000	1.000
2017	500,000	440,936	440,936	1.000	1.000	1.000
2018	500,000	113,533	113,533	1.000	1.000	1.000
Total		\$15,897,283	\$15,687,419			

Notes:

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

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Ultimate Loss Based on Incurred Loss Development Method
Retained Limits

Accident Year (1)	Cumulative Incurred Loss (2)	Loss Development Factors (3)	Projected Ultimate Loss (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	1.025	556,175
2013	601,882	1.035	623,099
2014	956,190	1.113	1,064,138
2015	316,031	1.246	393,914
2016	497,960	1.521	757,226
2017	440,936	3.041	1,341,025
2018	113,533	6.873	780,357
Total	\$15,687,419		\$17,734,211

Notes:

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

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Ultimate Loss Based on Paid Loss Development Method
Retained Limits

Accident Year (1)	Cumulative Paid Loss (2)	Loss Development Factors (3)	Projected Ultimate Loss (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	1.008	1,187,795
2010	972,613	1.009	981,374
2011	323,802	1.017	329,332
2012	542,610	1.027	557,396
2013	601,882	1.048	630,650
2014	541,145	1.362	737,112
2015	297,225	1.635	485,833
2016	408,529	2.452	1,001,648
2017	386,031	5.149	1,987,621
2018	48,041	15.447	742,063
Total	\$15,043,738		\$18,384,874

Notes:

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

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Ultimate Loss Based on Case Reserve Development Method
Retained Limits

Accident Year (1)	Retention (2)	Cumulative Paid Loss (3)	Case Reserves (4)	Percent Developed			Projected Ultimate Loss (8)
				Incurred (5)	Paid (6)	Reserve (7)	
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%	99.2%	100.0%	1,177,813
2010	500,000	972,613	0	100.0%	99.1%	100.0%	972,613
2011	500,000	323,802	0	100.0%	98.3%	100.0%	323,802
2012	500,000	542,610	0	97.6%	97.3%	8.1%	542,610
2013	500,000	601,882	0	96.6%	95.4%	25.4%	601,882
2014	500,000	541,145	415,045	89.9%	73.4%	61.8%	1,212,264
2015	500,000	297,225	18,806	80.2%	61.2%	49.1%	335,549
2016	500,000	408,529	89,431	65.8%	40.8%	42.2%	620,562
2017	500,000	386,031	54,905	32.9%	19.4%	16.7%	714,751
2018	500,000	48,041	65,493	14.5%	6.5%	8.6%	806,591
Total		\$15,043,738	\$643,680				\$17,052,487

Notes:

(2)-(4) Provided by MVRMA

(5)-(6) Based on Exhibit 13

(7) = [(5) - (6)] / [(1.0 - (6))]

(8) = (3) + [(4) / (7)]

Miami Valley Risk Management Association
General Liability
December 31, 2018

Ultimate Loss Based on Incurred Loss per Reported Claim Development Method
Retained Limits

Accident Year	Retention	Cumulative Incurred Loss per Reported Claim	Loss Development Factors	Projected Average Loss	Selected Ultimate Claims	Projected Ultimate Loss
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1989	\$250,000	\$2,335	1.000	\$2,335	89	\$207,853
1990	250,000	4,443	1.000	4,443	99	439,863
1991	250,000	1,500	1.000	1,500	56	84,015
1992	250,000	1,936	1.000	1,936	72	139,376
1993	250,000	6,462	1.000	6,462	93	600,979
1994	250,000	982	1.000	982	108	106,065
1995	250,000	1,845	1.000	1,845	85	156,790
1996	250,000	2,958	1.000	2,958	121	357,926
1997	500,000	7,137	1.000	7,137	99	706,526
1998	500,000	3,903	1.000	3,903	142	554,289
1999	500,000	4,627	1.000	4,627	142	657,094
2000	500,000	1,127	1.000	1,127	146	164,560
2001	500,000	4,215	1.000	4,215	118	497,423
2002	500,000	8,214	1.000	8,214	164	1,347,177
2003	1,000,000	1,823	1.000	1,823	148	269,762
2004	1,000,000	4,302	1.000	4,302	119	511,964
2005	1,000,000	6,702	1.000	6,702	128	857,801
2006	1,000,000	8,325	1.000	8,325	110	915,795
2007	1,000,000	2,183	1.000	2,183	143	312,120
2008	1,000,000	4,840	1.000	4,840	177	856,672
2009	1,000,000	10,067	1.000	10,067	117	1,177,813
2010	500,000	6,357	1.000	6,357	153	972,613
2011	500,000	1,741	1.001	1,743	186	324,126
2012	500,000	3,961	1.010	4,000	137	548,040
2013	500,000	3,785	1.014	3,839	159	610,338
2014	500,000	5,464	1.075	5,873	176	1,033,674
2015	500,000	2,150	1.172	2,519	148	372,791
2016	500,000	3,532	1.465	5,172	143	739,627
2017	500,000	2,827	2.856	8,072	161	1,299,609
2018	500,000	701	6.283	4,403	186	818,992
Total				\$4,495	3,925	\$17,641,672

Notes:

- (2) Provided by MVRMA
- (3) Based on data provided by MVRMA
- (4) Based on Exhibit 14
- (5) = (3) x (4)
- (6) From Exhibit 19, Col (6)
- (7) = (5) x (6)

Miami Valley Risk Management Association
General Liability
December 31, 2018

Ultimate Loss Based on Paid Loss per Closed Claim Development Method
Retained Limits

Accident Year	Retention	Cumulative Paid Loss per Closed Claim	Loss Development Factors	Projected Average Loss	Selected Ultimate Claims	Projected Ultimate Loss
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1989	\$250,000	\$2,335	1.000	\$2,335	89	\$207,853
1990	250,000	4,443	1.000	4,443	99	439,863
1991	250,000	1,500	1.000	1,500	56	84,015
1992	250,000	1,936	1.000	1,936	72	139,376
1993	250,000	6,462	1.000	6,462	93	600,979
1994	250,000	982	1.000	982	108	106,065
1995	250,000	1,845	1.000	1,845	85	156,790
1996	250,000	2,958	1.000	2,958	121	357,926
1997	500,000	7,137	1.000	7,137	99	706,526
1998	500,000	3,903	1.000	3,903	142	554,289
1999	500,000	4,627	1.000	4,627	142	657,094
2000	500,000	1,127	1.000	1,127	146	164,560
2001	500,000	4,215	1.000	4,215	118	497,423
2002	500,000	8,214	1.000	8,214	164	1,347,177
2003	1,000,000	1,823	1.000	1,823	148	269,762
2004	1,000,000	4,302	1.000	4,302	119	511,964
2005	1,000,000	6,702	1.000	6,702	128	857,801
2006	1,000,000	8,325	1.000	8,325	110	915,795
2007	1,000,000	2,183	1.000	2,183	143	312,120
2008	1,000,000	4,840	1.000	4,840	177	856,672
2009	1,000,000	10,067	1.008	10,152	117	1,187,795
2010	500,000	6,357	1.009	6,414	153	981,374
2011	500,000	1,741	1.014	1,765	186	328,352
2012	500,000	3,961	1.024	4,056	137	555,737
2013	500,000	3,785	1.034	3,916	159	622,608
2014	500,000	3,128	1.267	3,964	176	697,621
2015	500,000	2,036	1.546	3,147	148	465,794
2016	500,000	3,026	2.164	6,550	143	936,596
2017	500,000	2,591	4.545	11,776	161	1,895,867
2018	500,000	338	12.499	4,229	186	786,523
Total				\$4,638	3,925	\$18,202,318

Notes:

- (2) Provided by MVRMA
- (3) Based on data provided by MVRMA
- (4) Based on Exhibit 14
- (5) = (3) x (4)
- (6) From Exhibit 19, Col (6)
- (7) = (5) x (6)

Miami Valley Risk Management Association
General Liability
December 31, 2018

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

Accident Year (1)	Cumulative Incurred Loss (2)	Industry Loss Development Factors (3)	Projected Ultimate Loss (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	164,584
2001	497,423	1.000	497,567
2002	1,347,177	1.001	1,347,958
2003	269,762	1.001	270,075
2004	511,964	1.002	513,152
2005	857,801	1.005	861,787
2006	915,795	1.009	924,326
2007	312,120	1.019	317,962
2008	856,672	1.038	889,042
2009	1,177,813	1.077	1,268,504
2010	972,613	1.096	1,066,359
2011	323,802	1.123	363,532
2012	542,610	1.156	627,463
2013	601,882	1.208	727,325
2014	956,190	1.289	1,232,893
2015	316,031	1.435	453,530
2016	497,960	1.765	878,974
2017	440,936	2.489	1,097,428
2018	113,533	4.704	534,055
Total	\$15,687,419		\$18,047,293

Notes:

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

Miami Valley Risk Management Association
General Liability
December 31, 2018

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

Accident Year (1)	Cumulative Paid Loss (2)	Industry Loss Development Factors (3)	Projected Ultimate Loss (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	164,596
2001	497,423	1.000	497,643
2002	1,347,177	1.001	1,348,370
2003	269,762	1.002	270,240
2004	511,964	1.004	513,780
2005	857,801	1.007	863,898
2006	915,795	1.014	928,861
2007	312,120	1.029	321,089
2008	856,672	1.058	906,616
2009	1,177,813	1.120	1,319,150
2010	972,613	1.147	1,116,015
2011	323,802	1.186	384,176
2012	542,610	1.248	677,257
2013	601,882	1.348	811,338
2014	541,145	1.523	824,293
2015	297,225	1.896	563,668
2016	408,529	2.712	1,107,889
2017	386,031	4.692	1,811,097
2018	48,041	12.433	597,274
Total	\$15,043,738		\$19,038,027

Notes:

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

Miami Valley Risk Management Association
General Liability
December 31, 2018

Loss Development Patterns

Month of Development (1)	\$500K Limits % Developed		\$1M Limits % Developed		Industry % Developed	
	Incurred (2)	Paid (3)	Incurred (4)	Paid (5)	Incurred (6)	Paid (7)
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%	99.6%
168	100.0%	100.0%	100.0%	100.0%	99.5%	99.3%
156	100.0%	100.0%	100.0%	100.0%	99.1%	98.6%
144	100.0%	100.0%	100.0%	100.0%	98.2%	97.2%
132	100.0%	100.0%	100.0%	100.0%	96.4%	94.5%
120	100.0%	99.2%	100.0%	99.2%	92.9%	89.3%
108	100.0%	99.1%	100.0%	98.8%	91.2%	87.2%
96	100.0%	98.3%	100.0%	97.9%	89.1%	84.3%
84	97.6%	97.3%	97.1%	96.6%	86.5%	80.1%
72	96.6%	95.4%	94.2%	88.8%	82.8%	74.2%
60	89.9%	73.4%	86.0%	67.9%	77.6%	65.6%
48	80.2%	61.2%	74.1%	51.8%	69.7%	52.7%
36	65.8%	40.8%	51.0%	30.0%	56.7%	36.9%
24	32.9%	19.4%	24.0%	12.6%	40.2%	21.3%
12	14.5%	6.5%	5.6%	1.9%	21.3%	8.0%

Notes:

- (2) Based on Exhibit 15
- (3) Based on Exhibit 16
- (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, 2018

Severity Development Patterns

Month of Development (1)	\$500K Limits % Developed		\$1M Limits % Developed	
	Incurred (2)	Paid (3)	Incurred (4)	Paid (5)
360	100.0%	100.0%	100.0%	100.0%
348	100.0%	100.0%	100.0%	100.0%
336	100.0%	100.0%	100.0%	100.0%
324	100.0%	100.0%	100.0%	100.0%
312	100.0%	100.0%	100.0%	100.0%
300	100.0%	100.0%	100.0%	100.0%
288	100.0%	100.0%	100.0%	100.0%
276	100.0%	100.0%	100.0%	100.0%
264	100.0%	100.0%	100.0%	100.0%
252	100.0%	100.0%	100.0%	100.0%
240	100.0%	100.0%	100.0%	100.0%
228	100.0%	100.0%	100.0%	100.0%
216	100.0%	100.0%	100.0%	100.0%
204	100.0%	100.0%	100.0%	100.0%
192	100.0%	100.0%	100.0%	100.0%
180	100.0%	100.0%	100.0%	100.0%
168	100.0%	100.0%	100.0%	100.0%
156	100.0%	100.0%	100.0%	100.0%
144	100.0%	100.0%	100.0%	100.0%
132	100.0%	100.0%	100.0%	100.0%
120	100.0%	99.2%	100.0%	99.2%
108	100.0%	99.1%	100.0%	98.9%
96	99.9%	98.6%	99.7%	98.2%
84	99.0%	97.6%	98.8%	97.2%
72	98.6%	96.7%	97.0%	91.6%
60	93.0%	78.9%	90.0%	72.8%
48	85.4%	64.7%	78.6%	56.3%
36	68.3%	46.2%	53.6%	34.2%
24	35.0%	22.0%	25.9%	14.8%
12	15.9%	8.0%	6.2%	2.6%

Notes:

- (2) Based on Exhibit 17
- (3) Based on Exhibit 18
- (4) = Col (2) lagged 6 months
- (5) = Col (3) lagged 6 months

Miami Valley Risk Management Association
General Liability
December 31, 2018

Incurred Loss at \$500K SIR

Accident Year	Maturity (Age in Months)															
	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	511,964
2005	108,411	258,559	529,054	475,826	486,242	536,564	541,563	857,801	857,801	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	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	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	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	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	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	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	542,610	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	601,882	601,882	601,882	601,882	601,882	601,882	601,882
2014	164,985	334,063	947,515	936,190	956,190	956,190	956,190	956,190	956,190	956,190	956,190	956,190	956,190	956,190	956,190	956,190
2015	100,820	205,275	290,795	316,031	316,031	316,031	316,031	316,031	316,031	316,031	316,031	316,031	316,031	316,031	316,031	316,031
2016	95,425	422,586	497,960	497,960	497,960	497,960	497,960	497,960	497,960	497,960	497,960	497,960	497,960	497,960	497,960	497,960
2017	428,285	440,936	440,936	440,936	440,936	440,936	440,936	440,936	440,936	440,936	440,936	440,936	440,936	440,936	440,936	440,936
2018	113,533	113,533	113,533	113,533	113,533	113,533	113,533	113,533	113,533	113,533	113,533	113,533	113,533	113,533	113,533	113,533

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	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	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	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	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	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	1.000	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	1.000	1.000	1.000	1.000	1.000	1.000	
2013	2.910	1.277	1.680	1.024	0.987	0.987	0.987	0.987	0.987	0.987	0.987	0.987	0.987	0.987	0.987	
2014	2.025	2.836	0.988	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021	
2015	2.036	1.417	1.087	1.087	1.087	1.087	1.087	1.087	1.087	1.087	1.087	1.087	1.087	1.087	1.087	
2016	4.428	1.178	1.178	1.178	1.178	1.178	1.178	1.178	1.178	1.178	1.178	1.178	1.178	1.178	1.178	
2017	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	1.030	
All Yr Vol	1.970	1.867	1.217	1.127	1.042	1.002	1.042	0.997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
All Yr Vol Ex. H/L	1.954	1.829	1.213	1.131	1.042	1.002	1.019	0.997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
10 Yr Vol	1.970	2.027	1.270	1.116	1.079	1.004	1.075	0.997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
10 Yr Vol Ex. H/L	2.178	2.034	1.307	1.059	1.059	0.997	1.034	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
5 Yr Vol	1.899	1.654	1.171	1.072	1.050	0.999	1.000	0.995	1.000	1.000	1.000	1.0				

Miami Valley Risk Management Association
General Liability
December 31, 2018

Incurred Loss at \$500K SIR

Accident Year	Maturity (Age in Months)														
	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360
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
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
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
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	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	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	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	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	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	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	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	164,560	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	497,423	497,423	497,423	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	1,347,177	1,347,177	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	269,762	269,762	269,762	269,762	269,762	269,762	269,762	269,762	269,762	269,762	269,762	269,762	269,762	269,762	269,762
2004															
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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-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
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
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	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	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	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	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	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
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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
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	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	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	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	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
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
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
% 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%

Miami Valley Risk Management Association
General Liability
December 31, 2018

Paid Loss at \$500K SIR

Accident Year	Maturity (Age in Months)														
	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	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	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	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	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	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	601,882	601,882	601,882	601,882	601,882	601,882
2014	105,074	233,752	375,369	431,494	541,145	541,145	541,145	541,145	541,145	541,145	541,145	541,145	541,145	541,145	541,145
2015	85,569	129,660	275,208	297,225	297,225	297,225	297,225	297,225	297,225	297,225	297,225	297,225	297,225	297,225	297,225
2016	65,365	272,746	408,529	408,529	408,529	408,529	408,529	408,529	408,529	408,529	408,529	408,529	408,529	408,529	408,529
2017	73,929	386,031	386,031	386,031	386,031	386,031	386,031	386,031	386,031	386,031	386,031	386,031	386,031	386,031	386,031
2018	48,041	48,041	48,041	48,041	48,041	48,041	48,041	48,041	48,041	48,041	48,041	48,041	48,041	48,041	48,041

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	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	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	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	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	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	1.000	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	1.000	1.000	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	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2014	2.225	1.606	1.150	1.254	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2015	1.515	2.123	1.080	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2016	4.173	1.498	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2017	5.222	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
All Yr Vol	3.057	2.055	1.552	1.277	1.146	1.021	1.035	1.008	1.001	1.030	1.000	1.000	1.000	1.000	1.000
All Yr Vol Ex. H/L	3.120	2.003	1.498	1.259	1.127	1.017	1.006	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol	2.848	2.187	1.404	1.167	1.272	1.022	1.057	1.012	1.001	1.047	1.000	1.000	1.000	1.000	1.000
10 Yr Vol Ex. H/L	2.850	2.002	1.363	1.172	1.266	1.013	1.008	1.006	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol	2.975	1.711	1.341	1.208	1.389	1.012	1.000	1.013	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol Ex. H/L	2.805	1.734	1.214	1.231	1.438	1.003	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
3 Yr Vol	3.506	1.665	1.361	1.202	1.287	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Prior	2.600	2.200	1.560	1.1											

Miami Valley Risk Management Association
General Liability
December 31, 2018

Paid Loss at \$500K SIR

Accident Year	Maturity (Age in Months)														
	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360
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
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
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
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	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	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	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	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	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	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	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	164,560	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	497,423	497,423	497,423	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	1,347,177	1,347,177	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	269,762	269,762	269,762	269,762	269,762	269,762	269,762	269,762	269,762	269,762	269,762	269,762	269,762	269,762	269,762
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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-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
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
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	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	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	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	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	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
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2018															

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
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	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	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	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	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
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
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
% 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%

Miami Valley Risk Management Association
General Liability
December 31, 2018

Incurred Loss per Reported Claim at \$500K SIR

Accident Year	Maturity (Age in Months)														
	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
1989	1,251	3,184	2,462	2,381	2,361	2,406	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335
1990	1,260	1,752	2,231	2,605	4,458	4,458	4,402	4,367	4,443	4,443	4,443	4,443	4,443	4,443	4,443
1991	287	1,394	1,141	993	1,807	2,492	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
1992	465	461	2,429	1,933	1,714	1,945	1,999	1,999	1,936	1,936	1,936	1,936	1,936	1,936	1,936
1993	5,280	6,368	6,026	8,843	9,456	9,253	9,306	9,306	9,150	9,150	9,150	9,150	9,150	9,150	9,150
1994	335	811	2,056	904	985	982	982	982	982	982	982	982	982	982	982
1995	1,230	952	1,467	1,578	2,228	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845
1996	663	1,638	2,262	2,382	3,063	2,923	2,910	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958
1997	601	1,021	6,905	7,693	7,290	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137
1998	315	1,674	2,010	3,916	4,030	3,931	3,903	3,903	3,903	3,903	3,903	3,903	3,903	3,903	3,903
1999	669	1,409	2,688	3,341	4,786	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627
2000	789	657	1,349	1,341	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127
2001	856	2,543	3,877	4,355	4,355	4,352	4,352	4,145	4,215	4,215	4,215	4,215	4,215	4,215	4,215
2002	2,155	1,995	4,027	4,861	6,310	6,617	6,949	8,214	8,214	8,214	8,214	8,214	8,214	8,214	8,214
2003	414	950	1,897	2,113	1,788	1,869	1,823	1,823	1,823	1,823	1,823	1,823	1,823	1,823	1,823
2004	544	845	2,242	3,269	3,714	3,815	4,302	4,302	4,302	4,302	4,302	4,302	4,302	4,302	4,302
2005	977	2,085	4,133	3,689	3,769	4,159	4,198	6,650	6,702	6,702	6,702	6,702	6,702	6,702	6,702
2006	1,013	2,733	3,889	5,906	6,344	8,733	8,505	8,505	8,325	8,325	8,325	8,325	8,325	8,325	8,325
2007	554	1,029	1,831	2,236	2,261	2,183	2,183	2,183	2,183	2,183	2,183	2,183	2,183	2,183	2,183
2008	711	1,205	4,371	4,594	4,690	4,629	4,840	4,840	4,840	4,840	4,840	4,840	4,840	4,840	4,840
2009	649	2,001	4,286	6,868	10,318	9,956	9,724	9,724	9,724	9,724	9,724	9,724	9,724	9,724	9,724
2010	444	1,103	3,912	5,534	6,079	6,357	6,357	6,357	6,357	6,357	6,357	6,357	6,357	6,357	6,357
2011	764	786	1,149	1,306	1,580	1,816	1,741	1,741	1,741	1,741	1,741	1,741	1,741	1,741	1,741
2012	613	1,488	2,145	2,696	2,987	3,961	3,961	3,961	3,961	3,961	3,961	3,961	3,961	3,961	3,961
2013	696	1,778	2,228	3,745	3,834	3,785	3,785	3,785	3,785	3,785	3,785	3,785	3,785	3,785	3,785
2014	1,044	1,920	5,414	5,350	5,464	5,464	5,464	5,464	5,464	5,464	5,464	5,464	5,464	5,464	5,464
2015	736	1,426	1,978	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150	2,150
2016	823	3,062	3,532	3,532	3,532	3,532	3,532	3,532	3,532	3,532	3,532	3,532	3,532	3,532	3,532
2017	2,914	2,827	2,827	2,827	2,827	2,827	2,827	2,827	2,827	2,827	2,827	2,827	2,827	2,827	2,827
2018	701	701	701	701	701	701	701	701	701	701	701	701	701	701	701

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	2.545	0.773	0.967	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	1.391	1.273	1.167	1.711	1.000	0.987	0.992	1.017	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1991	4.863	0.819	0.870	1.820	1.379	0.602	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1992	0.993	5.265	0.796	0.887	1.134	1.028	1.000	0.968	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1993	1.206	0.946	1.467	1.069	0.978	1.006	1.000	0.983	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1994	2.419	2.534	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	0.774	1.542	1.076	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	2.470	1.381	1.053	1.286	0.955	0.996	1.016	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1997	1.698	6.764	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	5.319	1.201	1.948	1.029	0.976	0.993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1999	2.106	1.907	1.243	1.433	0.967	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2000	0.833	2.054	0.994	0.841	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2001	2.972	1.525	1.123	1.000	0.999	1.000	0.952	1.017	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2002	0.926	2.018	1.207	1.298	1.049	1.050	1.182	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2003	2.293	1.997	1.114	0.846	1.045	0.975	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2004	1.554	2.653	1.458	1.136	1.027	1.128	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2005	2.135	1.982	0.892	1.022	1.103	1.009	1.584	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2006	2.697	1.423	1.518	1.074	1.377	0.974	1.000	0.979	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2007	1.858	1.779	1.221	1.011	0.965	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2008	1.694	3.628	1.051	1.021	0.987	1.046	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2009	3.084	2.142	1.602	1.502	0.965	0.977	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2010	2.483	3.546	1.415	1.099	1.046	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2011	1.029	1.461	1.136	1.210	1.149	0.959	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2012	2.427	1.442	1.257	1.108	1.326	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2013	2.555	1.253	1.680	1.024	0.987	0.987	0.987	0.987	0.987	0.987	0.987	0.987	0.987	0.987	0.987
2014	1.839	2.820	0.988	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021	1.021
2015	1.937	1.388	1.087	1.087	1.087	1.087	1.087	1.087	1.087	1.087	1.087	1.087	1.087	1.087	1.087
2016	3.722	1.153	1.153	1.153	1.153	1.153	1.153	1.153	1.153	1.153	1.153	1.153	1.153	1.153	1.153
2017	0.970	0.970	0.970	0.970	0.970	0.970	0.970	0.970	0.970	0.970	0.970	0.970	0.970	0.970	0.970

All Yr Avg	2.165	2.095	1.181	1.150	1.050	0.987	1.032	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000
All Yr Avg Ex. H/L	2.100	1.967	1.180	1.135	1.045	0.999	1.009	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Avg	2.174	2.061	1.296	1.109	1.093	1.007	1.077	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Avg Ex. H/L	2.131	1.979	1.286	1.072	1.074	0.998	1.023	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Avg	2.205	1.611	1.230	1.092	1.095	0.996	1.000	0.996	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Avg Ex. H/L	2.110	1.361	1.160	1.077	1.061	0.992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
3 Yr Avg	2.210	1.787	1.252	1.051	1.154	0.986	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Prior	2.250	2.050	1.275	1.100	1.060	1.005	1.010	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Selected	2.200	1.950	1.250	1.090	1.060	1.004	1.009	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000
LDFs	6.283	2.856	1.465	1.172	1.075	1.014	1.010	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000
% Incurred	15.9%	35.0%	68.3%	85.4%	93.0%	98.6%	99.0%	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Miami Valley Risk Management Association
General Liability
December 31, 2018

Incurred Loss per Reported Claim at \$500K SIR

Accident Year	Maturity (Age in Months)														
	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360
1989	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335
1990	4,443	4,443	4,443	4,443	4,443	4,443	4,443	4,443	4,443	4,443	4,443	4,443	4,443	4,443	4,443
1991	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
1992	1,936	1,936	1,936	1,936	1,936	1,936	1,936	1,936	1,936	1,936	1,936	1,936	1,936	1,936	1,936
1993	9,150	9,150	9,150	9,150	9,150	9,150	9,150	9,150	9,150	9,150	9,150	9,150	9,150	9,150	9,150
1994	982	982	982	982	982	982	982	982	982	982	982	982	982	982	982
1995	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845
1996	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958
1997	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137
1998	3,903	3,903	3,903	3,903	3,903	3,903	3,903	3,903	3,903	3,903	3,903	3,903	3,903	3,903	3,903
1999	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627
2000	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127
2001	4,215	4,215	4,215	4,215	4,215	4,215	4,215	4,215	4,215	4,215	4,215	4,215	4,215	4,215	4,215
2002	8,214	8,214	8,214	8,214	8,214	8,214	8,214	8,214	8,214	8,214	8,214	8,214	8,214	8,214	8,214
2003	1,823	1,823	1,823	1,823	1,823	1,823	1,823	1,823	1,823	1,823	1,823	1,823	1,823	1,823	1,823
2004															
2005															
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2013															
2014															
2015															
2016															
2017															
2018															

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-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
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
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	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	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	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	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	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2011	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2012	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2013	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2014	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2015	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2016	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2017	1.000	1.000	1.000	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 Avg	1.000	1.000	1.000	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 Avg 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 Avg	1.000	1.000	1.000	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 Avg 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
5 Yr Avg	1.000	1.000	1.000	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 Avg 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
3 Yr Avg	1.000	1.000	1.000	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
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
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
% 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%

Miami Valley Risk Management Association
General Liability
December 31, 2018

Paid Loss per Closed Claim at \$500K SIR

Accident Year	Maturity (Age in Months)														
	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
1989	719	2,200	1,562	2,275	2,286	2,343	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335
1990	541	881	1,179	1,893	4,425	4,426	4,408	4,367	4,443	4,443	4,443	4,443	4,443	4,443	4,443
1991	215	303	705	1,009	1,061	1,523	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
1992	117	293	814	1,275	1,405	1,902	1,949	1,955	1,936	1,936	1,936	1,936	1,936	1,936	1,936
1993	786	2,284	3,537	4,345	9,445	9,533	9,422	9,225	9,150	9,150	9,150	9,150	9,150	9,150	9,150
1994	75	638	807	904	931	991	982	982	982	982	982	982	982	982	982
1995	67	421	1,066	1,345	1,554	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845
1996	104	880	1,770	2,112	2,759	2,800	2,826	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958
1997	258	649	1,893	7,269	7,274	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137
1998	149	1,124	1,541	1,859	3,931	3,931	3,903	3,903	3,903	3,903	3,903	3,903	3,903	3,903	3,903
1999	344	897	2,015	2,872	4,660	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627
2000	390	576	778	1,159	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127
2001	220	1,261	2,678	3,796	4,025	4,097	4,178	4,215	4,215	4,215	4,215	4,215	4,215	4,215	4,215
2002	544	996	1,816	4,179	5,451	5,606	5,986	6,264	6,465	6,503	8,214	8,214	8,214	8,214	8,214
2003	216	374	1,425	1,696	1,703	1,834	1,823	1,823	1,823	1,823	1,823	1,823	1,823	1,823	1,823
2004	291	525	1,248	3,063	3,433	3,764	4,302	4,302	4,302	4,302	4,302	4,302	4,302	4,302	4,302
2005	526	1,245	2,445	3,520	3,656	4,019	4,106	6,650	6,702	6,702	6,702	6,702	6,702	6,702	6,702
2006	352	844	2,116	4,798	5,425	8,009	7,895	7,895	8,325	8,325	8,325	8,325	8,325	8,325	8,325
2007	277	684	1,485	1,707	2,110	2,183	2,183	2,183	2,183	2,183	2,183	2,183	2,183	2,183	2,183
2008	532	919	4,056	4,339	4,675	4,629	4,840	4,840	4,840	4,840	4,840	4,840	4,840	4,840	4,840
2009	197	1,557	3,806	5,982	6,918	9,807	9,724	9,724	9,724	9,724	9,724	9,724	9,724	9,724	9,724
2010	293	665	2,314	3,592	4,435	6,357	6,357	6,357	6,357	6,357	6,357	6,357	6,357	6,357	6,357
2011	371	735	945	1,202	1,380	1,721	1,741	1,741	1,741	1,741	1,741	1,741	1,741	1,741	1,741
2012	394	543	1,260	1,616	2,099	3,961	3,961	3,961	3,961	3,961	3,961	3,961	3,961	3,961	3,961
2013	582	1,142	1,823	3,481	3,831	3,785	3,785	3,785	3,785	3,785	3,785	3,785	3,785	3,785	3,785
2014	705	1,391	2,182	2,494	3,128	3,128	3,128	3,128	3,128	3,128	3,128	3,128	3,128	3,128	3,128
2015	674	940	1,911	2,036	2,036	2,036	2,036	2,036	2,036	2,036	2,036	2,036	2,036	2,036	2,036
2016	641	2,114	3,026	3,026	3,026	3,026	3,026	3,026	3,026	3,026	3,026	3,026	3,026	3,026	3,026
2017	560	2,591	2,591	2,591	2,591	2,591	2,591	2,591	2,591	2,591	2,591	2,591	2,591	2,591	2,591
2018	338	338	338	338	338	338	338	338	338	338	338	338	338	338	338

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	3.061	0.710	1.457	1.005	1.025	0.997	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1990	1.629	1.338	1.606	2.337	1.000	0.996	0.991	1.017	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1991	1.409	2.324	1.432	1.051	1.435	0.985	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1992	2.506	2.782	1.566	1.102	1.354	1.025	1.003	0.990	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1993	2.907	1.548	1.229	2.174	1.009	0.988	0.979	0.992	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1994	8.469	1.265	1.121	1.030	1.064	0.991	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1995	6.323	2.532	1.262	1.156	1.187	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1996	8.497	2.010	1.194	1.306	1.015	1.009	1.047	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1997	2.512	2.916	3.840	1.001	0.981	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1998	7.521	1.372	1.206	2.114	1.000	0.993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1999	2.605	2.246	1.425	1.623	0.993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2000	1.478	1.350	1.491	1.000	0.972	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2001	5.724	2.123	1.417	1.060	1.018	1.020	1.009	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2002	1.832	1.823	2.302	1.304	1.029	1.068	1.047	1.032	1.006	1.263	1.000	1.000	1.000	1.000	1.000
2003	1.729	3.809	1.190	1.004	1.077	0.994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2004	1.808	2.375	2.455	1.121	1.096	1.143	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2005	2.367	1.963	1.440	1.038	1.099	1.022	1.620	1.008	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2006	2.401	2.505	2.268	1.131	1.476	0.986	1.000	1.055	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2007	2.465	2.173	1.149	1.236	1.035	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2008	1.728	4.412	1.070	1.078	0.990	1.046	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2009	7.890	2.445	1.572	1.156	1.418	0.992	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2010	2.271	3.479	1.552	1.235	1.433	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2011	1.982	1.285	1.273	1.147	1.248	1.011	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2012	1.377	2.319	1.283	1.299	1.887	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2013	1.961	1.596	1.910	1.100	0.988	0.988	0.988	0.988	0.988	0.988	0.988	0.988	0.988	0.988	0.988
2014	1.973	1.569	1.143	1.254	1.254	1.254	1.254	1.254	1.254	1.254	1.254	1.254	1.254	1.254	1.254
2015	1.394	2.034	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065	1.065
2016	3.299	1.431	1.431	1.431	1.431	1.431	1.431	1.431	1.431	1.431	1.431	1.431	1.431	1.431	1.431
2017	4.626	4.626	4.626	4.626	4.626	4.626	4.626	4.626	4.626	4.626	4.626	4.626	4.626	4.626	4.626

All Yr Avg	3.302	2.133	1.552	1.271	1.154	1.011	1.030	1.004	1.000	1.013	1.000	1.000	1.000	1.000	1.000
All Yr Avg Ex. H/L	3.180	2.100	1.480	1.239	1.130	1.006	1.005	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Avg	2.850	2.274	1.429	1.167	1.267	1.019	1.067	1.009	1.001	1.026	1.000	1.000	1.000	1.000	1.000
10 Yr Avg Ex. H/L	2.404	2.131	1.369	1.167	1.224	1.008	1.006	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Avg	2.651	1.790	1.335	1.207	1.395	1.010	1.000	1.011	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Avg Ex. H/L	2.411	1.733	1.233	1.212	1.366	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
3 Yr Avg	3.107	1.678	1.373	1.218	1.374	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Prior	2.400	2.150	1.480	1.180	1.250	1.015	1.010	1.005	1.001	1.010	1.000	1.000	1.000	1.000	1.000
Selected	2.750	2.100	1.400	1.220	1.225	1.010	1.010	1.005	1.001	1.008	1.000	1.000	1.000	1.000	1.000
LDFs	12.499	4.545	2.164	1.546	1.267	1.034	1.024	1.014	1.009	1.008	1.000	1.000	1.000	1.000	1.000
% Paid	8.0%	22.0%	46.2%	64.7%	78.9%	96.7%	97.6%	98.6%	99.1%	99.2%	100.0%	100.0%	100.0%	100.0%	100.0%

Miami Valley Risk Management Association
General Liability
December 31, 2018

Paid Loss per Closed Claim at \$500K SIR

Accident Year	Maturity (Age in Months)														
	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360
1989	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335	2,335
1990	4,443	4,443	4,443	4,443	4,443	4,443	4,443	4,443	4,443	4,443	4,443	4,443	4,443	4,443	4,443
1991	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
1992	1,936	1,936	1,936	1,936	1,936	1,936	1,936	1,936	1,936	1,936	1,936	1,936	1,936	1,936	1,936
1993	9,150	9,250	9,150	9,150	9,150	9,150	9,150	9,150	9,150	9,150	9,150	9,150	9,150	9,150	9,150
1994	982	982	982	982	982	982	982	982	982	982	982	982	982	982	982
1995	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845	1,845
1996	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958	2,958
1997	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137	7,137
1998	3,903	3,903	3,903	3,903	3,903	3,903	3,903	3,903	3,903	3,903	3,903	3,903	3,903	3,903	3,903
1999	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627	4,627
2000	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127
2001	4,215	4,215	4,215	4,215	4,215	4,215	4,215	4,215	4,215	4,215	4,215	4,215	4,215	4,215	4,215
2002	8,214	8,214	8,214	8,214	8,214	8,214	8,214	8,214	8,214	8,214	8,214	8,214	8,214	8,214	8,214
2003	1,823	1,823	1,823	1,823	1,823	1,823	1,823	1,823	1,823	1,823	1,823	1,823	1,823	1,823	1,823
2004															
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018															

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-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
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
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	1.000
1993	1.011	0.989	1.000	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	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	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	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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															
2004															
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															

All Yr Avg	1.001	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
All Yr Avg 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 Avg	1.001	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
10 Yr Avg 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
5 Yr Avg	1.000	1.000	1.000	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 Avg 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
3 Yr Avg	1.000	1.000	1.000	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
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
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
% 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%

Miami Valley Risk Management Association
General Liability
December 31, 2018

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	173	2	175	1	176
2015	146	1	147	1	148
2016	135	6	141	2	143
2017	149	7	156	5	161
2018	142	20	162	24	186
Total	3,856	36	3,892	33	3,925

Notes:

- (2)-(4) Provided by MVRMA
- (5) = (6) - (4)
- (6) From Exhibit 20, Col (4)

Miami Valley Risk Management Association
General Liability
December 31, 2018

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	1.001	159
2014	175	1.004	176
2015	147	1.006	148
2016	141	1.011	143
2017	156	1.029	161
2018	162	1.148	186
Total	3,892		3,925

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 21
- (4) = (2) x (3)

Miami Valley Risk Management Association
General Liability
December 31, 2018

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	177	
2009	102	113	117	117	117	117	117	117	117	117	117	117	117	117	117	
2010	133	148	151	152	153	153	153	153	153	153	153	153	153	153	153	
2011	172	181	185	185	186	186	186	186	186	186	186	186	186	186	186	
2012	121	135	136	136	136	137	137	137	137	137	137	137	137	137	137	
2013	137	156	159	159	159	159	159	159	159	159	159	159	159	159	159	
2014	158	174	175	175	175	175	175	175	175	175	175	175	175	175	175	
2015	137	144	147	147	147	147	147	147	147	147	147	147	147	147	147	
2016	116	138	141	141	141	141	141	141	141	141	141	141	141	141	141	
2017	147	156	156	156	156	156	156	156	156	156	156	156	156	156	156	
2018	162	162	162	162	162	162	162	162	162	162	162	162	162	162	162	

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	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	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	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	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	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	1.000	1.000	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	1.000	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	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2015	1.051	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
2016	1.190	1.022	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2017	1.061	1.022	1.000	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	1.117	1.033	1.010	1.003	1.004	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	1.113	1.033	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	1.017	1.005	1.001	1.002	1.000	1.000	0.998	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol Ex. H/L	1.092	1.018	1.003	1.001	1.001	1.000	1.000	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol	1.105	1.015	1.000	1.002	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 Ex. H/L	1.100	1.016	1.000	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	1.095	1.015	1.000	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	1.120	1.018	1.005	1.002	1.003	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Selected	1.115	1.018	1.005	1.002	1.003	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
LDFs	1.148	1.029	1.011	1.006	1.004	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
% Developed	87.1%	97.2%	98.9%	99.4%	99.6%	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, 2018

Reported Claim Counts

Accident Year	Maturity (Age in Months)														
	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360
1989	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
1991	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	93
1994	108	108	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	85	85	85
1996	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121
1997	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
1998	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142
1999	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142
2000	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146
2001	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118
2002	164	164	164	164	164	164	164	164	164	164	164	164	164	164	164
2003	148	148	148	148	148	148	148	148	148	148	148	148	148	148	148
2004															
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018															

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-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
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
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	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	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	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	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	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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															
2004															
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
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
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	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	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	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	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
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
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
% 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%

Miami Valley Risk Management Association
General Liability
December 31, 2018

Closed Claim Counts

Accident Year	Maturity (Age in Months)															
	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	141	143	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	177	
2009	93	106	109	112	112	116	117	117	117	117	117	117	117	117	117	
2010	125	142	145	148	149	153	153	153	153	153	153	153	153	153	153	
2011	157	180	180	182	183	184	186	186	186	186	186	186	186	186	186	
2012	106	133	134	134	134	137	137	137	137	137	137	137	137	137	137	
2013	123	151	153	154	157	159	159	159	159	159	159	159	159	159	159	
2014	149	168	172	173	173	173	173	173	173	173	173	173	173	173	173	
2015	127	138	144	146	146	146	146	146	146	146	146	146	146	146	146	
2016	102	129	135	135	135	135	135	135	135	135	135	135	135	135	135	
2017	132	149	149	149	149	149	149	149	149	149	149	149	149	149	149	
2018	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	

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	1.262	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	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1996	1.216	1.065	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	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	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	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	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	1.000	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	1.000	1.000	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	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2014	1.128	1.024	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
2015	1.087	1.043	1.014	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2016	1.265	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
2017	1.129	1.000	1.000	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	1.181	1.039	1.032	1.021	1.012	1.007	1.002	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000
All Yr Vol Ex. H/L	1.182	1.039	1.030	1.021	1.012	1.007	1.002	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Vol	1.157	1.024	1.013	1.013	1.015	1.006	1.001	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000
10 Yr Vol Ex. H/L	1.155	1.025	1.012	1.013	1.015	1.005	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol	1.161	1.026	1.008	1.006	1.019	1.004	1.000	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Vol Ex. H/L	1.158	1.026	1.008	1.004	1.020	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
3 Yr Vol	1.152	1.037	1.009	1.007	1.013	1.004	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, 2018

Closed Claim Counts

Accident Year	Maturity (Age in Months)														
	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360
1989	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
1991	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	93
1994	108	108	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	85	85	85
1996	121	121	121	121	121	121	121	121	121	121	121	121	121	121	121
1997	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
1998	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142
1999	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142
2000	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146
2001	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118
2002	164	164	164	164	164	164	164	164	164	164	164	164	164	164	164
2003	148	148	148	148	148	148	148	148	148	148	148	148	148	148	148
2004															
2005															
2006															
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2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018															

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-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
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
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	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	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	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	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	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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															
2004															
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
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
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	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
10 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
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	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	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, 2018

Loss Summary

Accident Year (1)	Retention (2)	Total Limits		Retention Limits		\$500K Limits		Deductibles	
		Incurred (3)	Paid (4)	Incurred (5)	Paid (6)	Incurred (7)	Paid (8)	Incurred (9)	Paid (10)
1989	\$250,000	\$207,853	\$207,853	\$207,853	\$207,853	\$207,853	\$207,853		
1990	250,000	439,863	439,863	439,863	439,863	439,863	439,863		
1991	250,000	84,015	84,015	84,015	84,015	84,015	84,015		
1992	250,000	139,376	139,376	139,376	139,376	139,376	139,376		
1993	250,000	1,207,079	1,207,079	600,979	600,979	850,979	850,979		
1994	250,000	106,065	106,065	106,065	106,065	106,065	106,065		
1995	250,000	156,790	156,790	156,790	156,790	156,790	156,790		
1996	250,000	357,926	357,926	357,926	357,926	357,926	357,926		
1997	500,000	1,331,066	1,331,066	706,526	706,526	706,526	706,526		
1998	500,000	554,289	554,289	554,289	554,289	554,289	554,289		
1999	500,000	657,094	657,094	657,094	657,094	657,094	657,094		
2000	500,000	164,560	164,560	164,560	164,560	164,560	164,560		
2001	500,000	497,423	497,423	497,423	497,423	497,423	497,423		
2002	500,000	1,566,330	1,566,330	1,347,177	1,347,177	1,347,177	1,347,177		
2003	1,000,000	269,762	269,762	269,762	269,762	269,762	269,762		
2004	1,000,000	511,964	511,964	511,964	511,964	511,964	511,964		
2005	1,000,000	857,801	857,801	857,801	857,801	857,801	857,801		
2006	1,000,000	915,795	915,795	915,795	915,795	915,795	915,795	\$55,888	\$55,888
2007	1,000,000	312,120	312,120	312,120	312,120	312,120	312,120	54,069	54,069
2008	1,000,000	856,672	856,672	856,672	856,672	856,672	856,672	71,826	71,826
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
2010	500,000	1,036,784	1,036,784	972,613	972,613	972,613	972,613	68,618	68,618
2011	500,000	323,802	323,802	323,802	323,802	323,802	323,802	67,033	67,033
2012	500,000	542,610	542,610	542,610	542,610	542,610	542,610	48,604	48,604
2013	500,000	601,882	601,882	601,882	601,882	601,882	601,882	54,455	54,455
2014	500,000	2,228,690	541,145	956,190	541,145	956,190	541,145	72,365	72,365
2015	500,000	316,031	297,225	316,031	297,225	316,031	297,225	64,046	64,046
2016	500,000	497,960	408,529	497,960	408,529	497,960	408,529	61,635	59,797
2017	500,000	440,936	386,031	440,936	386,031	440,936	386,031	44,795	40,277
2018	500,000	113,533	48,041	113,533	48,041	113,533	48,041	66,538	35,038
Total		\$18,473,882	\$16,557,702	\$15,687,419	\$15,043,738	\$15,897,283	\$15,253,602	\$788,556	\$750,700

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

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2018

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	448,758	448,758	448,203	554	0	554
2017	612,000	607,276	605,776	1,500	4,724	6,224
2018	929,000	780,520	325,151	455,369	148,480	603,849
Total	\$11,355,430	\$11,202,226	\$10,744,802	\$457,423	\$153,204	\$610,628

Notes:

- (2) From Exhibit 3, Col (10)
- (3)-(5) Provided by MVRMA
- (6) = (2) - (3)
- (7) = (5) + (6)

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2018

Comparison of Ultimate Loss to Prior Ultimate Loss
Retained Limits

Accident Year	Selected Ultimate Loss @ 12/31/2017	Selected Ultimate Loss @ 12/31/2018	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	454,000	448,758	(5,242)	-1.2%
2017	545,000	612,000	67,000	12.3%
Total	\$10,364,672	\$10,426,430	\$61,758	0.6%

Notes:

- (2) From Pinnacle's analysis of unpaid loss & LAE at 12/31/2017
- (3) From Exhibit 3, Col (10)
- (4) = (3) - (2)
- (5) = (4) / (2)

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2018

Selected Ultimate Loss
Retained Limits

Accident Year (1)	Retention (2)	Industry Development		MVRMA's Loss Development					Selected Ultimate Loss (10)
		Incurring Loss Method (3)	Paid Loss Method (4)	Incurring Loss Method (5)	Paid Loss Method (6)	Case Reserve Method (7)	Average Incurred Method (8)	Average Paid Method (9)	
1989	\$250,000	\$124,141	\$124,141	\$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	32,734	32,734
1991	250,000	75,626	75,626	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	63,858	63,858
1993	250,000	63,660	63,660	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	96,833	96,833
1995	150,000	85,639	85,639	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	92,901	92,901
1997	250,000	225,205	225,205	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	135,150	135,150
1999	150,000	392,466	392,466	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	130,204	130,204
2001	150,000	505,931	505,931	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	369,496	369,496
2003	250,000	265,463	265,463	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	229,621	229,621
2005	200,000	369,470	369,470	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	497,206	497,206
2007	200,000	405,891	405,891	405,891	405,891	405,891	405,891	405,891	405,891
2008	200,000	654,606	654,712	654,562	654,562	654,562	654,562	654,562	654,562
2009	200,000	324,559	324,665	324,515	324,515	324,515	324,515	324,515	324,515
2010	250,000	389,487	389,742	389,384	389,384	389,384	389,384	389,384	389,384
2011	250,000	880,409	881,559	879,940	879,940	879,940	879,940	879,940	879,940
2012	250,000	559,704	561,167	559,108	559,108	559,108	559,108	559,108	559,108
2013	250,000	583,949	587,006	582,706	582,706	582,706	582,706	582,706	582,706
2014	250,000	1,167,657	1,179,917	1,162,693	1,162,693	1,162,693	1,162,693	1,162,693	1,162,693
2015	250,000	656,841	670,707	651,268	651,268	651,268	651,268	651,268	651,268
2016	250,000	456,471	475,358	448,758	448,203	448,758	448,758	450,824	448,758
2017	250,000	628,330	681,402	607,276	611,833	607,276	607,883	619,941	612,000
2018	250,000	950,515	577,960	928,819	502,456	1,156,820	932,437	520,176	929,000
Total		\$11,414,023	\$11,145,691	\$11,350,524	\$10,928,165	\$11,578,526	\$11,354,750	\$10,956,613	\$11,355,430

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 9.1, Col (4)
- (4) From Exhibit 9.2, Col (4)
- (5) From Exhibit 4, Col (4)
- (6) From Exhibit 5, Col (4)
- (7) From Exhibit 6, Col (8)
- (8) From Exhibit 7, Col (7)
- (9) From Exhibit 8, Col (7)

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2018

Ultimate Loss Based on Incurred Loss Development Method
Retained Limits

Accident Year (1)	Cumulative Incurred Loss (2)	Loss Development Factors (3)	Projected Ultimate Loss (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	448,758	1.000	448,758
2017	607,276	1.000	607,276
2018	780,520	1.190	928,819
Total	\$11,202,226		\$11,350,524

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, 2018

Ultimate Loss Based on Paid Loss Development Method
Retained Limits

Accident Year (1)	Cumulative Paid Loss (2)	Loss Development Factors (3)	Projected Ultimate Loss (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	605,776	1.010	611,833
2018	325,151	1.545	502,456
Total	\$10,744,802		\$10,928,165

Notes:

- (2) Provided by MVRMA
- (3) From Exhibit 11
- (4) = (2) x (3)

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2018

Ultimate Loss Based on Case Reserve Development Method
Retained Limits

Accident Year (1)	Retention (2)	Cumulative Paid Loss (3)	Case Reserves (4)	Percent Developed			Projected Ultimate Loss (8)
				Incurred (5)	Paid (6)	Reserve (7)	
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	554	100.0%	100.0%	100.0%	448,758
2017	250,000	605,776	1,500	100.0%	99.0%	100.0%	607,276
2018	250,000	325,151	455,369	84.0%	64.7%	54.8%	1,156,820
Total		\$10,744,802	\$457,423				\$11,578,526

Notes:

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

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2018

Ultimate Loss Based on Incurred Loss per Reported Claim Development Method
Retained Limits

Accident Year	Retention	Cumulative Incurred Loss per Reported Claim	Loss Development Factors	Projected Average Loss	Selected Ultimate Claims	Projected Ultimate Loss
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1989	\$250,000	\$7,302	1.000	\$7,302	17	\$124,141
1990	250,000	1,488	1.000	1,488	22	32,734
1991	250,000	2,801	1.000	2,801	27	75,626
1992	250,000	2,661	1.000	2,661	24	63,858
1993	250,000	2,274	1.000	2,274	28	63,660
1994	100,000	2,201	1.000	2,201	44	96,833
1995	150,000	1,259	1.000	1,259	68	85,639
1996	250,000	1,010	1.000	1,010	92	92,901
1997	250,000	2,559	1.000	2,559	88	225,205
1998	250,000	1,186	1.000	1,186	114	135,150
1999	150,000	2,548	1.000	2,548	154	392,466
2000	150,000	819	1.000	819	159	130,204
2001	150,000	3,862	1.000	3,862	131	505,931
2002	250,000	2,463	1.000	2,463	150	369,496
2003	250,000	1,435	1.000	1,435	185	265,463
2004	250,000	1,290	1.000	1,290	178	229,621
2005	200,000	2,186	1.000	2,186	169	369,470
2006	200,000	2,874	1.000	2,874	173	497,206
2007	200,000	2,490	1.000	2,490	163	405,891
2008	200,000	3,719	1.000	3,719	176	654,562
2009	200,000	1,876	1.000	1,876	173	324,515
2010	250,000	2,842	1.000	2,842	137	389,384
2011	250,000	4,782	1.000	4,782	184	879,940
2012	250,000	3,106	1.000	3,106	180	559,108
2013	250,000	3,428	1.000	3,428	170	582,706
2014	250,000	6,880	1.000	6,880	169	1,162,693
2015	250,000	3,809	1.000	3,809	171	651,268
2016	250,000	2,609	1.000	2,609	172	448,758
2017	250,000	3,636	1.001	3,640	167	607,883
2018	250,000	4,265	1.121	4,782	195	932,437
Total				\$2,926	3,880	\$11,354,750

Notes:

- (2) Provided by MVRMA
- (3) Based on data provided by MVRMA
- (4) From Exhibit 12
- (5) = (3) x (4)
- (6) From Exhibit 14, Col (6)
- (7) = (5) x (6)

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2018

Ultimate Loss Based on Paid Loss per Closed Claim Development Method
Retained Limits

Accident Year	Retention	Cumulative Paid Loss per Closed Claim	Loss Development Factors	Projected Average Loss	Selected Ultimate Claims	Projected Ultimate Loss
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1989	\$250,000	\$7,302	1.000	\$7,302	17	\$124,141
1990	250,000	1,488	1.000	1,488	22	32,734
1991	250,000	2,801	1.000	2,801	27	75,626
1992	250,000	2,661	1.000	2,661	24	63,858
1993	250,000	2,274	1.000	2,274	28	63,660
1994	100,000	2,201	1.000	2,201	44	96,833
1995	150,000	1,259	1.000	1,259	68	85,639
1996	250,000	1,010	1.000	1,010	92	92,901
1997	250,000	2,559	1.000	2,559	88	225,205
1998	250,000	1,186	1.000	1,186	114	135,150
1999	150,000	2,548	1.000	2,548	154	392,466
2000	150,000	819	1.000	819	159	130,204
2001	150,000	3,862	1.000	3,862	131	505,931
2002	250,000	2,463	1.000	2,463	150	369,496
2003	250,000	1,435	1.000	1,435	185	265,463
2004	250,000	1,290	1.000	1,290	178	229,621
2005	200,000	2,186	1.000	2,186	169	369,470
2006	200,000	2,874	1.000	2,874	173	497,206
2007	200,000	2,490	1.000	2,490	163	405,891
2008	200,000	3,719	1.000	3,719	176	654,562
2009	200,000	1,876	1.000	1,876	173	324,515
2010	250,000	2,842	1.000	2,842	137	389,384
2011	250,000	4,782	1.000	4,782	184	879,940
2012	250,000	3,106	1.000	3,106	180	559,108
2013	250,000	3,428	1.000	3,428	170	582,706
2014	250,000	6,880	1.000	6,880	169	1,162,693
2015	250,000	3,809	1.000	3,809	171	651,268
2016	250,000	2,621	1.000	2,621	172	450,824
2017	250,000	3,694	1.005	3,712	167	619,941
2018	250,000	2,212	1.206	2,668	195	520,176
Total				\$2,824	3,880	\$10,956,613

Notes:

- (2) Provided by MVRMA
- (3) Based on data provided by MVRMA
- (4) From Exhibit 13
- (5) = (3) x (4)
- (6) From Exhibit 14, Col (6)
- (7) = (5) x (6)

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2018

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

Accident Year <u>(1)</u>	Cumulative Incurred Loss <u>(2)</u>	Industry Loss Development Factors <u>(3)</u>	Projected Ultimate Loss <u>(4)</u>
1989	\$124,141	1.000	\$124,141
1990	32,734	1.000	32,734
1991	75,626	1.000	75,626
1992	63,858	1.000	63,858
1993	63,660	1.000	63,660
1994	96,833	1.000	96,833
1995	85,639	1.000	85,639
1996	92,901	1.000	92,901
1997	225,205	1.000	225,205
1998	135,150	1.000	135,150
1999	392,466	1.000	392,466
2000	130,204	1.000	130,204
2001	505,931	1.000	505,931
2002	369,496	1.000	369,496
2003	265,463	1.000	265,463
2004	229,621	1.000	229,621
2005	369,470	1.000	369,470
2006	497,206	1.000	497,206
2007	405,891	1.000	405,891
2008	654,562	1.000	654,606
2009	324,515	1.000	324,559
2010	389,384	1.000	389,487
2011	879,940	1.001	880,409
2012	559,108	1.001	559,704
2013	582,706	1.002	583,949
2014	1,162,693	1.004	1,167,657
2015	651,268	1.009	656,841
2016	448,758	1.017	456,471
2017	607,276	1.035	628,330
2018	780,520	1.218	950,515
Total	\$11,202,226		\$11,414,023

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, 2018

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

Accident Year (1)	Cumulative Paid Loss (2)	Industry Loss Development Factors (3)	Projected Ultimate Loss (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	654,712
2009	324,515	1.000	324,665
2010	389,384	1.001	389,742
2011	879,940	1.002	881,559
2012	559,108	1.004	561,167
2013	582,706	1.007	587,006
2014	1,162,693	1.015	1,179,917
2015	651,268	1.030	670,707
2016	448,203	1.061	475,358
2017	605,776	1.125	681,402
2018	325,151	1.778	577,960
Total	\$10,744,802		\$11,145,691

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, 2018

Incurred 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
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
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
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
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	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	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	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	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	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	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	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	130,204	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	505,931	505,931	505,931	505,931	505,931	505,931	505,931	505,931	505,931
2002	369,496	369,496	369,496	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	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	265,463	265,463
2004															
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018															

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-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
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
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	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	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	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	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	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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															
2004															
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
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
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	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	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	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	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
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
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
% 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%

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2018

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	68,232	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	85,084	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	704,562
2009	316,051	324,516	324,516	324,516	324,516	324,516	324,515	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	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	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	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	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	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	651,268	651,268	651,268	651,268	651,268	651,268	651,268	651,268
2016	302,576	448,203	448,203	448,203	448,203	448,203	448,203	448,203	448,203	448,203	448,203	448,203	448,203	448,203	448,203
2017	287,037	605,776	605,776	605,776	605,776	605,776	605,776	605,776	605,776	605,776	605,776	605,776	605,776	605,776	605,776
2018	325,151	325,151	325,151	325,151	325,151	325,151	325,151	325,151	325,151	325,151	325,151	325,151	325,151	325,151	325,151

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	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	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	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	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	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	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	1.000	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	1.000	1.000	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	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2016	1.481	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2017	2.110	1.000	1.000	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	1.475	1.009	1.001	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	1.465	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
10 Yr Vol	1.426	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
10 Yr Vol Ex. H/L	1.390	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	1.000
5 Yr Vol	1.613	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
5 Yr Vol Ex. H/L	1.708	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	1.983	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
Prior	1.460	1.012	1.000	1.000	1.000	1.000</									

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2018

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
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
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
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
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	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	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	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	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	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	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	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	130,204	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	505,931	505,931	505,931	505,931	505,931	505,931	505,931	505,931	505,931
2002	369,496	369,496	369,496	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	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	265,463	265,463
2004															
2005															
2006															
2007															
2008															
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2012															
2013															
2014															
2015															
2016															
2017															
2018															

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-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
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
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	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	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	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	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	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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															
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2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
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
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	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	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	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	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
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
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
% 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%

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2018

Incurred Loss per Reported Claim 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	8,641	7,311	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	
1990	1,671	1,671	1,671	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	
1991	2,117	2,653	2,616	2,527	2,527	2,527	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801	
1992	4,414	2,735	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	
1993	2,974	2,517	2,281	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	
1994	2,327	2,129	2,201	2,182	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	
1995	1,474	1,923	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	
1996	1,301	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	
1997	2,621	2,559	2,556	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	
1998	1,214	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	
1999	3,309	3,215	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	
2000	923	819	819	819	819	819	819	819	819	819	819	819	819	819	819	
2001	3,008	3,860	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	
2002	2,482	2,432	2,466	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	
2003	1,570	1,436	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	
2004	1,516	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	
2005	2,753	2,186	2,186	2,186	2,186	2,186	2,186	2,186	2,186	2,186	2,186	2,186	2,186	2,186	2,186	
2006	2,428	2,874	2,874	2,874	2,874	2,874	2,874	2,874	2,874	2,874	2,874	2,874	2,874	2,874	2,874	
2007	1,714	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	
2008	4,267	4,003	4,003	4,003	4,003	4,003	4,003	4,003	4,003	4,003	4,003	4,003	4,003	4,003	4,003	
2009	1,998	1,876	1,876	1,876	1,876	1,876	1,876	1,876	1,876	1,876	1,876	1,876	1,876	1,876	1,876	
2010	2,879	2,842	2,842	2,842	2,842	2,842	2,842	2,842	2,842	2,842	2,842	2,842	2,842	2,842	2,842	
2011	5,194	4,782	4,782	4,782	4,782	4,782	4,782	4,782	4,782	4,782	4,782	4,782	4,782	4,782	4,782	
2012	3,215	3,115	3,109	3,106	3,106	3,106	3,106	3,106	3,106	3,106	3,106	3,106	3,106	3,106	3,106	
2013	2,744	3,352	3,448	3,448	3,448	3,428	3,428	3,428	3,428	3,428	3,428	3,428	3,428	3,428	3,428	
2014	7,508	7,115	6,880	6,880	6,880	6,880	6,880	6,880	6,880	6,880	6,880	6,880	6,880	6,880	6,880	
2015	2,778	3,935	3,809	3,809	3,809	3,809	3,809	3,809	3,809	3,809	3,809	3,809	3,809	3,809	3,809	
2016	2,382	2,609	2,609	2,609	2,609	2,609	2,609	2,609	2,609	2,609	2,609	2,609	2,609	2,609	2,609	
2017	3,083	3,636	3,636	3,636	3,636	3,636	3,636	3,636	3,636	3,636	3,636	3,636	3,636	3,636	3,636	
2018	4,265	4,265	4,265	4,265	4,265	4,265	4,265	4,265	4,265	4,265	4,265	4,265	4,265	4,265	4,265	

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	0.846	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	1.000	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	1.253	0.986	0.966	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	0.620	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	0.846	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	0.915	1.033	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	1.304	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	0.776	1.000	1.000	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	0.977	1.000	1.000	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	0.972	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	0.887	1.000	1.000	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	1.283	1.000	1.000	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	0.980	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	0.915	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	0.851	1.000	1.000	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	0.794	1.000	1.000	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	1.184	1.000	1.000	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	1.453	1.000	1.000	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	0.938	1.000	1.000	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	0.939	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2010	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	1.000	1.000
2011	0.921	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2012	0.969	0.998	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
2013	1.222	1.029	1.000	0.994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2014	0.948	0.967	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2015	1.417	0.968	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2016	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
2017	1.180	1.180	1.180	1.180	1.180	1.180	1.180	1.180	1.180	1.180	1.180	1.180	1.180	1.180	1.180
All Yr Avg	1.015	0.983	0.994	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
All Yr Avg Ex. H/L	1.014	0.994	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 Avg	1.062	0.996	1.000	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Avg Ex. H/L	1.035	0.996	1.000	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 Avg	1.172	0.992	1.000	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Avg Ex. H/L	1.166	0.989	1.000	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 Avg	1.231	0.978	1.000	0.998	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Prior	1.080	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
Selected	1.120	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
LDFs	1.121	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
% Incurred	89.2%	99.9%	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, 2018

Incurred Loss per Reported Claim at \$250K SIR

Accident Year	Maturity (Age in Months)														
	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360
1989	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302
1990	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488
1991	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801
1992	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661
1993	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274
1994	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201
1995	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259
1996	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010
1997	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559
1998	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186
1999	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198
2000	819	819	819	819	819	819	819	819	819	819	819	819	819	819	819
2001	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862
2002	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463
2003	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435
2004															
2005															
2006															
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2014															
2015															
2016															
2017															
2018															

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-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
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
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	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	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	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	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	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
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2017															
2018															

All Yr Avg	1.000	1.000	1.000	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 Avg 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 Avg	1.000	1.000	1.000	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 Avg 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
5 Yr Avg	1.000	1.000	1.000	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 Avg 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
3 Yr Avg	1.000	1.000	1.000	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
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
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
% 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%

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2018

Paid Loss per Closed Claim 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	1,061	7,618	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302
1990	1,794	1,750	1,750	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488
1991	1,988	2,834	2,616	2,527	2,527	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801
1992	1,959	2,776	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661
1993	2,571	2,263	2,020	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274
1994	2,377	2,129	2,201	2,182	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201
1995	1,297	1,261	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259
1996	1,177	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010
1997	2,104	2,559	2,556	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559
1998	1,226	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186
1999	1,790	3,219	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198
2000	718	819	819	819	819	819	819	819	819	819	819	819	819	819	819
2001	2,345	3,716	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862
2002	1,647	2,432	2,464	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463
2003	1,644	1,436	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435
2004	1,601	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290
2005	2,338	2,186	2,186	2,186	2,186	2,186	2,186	2,186	2,186	2,186	2,186	2,186	2,186	2,186	2,186
2006	2,211	2,874	2,874	2,874	2,874	2,874	2,874	2,874	2,874	2,874	2,874	2,874	2,874	2,874	2,874
2007	1,810	2,475	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490	2,490
2008	2,884	4,003	4,003	4,003	4,003	4,003	4,003	4,003	4,003	4,003	4,003	4,003	4,003	4,003	4,003
2009	2,150	1,876	1,876	1,876	1,876	1,876	1,876	1,876	1,876	1,876	1,876	1,876	1,876	1,876	1,876
2010	3,226	2,842	2,842	2,842	2,842	2,842	2,842	2,842	2,842	2,842	2,842	2,842	2,842	2,842	2,842
2011	5,644	4,780	4,808	4,782	4,782	4,782	4,782	4,782	4,782	4,782	4,782	4,782	4,782	4,782	4,782
2012	2,738	3,082	3,124	3,106	3,106	3,106	3,106	3,106	3,106	3,106	3,106	3,106	3,106	3,106	3,106
2013	2,702	3,347	3,448	3,448	3,448	3,428	3,428	3,428	3,428	3,428	3,428	3,428	3,428	3,428	3,428
2014	7,160	6,921	6,880	6,880	6,880	6,880	6,880	6,880	6,880	6,880	6,880	6,880	6,880	6,880	6,880
2015	2,185	3,806	3,809	3,809	3,809	3,809	3,809	3,809	3,809	3,809	3,809	3,809	3,809	3,809	3,809
2016	2,421	2,621	2,621	2,621	2,621	2,621	2,621	2,621	2,621	2,621	2,621	2,621	2,621	2,621	2,621
2017	2,708	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694	3,694
2018	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212	2,212

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	7.181	0.959	1.000	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	0.976	1.000	0.850	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	1.426	0.923	0.966	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	1.417	0.958	1.000	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	0.880	0.893	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	0.896	1.033	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	0.972	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	0.858	1.000	1.000	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	1.216	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	0.967	1.000	1.000	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	1.798	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	1.000
2000	1.140	1.000	1.000	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	1.585	1.039	1.000	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	1.476	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	0.874	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	0.806	1.000	1.000	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	0.935	1.000	1.000	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	1.300	1.000	1.000	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	1.367	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	1.000
2008	1.388	1.000	1.000	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	0.872	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2010	0.881	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2011	0.847	1.006	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
2012	1.126	1.014	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
2013	1.239	1.030	1.000	0.994	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2014	0.967	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	1.000
2015	1.742	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
2016	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	1.000	1.000
2017	1.364	1.000	1.000	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 Avg	1.365	0.995	0.997	1.000	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
All Yr Avg Ex. H/L	1.170	0.997	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 Avg	1.151	1.005	0.999	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
10 Yr Avg Ex. H/L	1.115	1.003	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 Avg	1.279	1.008	0.998	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 Yr Avg Ex. H/L	1.229	1.005	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
3 Yr Avg	1.396	0.998	1.000	0.998	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Prior	1.115	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	1.200	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	1.206	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
% Paid	82.9%	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, 2018

Paid Loss per Closed Claim at \$250K SIR

Accident Year	Maturity (Age in Months)														
	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360
1989	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302	7,302
1990	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488	1,488
1991	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801	2,801
1992	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661	2,661
1993	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274	2,274
1994	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201	2,201
1995	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259	1,259
1996	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010	1,010
1997	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559	2,559
1998	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186	1,186
1999	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198
2000	819	819	819	819	819	819	819	819	819	819	819	819	819	819	819
2001	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862	3,862
2002	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463	2,463
2003	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435	1,435
2004															
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018															

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-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
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
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	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	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	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	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	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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															
2004															
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018															
All Yr Avg	1.000	1.000	1.000	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 Avg 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 Avg	1.000	1.000	1.000	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 Avg 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
5 Yr Avg	1.000	1.000	1.000	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 Avg 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
3 Yr Avg	1.000	1.000	1.000	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
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
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
% 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%

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2018

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	171	1	172	0	172
2017	164	3	167	0	167
2018	147	36	183	12	195
Total	3,828	40	3,868	12	3,880

Notes:

- (2)-(4) Provided by MVRMA
- (5) = (6) - (4)
- (6) From Exhibit 15, Col (4)



Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2018

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	167	1.002	167
2018	183	1.067	195
Total	3,868		3,880

Notes:

- (2) Provided by MVRMA
(3) From Exhibit 16
(4) = (2) x (3)

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2018

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	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	176
2009	164	173	173	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	137	137	137
2011	171	184	184	184	184	184	184	184	184	184	184	184	184	184	184
2012	171	180	180	180	180	180	180	180	180	180	180	180	180	180	180
2013	158	169	169	169	169	169	169	169	169	169	169	169	169	169	169
2014	163	169	169	169	169	169	169	169	169	169	169	169	169	169	169
2015	158	169	171	171	171	171	171	171	171	171	171	171	171	171	171
2016	164	172	172	172	172	172	172	172	172	172	172	172	172	172	172
2017	157	167	167	167	167	167	167	167	167	167	167	167	167	167	167
2018	183														

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	1.133	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	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	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	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	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	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	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	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2014	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	1.000	1.000
2015	1.070	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
2016	1.049	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2017	1.064	1.000	1.000	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	1.069	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
All Yr Vol Ex. H/L	1.070	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	1.063	1.001	1.000	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	1.062	1.000	1.000	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	1.058	1.002	1.000	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	1.061	1.000	1.000	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	1.061	1.004	1.000	1.002	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	1.002	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
Selected	1.065	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
LDFs	1.067	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
% Developed	93.7%	99.8%	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, 2018

Reported Claim Counts

Accident Year	Maturity (Age in Months)														
	192	204	216	228	240	252	264	276	288	300	312	324	336	348	360
1989	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
1991	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	28
1994	44	44	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	68	68	68
1996	92	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	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114
1999	154	154	154	154	154	154	154	154	154	154	154	154	154	154	154
2000	159	159	159	159	159	159	159	159	159	159	159	159	159	159	159
2001	131	131	131	131	131	131	131	131	131	131	131	131	131	131	131
2002	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
2003	185	185	185	185	185	185	185	185	185	185	185	185	185	185	185
2004															
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018															

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-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
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
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	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	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	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	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	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2010	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2011	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2012	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2013	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2014	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2015	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2016	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2017	1.000	1.000	1.000	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	1.000	1.000	1.000	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	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	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	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	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
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
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
% 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%

Miami Valley Risk Management Association
Property and Auto Physical Damage
December 31, 2018

Closed Claim Counts

Accident Year	Maturity (Age in Months)														
	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	176
2009	147	173	173	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	137	137	137
2011	142	183	183	184	184	184	184	184	184	184	184	184	184	184	184
2012	135	179	179	180	180	180	180	180	180	180	180	180	180	180	180
2013	132	168	169	169	170	170	170	170	170	170	170	170	170	170	170
2014	127	168	169	169	169	169	169	169	169	169	169	169	169	169	169
2015	121	168	171	171	171	171	171	171	171	171	171	171	171	171	171
2016	125	171	171	171	171	171	171	171	171	171	171	171	171	171	171
2017	106	164	164	164	164	164	164	164	164	164	164	164	164	164	164
2018	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147

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	1.500	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	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	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	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	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	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	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	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2014	1.323	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	1.000
2015	1.388	1.018	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2016	1.368	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2017	1.547	1.547	1.547	1.547	1.547	1.547	1.547	1.547	1.547	1.547	1.547	1.547	1.547	1.547	1.547
All Yr Vol	1.285	1.005	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
All Yr Vol Ex. H/L	1.296	1.005	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
10 Yr Vol	1.302	1.004	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	1.315	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	1.000
5 Yr Vol	1.373	1.006	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 Ex. H/L	1.359	1.004	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
3 Yr Vol	1.429	1.008	1.000	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, 2018

Closed Claim Counts

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

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-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
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
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	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	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	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	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	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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	1.000	1.000	1.000	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															
2004															
2005															
2006															
2007															
2008															
2009															
2010															
2011															
2012															
2013															
2014															
2015															
2016															
2017															
2018															
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
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	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	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	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	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
December 31, 2018

Loss Summary

Accident Year	Retention	Total Limits		Retention Limits		Deductibles	
		Incurred	Paid	Incurred	Paid	Incurred	Paid
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1989	\$250,000	\$124,141	\$124,141	\$124,141	\$124,141		
1990	250,000	32,734	32,734	32,734	32,734		
1991	250,000	75,626	75,626	75,626	75,626		
1992	250,000	63,858	63,858	63,858	63,858		
1993	250,000	63,660	63,660	63,660	63,660		
1994	100,000	96,833	96,833	96,833	96,833		
1995	150,000	85,639	85,639	85,639	85,639		
1996	250,000	92,901	92,901	92,901	92,901		
1997	250,000	225,205	225,205	225,205	225,205		
1998	250,000	135,150	135,150	135,150	135,150		
1999	150,000	541,763	541,763	392,466	392,466		
2000	150,000	130,204	130,204	130,204	130,204		
2001	150,000	505,931	505,931	505,931	505,931		
2002	250,000	369,496	369,496	369,496	369,496		
2003	250,000	265,463	265,463	265,463	265,463		
2004	250,000	229,621	229,621	229,621	229,621		
2005	200,000	369,470	369,470	369,470	369,470		
2006	200,000	497,206	497,206	497,206	497,206	\$103,904	\$103,904
2007	200,000	405,891	405,891	405,891	405,891	101,827	101,827
2008	* 200,000	774,978	774,978	654,562	654,562	134,525	134,525
2009	200,000	324,515	324,515	324,515	324,515	119,127	119,127
2010	250,000	389,384	389,384	389,384	389,384	87,270	87,270
2011	* 250,000	2,092,816	2,092,816	879,940	879,940	127,474	127,474
2012	250,000	559,108	559,108	559,108	559,108	92,085	92,085
2013	250,000	582,706	582,706	582,706	582,706	112,692	112,692
2014	250,000	1,176,859	1,176,859	1,162,693	1,162,693	103,894	103,894
2015	250,000	651,268	651,268	651,268	651,268	94,439	94,439
2016	250,000	448,758	448,203	448,758	448,203	118,047	117,492
2017	250,000	607,276	605,776	607,276	605,776	100,657	100,157
2018	250,000	810,520	325,151	780,520	325,151	137,020	100,973
Total		\$12,728,981	\$12,241,558	\$11,202,226	\$10,744,802	\$1,432,959	\$1,395,857

Notes: Retentions apply to indemnity and ALAE; the deductible is \$2,500 per occurrence
 (2)-(8) 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

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION
MONTGOMERY COUNTY, OHIO**

SUPPLEMENTAL REPORT

FOR THE YEAR ENDED
DECEMBER 31, 2018

**MIAMI VALLEY RISK MANAGEMENT ASSOCIATION
MONTGOMERY COUNTY, OHIO**

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Julian & Grube, Inc.
Serving Ohio Local Governments

333 County Line Rd. West, Westerville, OH 43082 Phone: 614.846.1899 Fax: 614.846.2799

**Independent Auditor's Report on Internal Control over Financial Reporting and
on Compliance and Other Matters Required by *Government Auditing Standards***

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

To the Board of Trustees:

We have audited, in accordance with auditing standards generally accepted in the United States and the Comptroller General of the United States' *Government Auditing Standards*, the financial statements of the Miami Valley Risk Management Association (MVRMA), Montgomery County, Ohio, (a not-for-profit corporation), as of and for the year ended December 31, 2018, and the related notes to the financial statements, which collectively comprise the MVRMA's basic financial statements and have issued our report thereon dated June 17, 2019, wherein we noted as discussed in Note 2, the MVRMA adopted new accounting guidance in Governmental Accounting Standards Board (GASB) Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*.

Internal Control Over Financial Reporting

As part of our financial statement audit, we considered the MVRMA's internal control over financial reporting (internal control) to determine the audit procedures appropriate in the circumstances to the extent necessary to support our opinion on the financial statements, but not to the extent necessary to opine on the effectiveness of the MVRMA's internal control. Accordingly, we have not opined on it.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, when performing their assigned functions, to prevent, or detect and timely correct misstatements. A *material weakness* is a deficiency, or combination of internal control deficiencies resulting in a reasonable possibility that internal control will not prevent or detect and timely correct a material misstatement of the MVRMA's financial statements. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all internal control deficiencies that might be material weaknesses or significant deficiencies. Given these limitations, we did not identify any deficiencies in internal control that we consider material weaknesses. However, unidentified material weaknesses may exist.

Compliance and Other Matters

As part of reasonably assuring whether the MVRMA's financial statements are free of material misstatement, we tested its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could directly and materially affect the determination of financial statement amounts. However, opining on compliance with those provisions was not an objective of our audit and accordingly, we do not express an opinion. The results of our tests disclosed no instances of noncompliance or other matters we must report under *Government Auditing Standards*.

Purpose of this Report

This report only describes the scope of our internal control and compliance testing and our testing results, and does not opine on the effectiveness of the MVRMA's internal control or on compliance. This report is an integral part of an audit performed under *Government Auditing Standards* in considering the MVRMA's internal control and compliance. Accordingly, this report is not suitable for any other purpose.



Julian & Grube, Inc.
June 17, 2019

OHIO AUDITOR OF STATE KEITH FABER



MIAMI VALLEY RISK MANAGEMENT ASSOCIATION

MONTGOMERY COUNTY

CLERK'S CERTIFICATION

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

Susan Babbitt

CLERK OF THE BUREAU

**CERTIFIED
AUGUST 20, 2019**