OLIVER WYMAN MARSH

2020 OLIVER WYMAN AND MARSH PROFESSIONAL AND GENERAL LIABILITY BENCHMARK FOR LONG-TERM CARE PROVIDERS

Actuarial Analysis

February 2021

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To all the long-term care providers who participated this year,

The challenges faced in 2020 due to the COVID-19 crisis have disproportionately affected the long-term care industry. The safety and well-being of residents and staff are of the utmost importance, and we understand there are more critical issues than answering an actuarial data call. The Actuarial Practice of Oliver Wyman and the Senior Care Practice of Marsh would like to extend a sincere thank you to the numerous organizations that allocated resources to participate in this year's professional and general liability benchmark actuarial analysis.

As this was the first professional and general liability benchmark actuarial analysis performed by Oliver Wyman, we experienced our own learning curve. We gained valuable insight into the data collection and model building processes while dealing with changes to our work culture as we transitioned to working remotely. We intend to refine and expand this analysis in future iterations as we return to normalcy.

We welcome feedback and are available to address any questions that readers may have. Please direct any questions or comments to LTCBenchmark@oliverwyman.com.

Sincerely,

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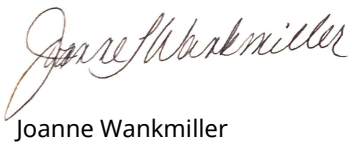

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INTRODUCTION

SCOPE

Oliver Wyman Actuarial Consulting, Inc. (Oliver Wyman) and the Senior Care Practice of Marsh performed an actuarial long-term care benchmark analysis pertaining to US professional liability and general liability (PL/GL) exposures.

This review includes the following analyses:

- Estimation of countrywide and state-specific trends separately for claim costs, severity, and frequency.
- Estimation of countrywide and state-specific claim costs.
- Examination of the relationship between indemnity costs compared to expense costs.
- Review of the accident year by report year relationship.
- Analysis of the cause of loss descriptions.

FUTURE ENHANCEMENTS

We understand the Centers for Medicare & Medicaid Services (CMS) identify a “Five-Star Quality Rating System” based on facility performance to identify high and low-performing nursing homes. Due to data limitations in this initial study, there was insufficient information to analyze the relationship between a 5-star CMS Rating and claim costs and trends.

Similarly, due to data limitations, we did not analyze the effect that arbitration agreements have on claim costs and trends.

We intend to examine the correlation of 5-star CMS Ratings and the effect of arbitration agreements on claims costs and trends in future iterations of this benchmark analysis.

EXECUTIVE SUMMARY

BACKGROUND

We developed the principal findings in this study on a countrywide basis. We have also provided state-level findings where we deemed the data and results to be credible. The results by state can vary widely and are directly influenced by the claims history of the participant's data.

To reduce the influence of large claim settlements, we limited the claims data — indemnity plus allocated claims adjustment expense ("expense") — to $1 million on a per-occurrence basis. Similarly, we excluded claims with payments of less than $500 to remove any bias from nuisance claims.

Understanding that there are differences in reserving practices between participants, this analysis applies actuarial models to closed claim data to develop estimates on an occurrence year basis.

As this was the first analysis provided by Oliver Wyman, we could not reconcile differences between our findings and results to those provided in the prior benchmark analysis. Findings can vary materially due to both the actuarial methodology used to determine occurrence year ultimate estimates and, more importantly, changes in the composition of participants. We will be better able to reconcile data across studies in future analyses.

DATA

Oliver Wyman asked long-term care providers and insurers to submit their professional liability and general liability claims and exposure data to support this study. We have not attempted to audit this data or reconcile data across various valuations.

More than thirty providers submitted data for this analysis. Our analysis focuses on paid and closed claim data comprised of nearly 11,000 closed claims with approximately $1.84 billion in paid indemnity and expense over the past 10 years. We limited the claims to a $1 million retention limit and excluded claims of less than $500. The participants in this study include skilled nursing facilities, assisted living facilities, home health care providers, and a few independent living facilities.

COUNTRYWIDE FINDINGS

We present our countrywide findings in Table 1.

Table 1: Indemnity and Expense Limited to $1 Million per Occurrence

Component	2021 Projection	Assumed Annual Trend
Frequency	0.76	0.4%
Severity	$227,900	2.7%
Loss Rate	$1,730	3.1%

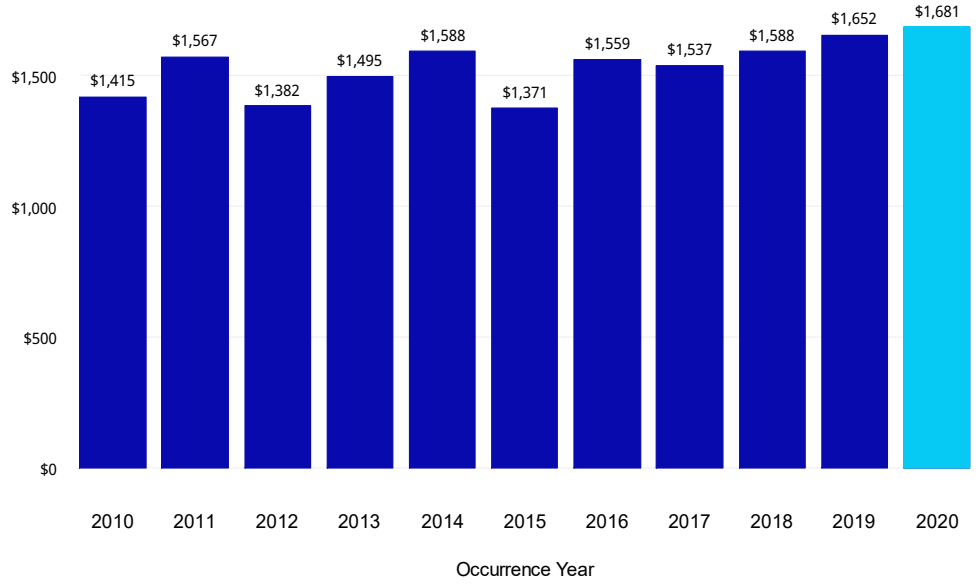
Our analysis is based on data through December 31, 2019, and therefore does not consider the effect of the COVID-19 pandemic. Further, we do not include any adjustments to our estimates for 2020 and 2021 due to COVID-19. Actual claims experience in calendar years 2020 and 2021 may be materially different than we project due to the pandemic. However, these projections provide a baseline against which we can measure the effect of the pandemic on claim costs in future studies.

The metrics we present are based on claims limited to $1 million per occurrence and excluding payment values less than $500:

- Claim frequency is the number of claims estimated to close with payment (indemnity and/or expense) per 100 occupied beds. We forecast frequency to be 0.76 claims per 100 occupied beds in the 2021 occurrence year. We project claim frequency to increase in 2021 by 0.4%.
- Claim severity is the average ultimate size of a claim estimated to close with payment (indemnity and/or expense). Claim severity is forecasted to be $227,900 on a countrywide basis in the 2021 occurrence year. We project claim severity to increase by 2.7% per annum.
- The loss rate represents the cost needed to pay indemnity or expense per occupied bed. We forecast the loss rate to be $1,730 on a countrywide basis in the 2021 occurrence year. We project loss rates to increase at 3.1% per annum.

Figure 1 provides the estimated loss rates for the past ten occurrence years, along with our projected 2020 loss rate.

Figure 1: Countrywide $1 million Loss Rate

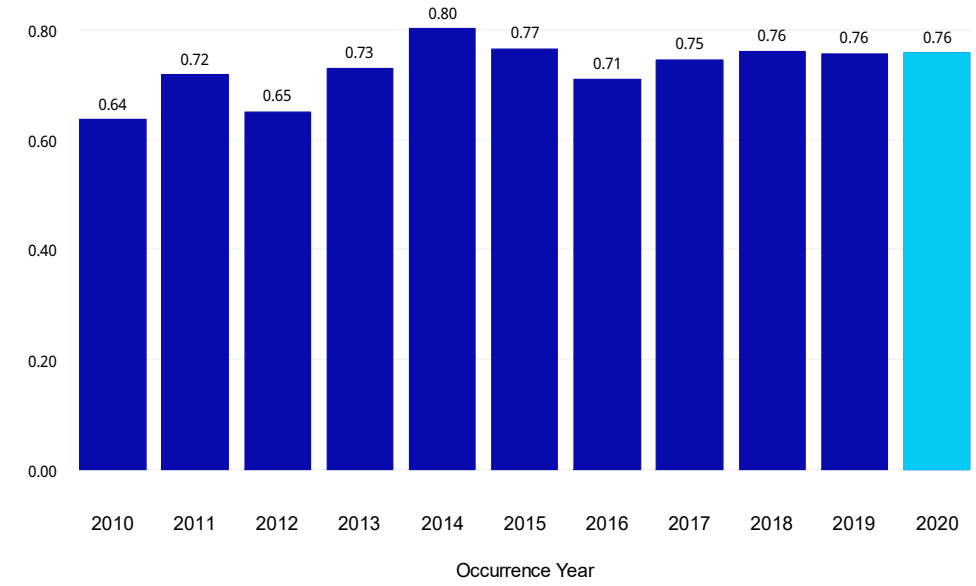


Indicated Annual Loss Rate Trend

+3.1%

Figure 2 provides the estimated frequency for the past 10 years and our projected 2020 frequency. The estimated ultimate frequency has remained relatively flat over the past few years.

Figure 2: Frequency

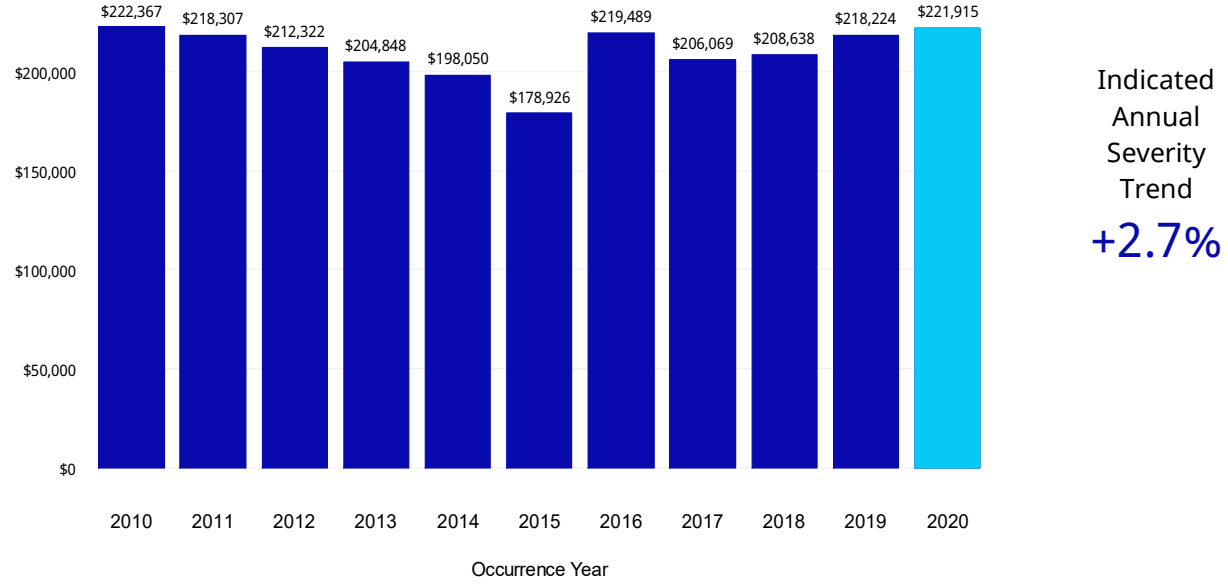


Indicated Annual Frequency Trend

+0.4%

Figure 3 provides the estimated severity for the past 10 years and our projected 2020 severity.

Figure 3: Severity



ABOUT OLIVER WYMAN

The Actuarial Consulting Practice of Oliver Wyman has life, health care and property and casualty actuaries that advise financial institutions, regulators, and self-insured entities across a broad spectrum of risk management issues. With almost 400 professionals across more than 20 offices in North America, the Caribbean, and Europe, the firm's consulting actuaries provide independent, objective advice, combining a wide range of expertise with specialized knowledge of specific risks. For more information, visit www.oliverwyman.com/actuaries. Follow Oliver Wyman Actuarial on LinkedIn.

ABOUT MARSH

Marsh is the world's leading insurance broker and risk advisor. With over 35,000 colleagues operating in more than 130 countries, Marsh serves commercial and individual clients with data-driven risk solutions and advisory services. Marsh is a business of Marsh & McLennan Companies (NYSE: MMC), the leading global professional services firm in the areas of risk, strategy, and people. With annual revenue approaching US$17 billion and 76,000 colleagues worldwide, MMC helps clients navigate an increasingly dynamic and complex environment through four market-leading businesses: Marsh, Guy Carpenter, Mercer, and Oliver Wyman. Follow Marsh on Twitter @MarshGlobal, LinkedIn, Facebook, and YouTube, or subscribe to *BRINK*.

INDEMNITY AND EXPENSE STATISTICS

The indemnity and expense statistics in this section include claims closed within seven years after the report year. These claims represent 94.5% of all closed claim counts in our database.

Figure 4 presents a history of closed indemnity claims and expense only claims. The portion of claims involving indemnity payments is 63% in 2019, the lowest observed ratio in the past 10 years.

Figure 4: Claims Counts by Closed Year

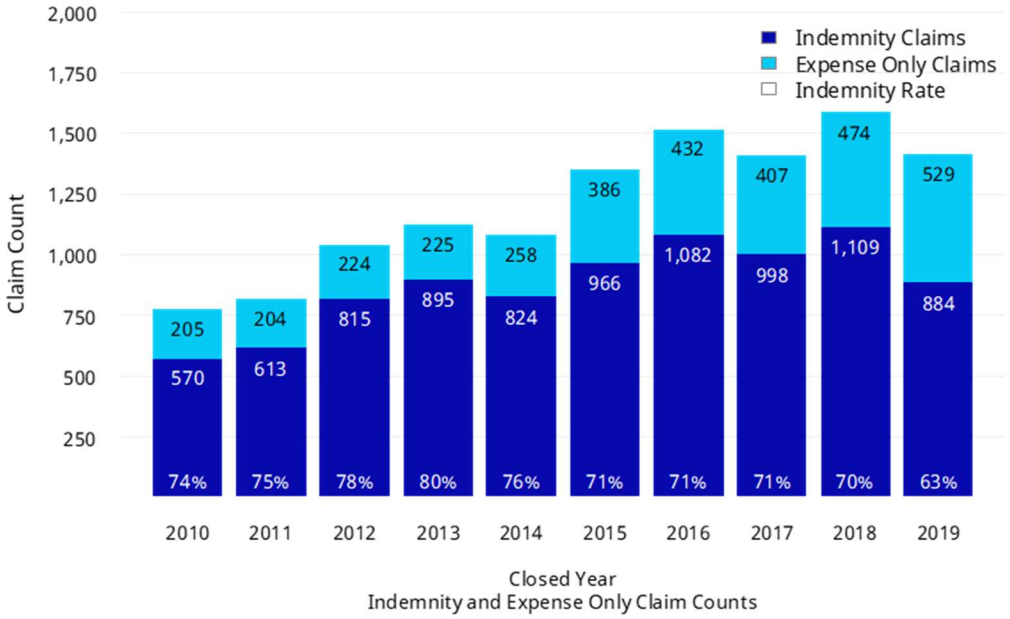


Figure 5 presents a history of the average paid indemnity amounts and average paid expense amounts on claims closed with indemnity payment. The average paid indemnity and paid expense amounts in 2019 are the lowest observed in the past 10 years and continue the observed downward trend.

Figure 5: Claims with Indemnity - Distribution of Indemnity and Expense

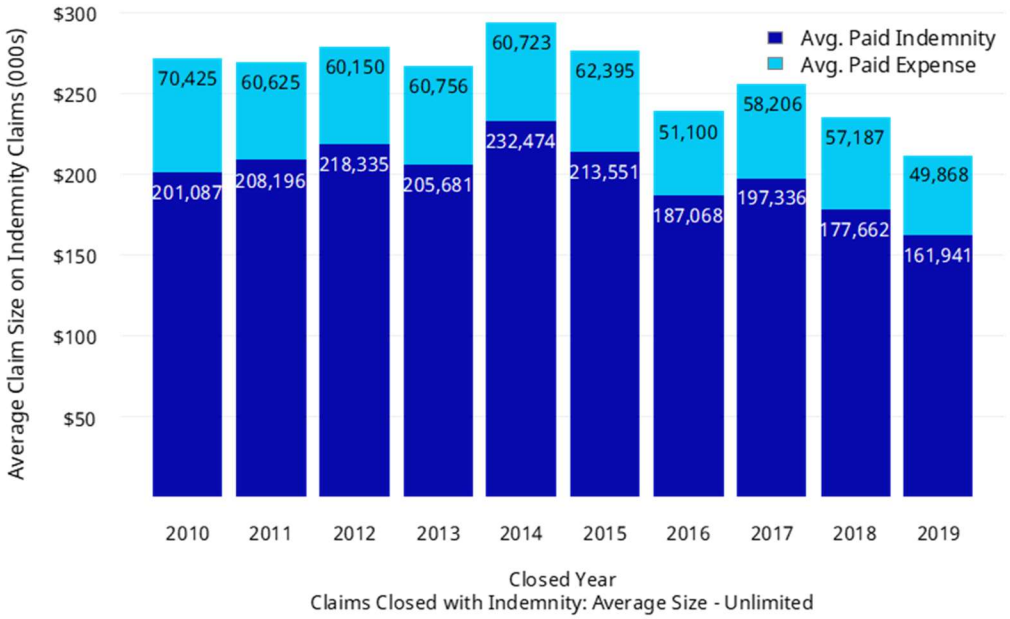
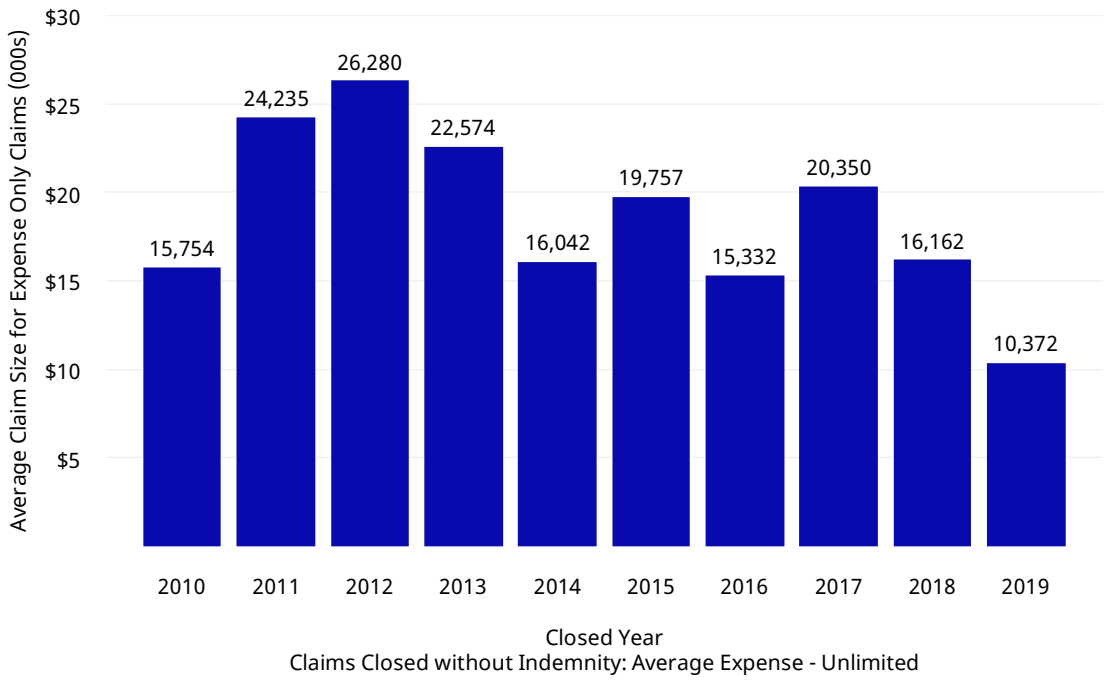


Figure 6 presents the average paid expense amounts on claims closed without indemnity payment. Similar to Figure 4 and Figure 5, average paid expense amounts in 2019 are the lowest observed in the past 10 years and continue the observed downward trend.

Figure 6: Average Severity - Expense Only Claims



The improved experience in closing year 2019 results in a moderation in occurrence year metrics from Figure 1 and Figure 3.

CLAIM COSTS BY CLOSE LAG

We analyzed closed claims by closing lag (lag from report year to close year) to determine the change in costs associated with various claim durations. For credibility purposes, we grouped claims closing after five years. As anticipated, claims that are more serious and involve potential litigation remain open longer and tend to settle for higher values.

Table 2 presents the distribution and average values of all claims closed with payment by claim duration.

Table 2: Indemnity and Expense Severity by Closing Lag

Close Lag (Years)	Claim Count	Distribution of Claim Count	Paid Indemnity and Expense	Distribution of Payments	Closed Claim Severity
1	2,063	12%	155,474,780	5%	75,363
2	5,628	33%	697,217,017	24%	123,884
3	4,733	28%	838,468,925	29%	177,154
4	2,604	15%	591,499,591	20%	227,150
5+	2,132	12%	619,334,019	21%	290,494
Total	**17,160**	**100%**	**2,901,994,332**	**100%**	**169,114**

Table 3 presents the distribution and average values for all claims closed with indemnity payment by claim duration.

Table 3: Claims with Indemnity Payment Severity by Closing Lag[1]

Close Lag (Years)	Claim Count	Distribution of Claim Count	Paid Indemnity and Expense	Distribution of Payments	Closed Claim Severity
1	1,348	11%	151,994,377	5%	112,755
2	3,873	31%	683,015,980	24%	176,353
3	3,465	28%	819,577,294	29%	236,530
4	2,038	16%	574,932,714	20%	282,106
5	1,772	14%	589,728,930	21%	332,804
Total	**12,496**	**100%**	**2,819,249,295**	**100%**	**225,612**

[1] Refer to "Rounding and Accuracy" on page 56.

Table 4 presents the distribution and average values for claims closed with expense payment only by claim duration.

Table 4: Expense Only Severity by Closing Lag[2]

Close Lag (Years)	Claim Count	Distribution of Claim Count	Paid Expense Dollars	Distribution of Paid Dollars	Closed Claim Severity
1	715	15%	3,480,403	4%	4,868
2	1,755	38%	14,201,037	17%	8,092
3	1,268	27%	18,891,631	23%	14,899
4	566	12%	16,566,877	20%	29,270
5	360	8%	29,605,090	36%	82,236
Total	**4,664**	**100%**	**82,745,038**	**100%**	**17,741**

[2] Refer to "Rounding and Accuracy" on page 56.

CAUSES OF LOSS

The various claims listing included in the participant data contained a wide array of claim descriptions. We have composed multiple word clouds indicating the most commonly observed words in the data.

The word cloud in Figure 7 contains the most frequently found words in each claim description. The larger and bolder words appear more often in the various data sets.

Figure 7: Frequency Word Cloud

The word cloud in Figure 8 contains those words with the highest associated loss and expense claim amounts. The larger and bolder words are associated with a higher percentage of claim amounts.

Figure 8: Severity Word Cloud

SPECIFIC STATE STATISTICS

The statistics presented in this section are based solely on the data provided by participants. Reduced claim volumes at the state level can result in volatility in loss rates, frequency, and severity metrics.

CALIFORNIA

Figure 9 through Figure 11 present the loss rate, frequency, and severity for California based on more than 470 ultimate estimated claim counts closed with pay greater than $500.

We offer the following observation(s) on the claims experience:

- The underlying data include more exposure in 2015 and subsequent, and therefore, we believe that the indications for the more recent years are better predictors of California experience.

Figure 9: California Loss Rate

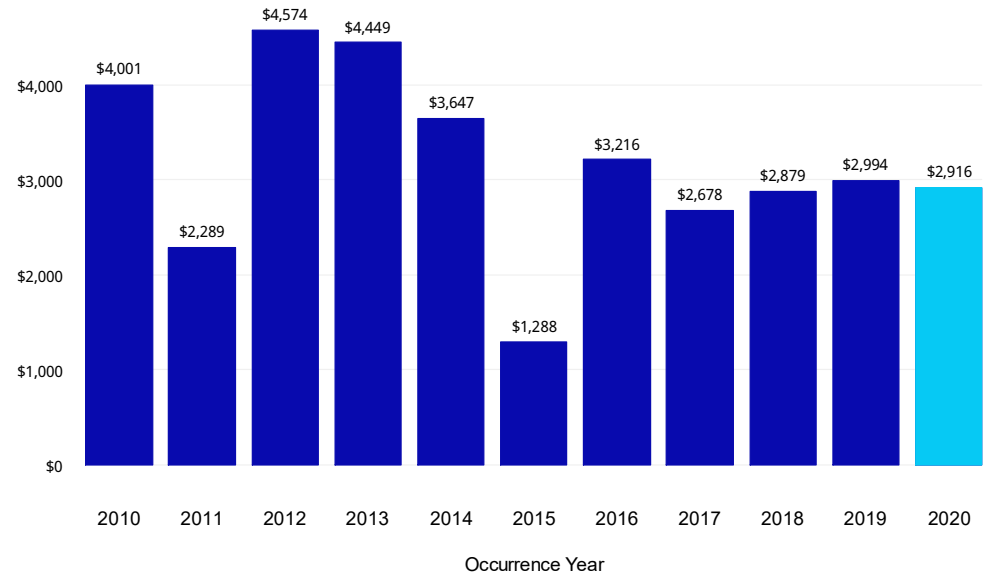


Figure 10: California Frequency

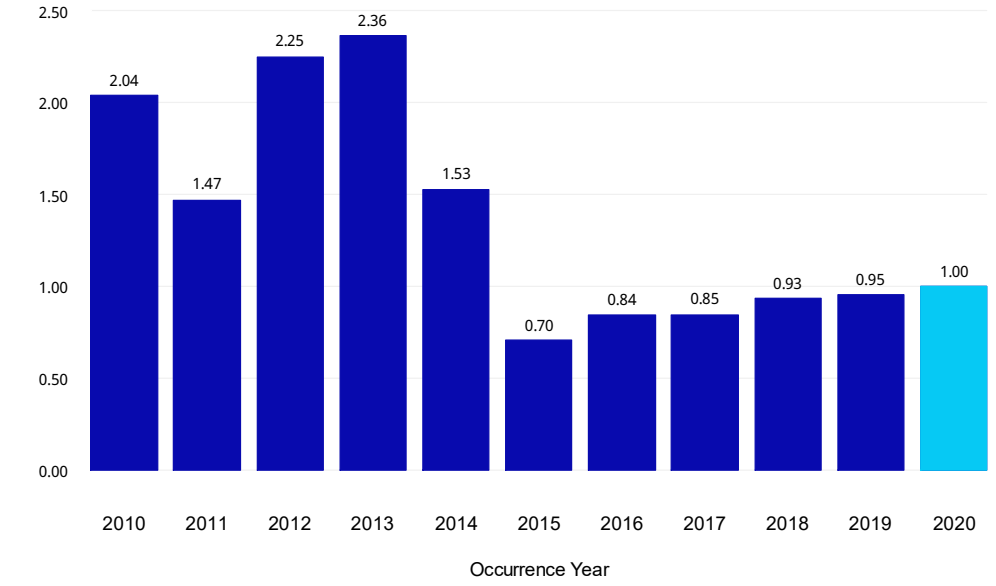
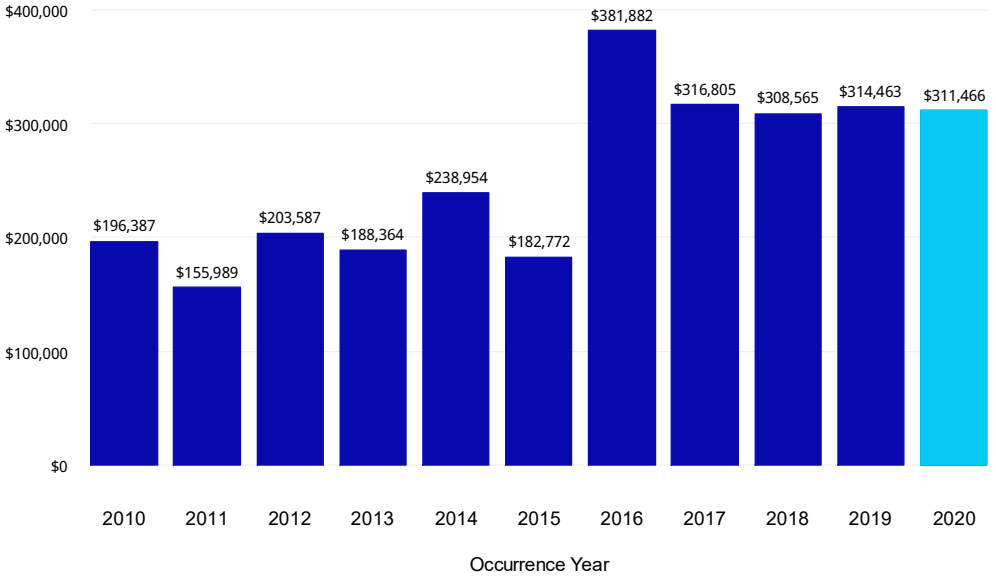


Figure 11: California Severity



COLORADO

Figure 12 through Figure 14 present the loss rate, frequency, and severity for Colorado based on more than 230 ultimate estimated claim counts closed with pay greater than $500.

We offer the following observation(s) on the claims experience:

- Except for severity in 2016, frequency and severity have been quite stable in Colorado.
- The lower Colorado loss rates relative to countrywide loss rates are the result of lower claim frequency.

Figure 12: Colorado Loss Rate

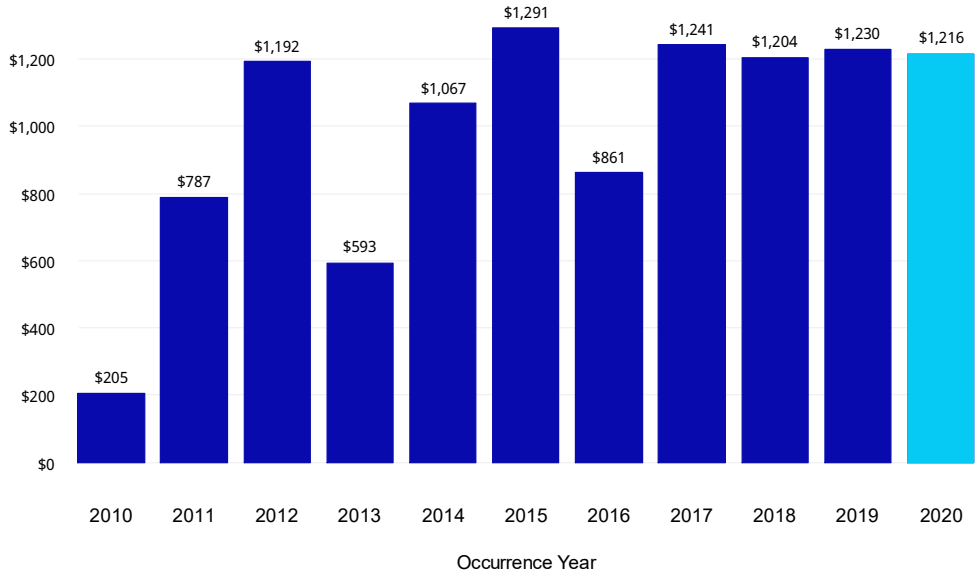


Figure 13: Colorado Frequency

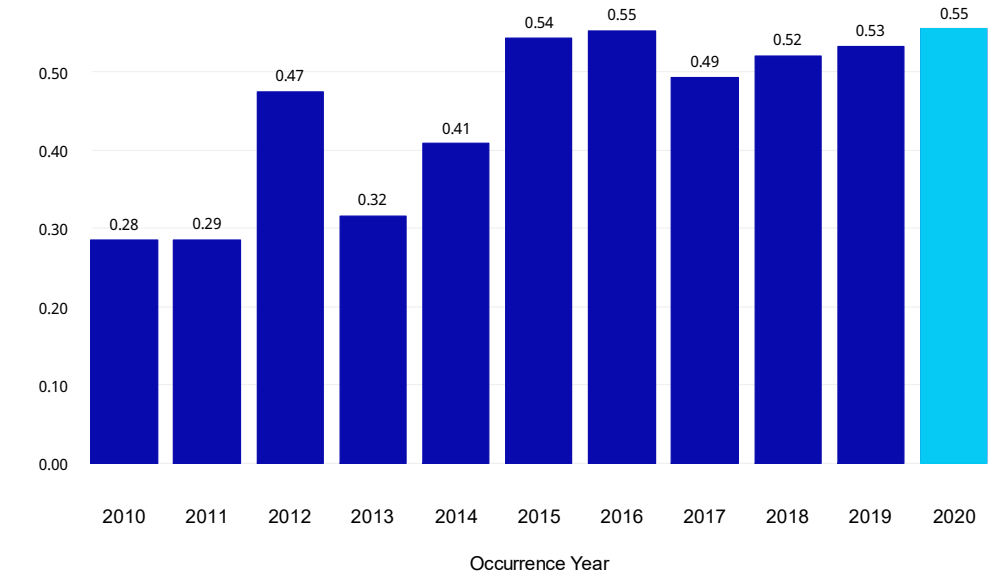
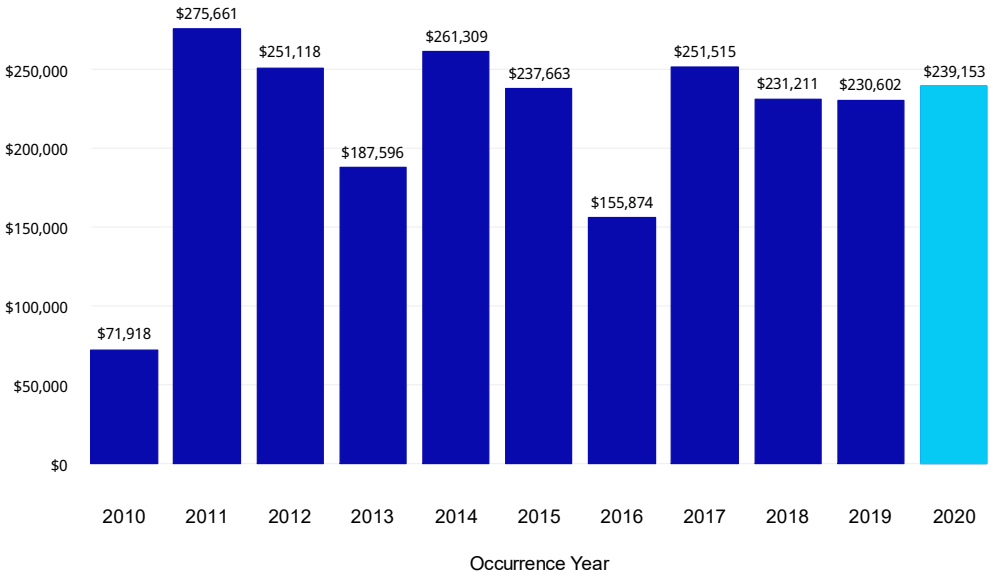


Figure 14: Colorado Severity



FLORIDA

Figure 15 through Figure 17 present the loss rate, frequency, and severity for Florida based on more than 1,550 ultimate estimated claim counts closed with pay greater than $500.

We offer the following observation(s) on the claims experience:

- Excluding 2015, frequency has remained in a tight band since 2011, ranging from a low of 0.84 to a high of 0.96.
- Higher but reasonably stable severity in 2015 and subsequent results in the increased loss rate.

Figure 15: Florida Loss Rate

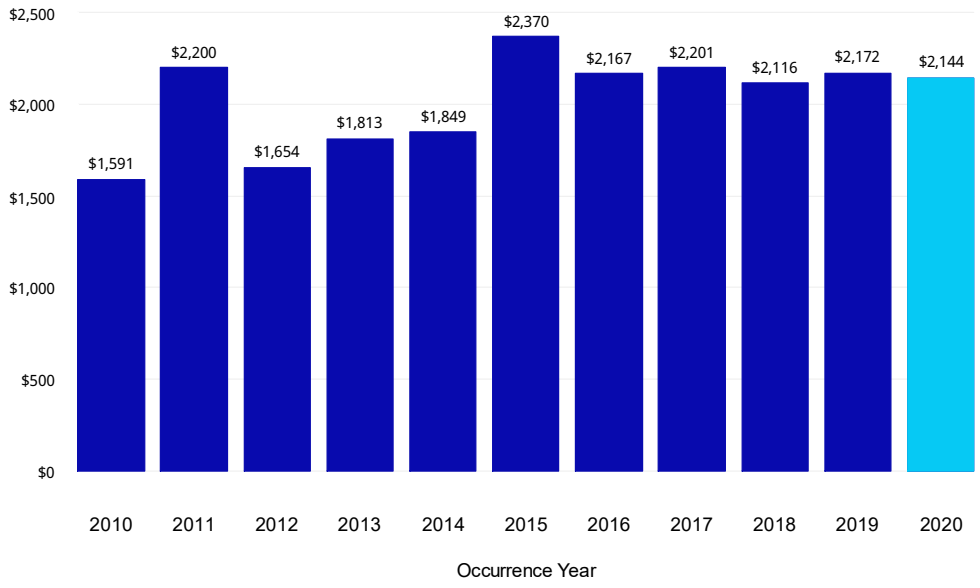


Figure 16: Florida Frequency

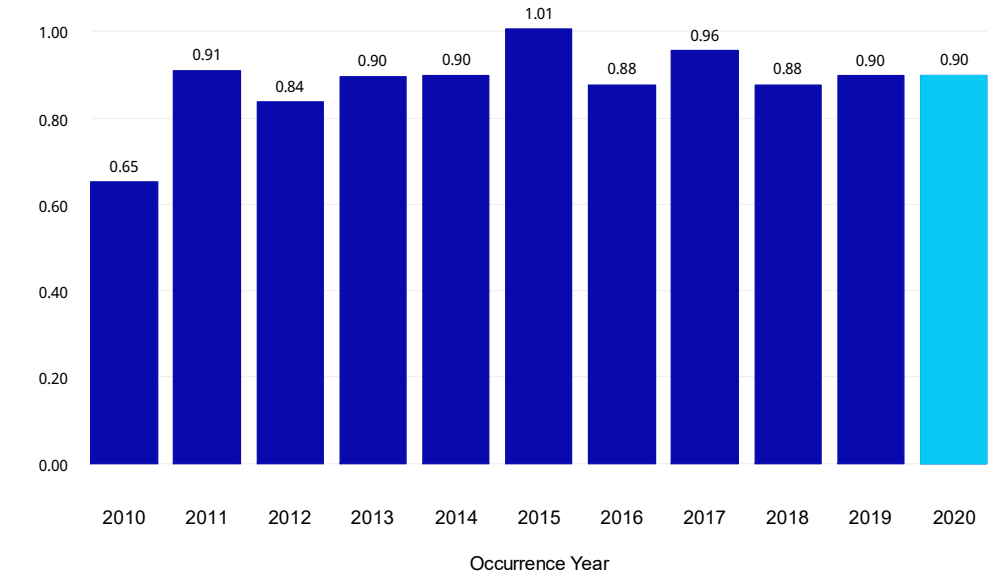
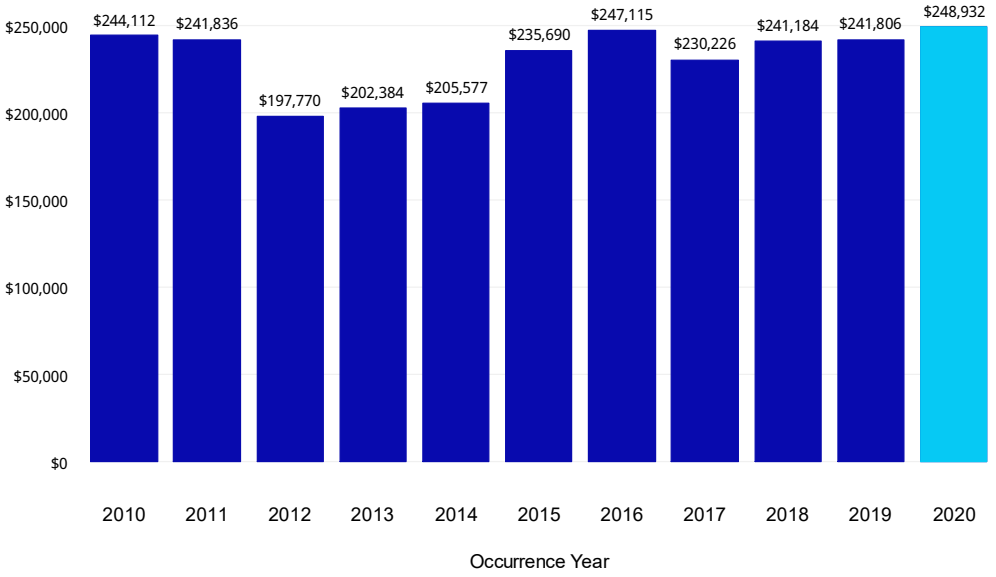


Figure 17: Florida Severity



GEORGIA

Figure 18 through Figure 20 present the loss rate, frequency, and severity for Georgia based on more than 570 ultimate estimated claim counts closed with pay greater than $500.

We offer the following observation(s) on the claims experience:

- The participant data includes more exposure in 2012 and subsequent.
- We generally observe lower frequencies and stable severity values since 2015.

Figure 18: Georgia Loss Rate

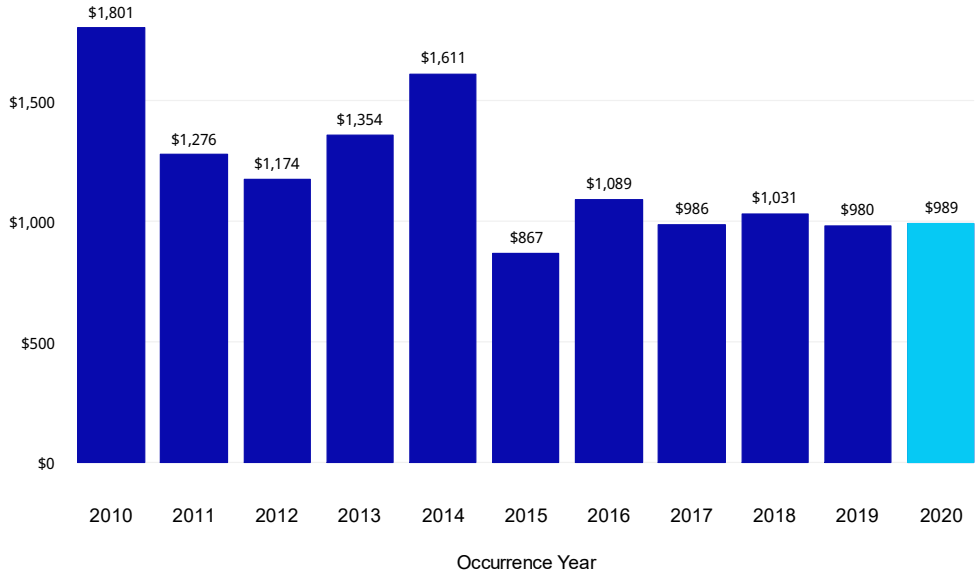


Figure 19: Georgia Frequency

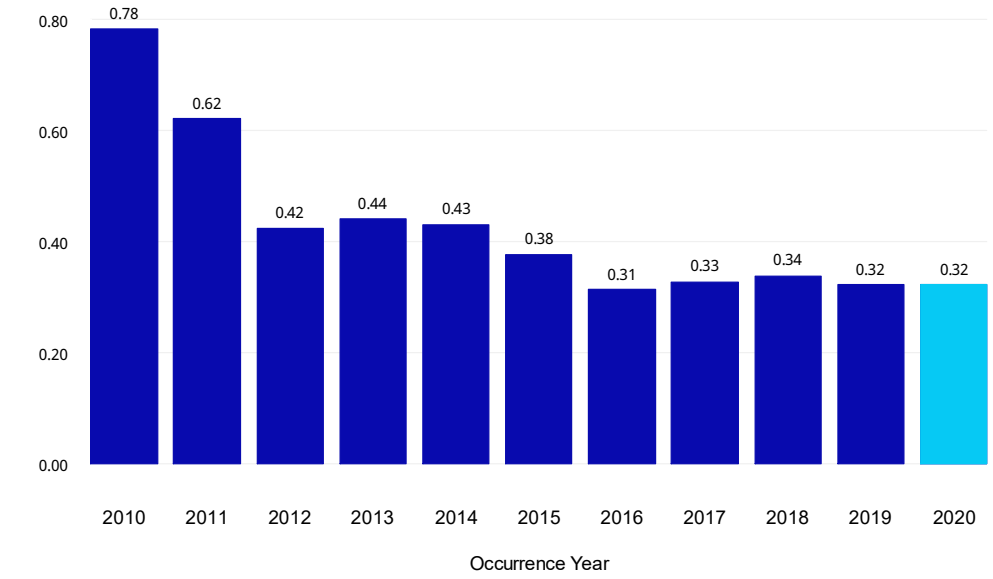
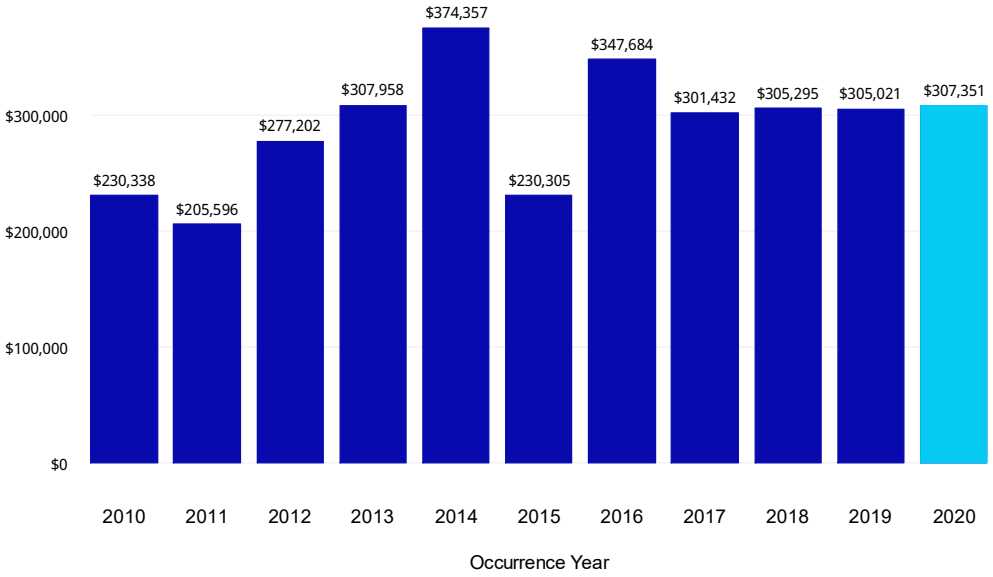


Figure 20: Georgia Severity



ILLINOIS

Figure 21 through Figure 23 present the loss rate, frequency, and severity for Illinois based on more than 1,970 ultimate estimated claim counts closed with pay greater than $500.

We offer the following observation(s) on the claims experience:

- The higher loss rate in 2016 is the result of unusually high severity. We observed similarly high severity in 2012, but lower frequency suppressed the loss rate.

Figure 21: Illinois Loss Rate

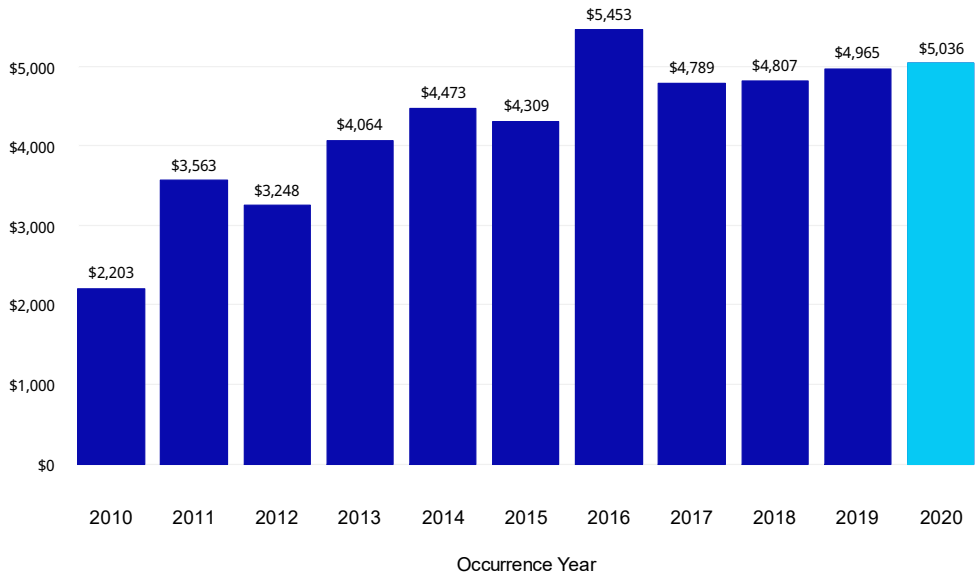


Figure 22: Illinois Frequency

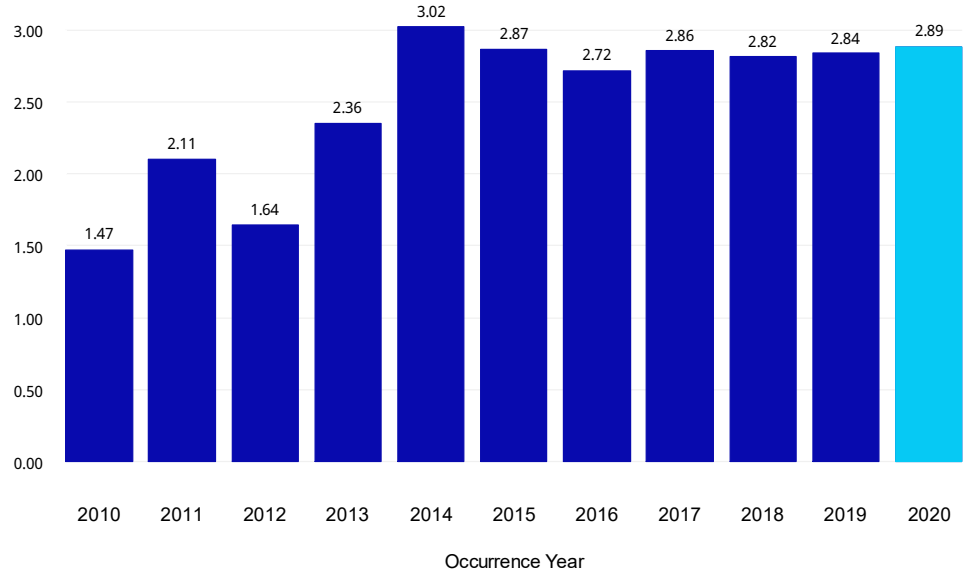
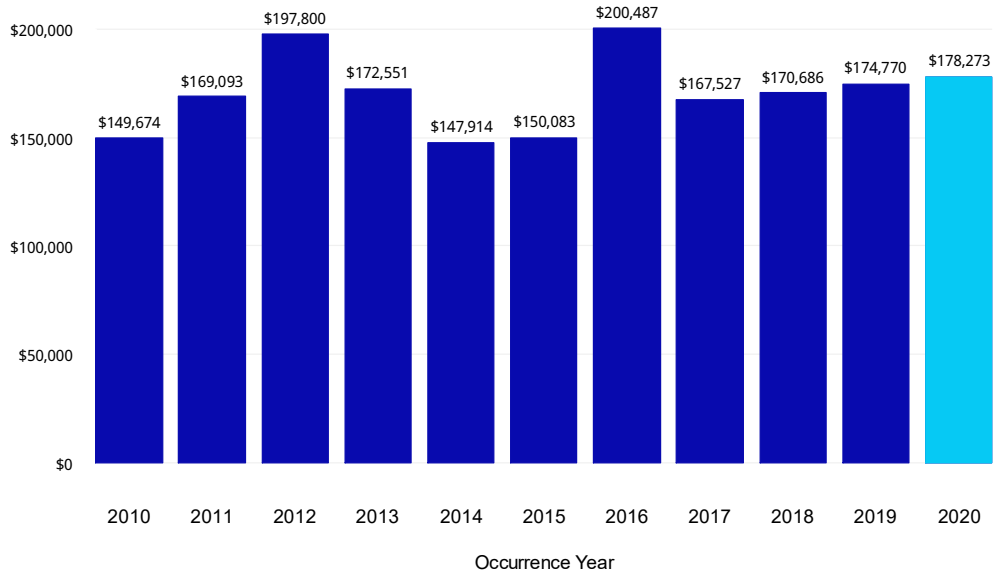


Figure 23: Illinois Severity



KENTUCKY

Figure 24 through Figure 26 present the loss rate, frequency, and severity for Kentucky based on more than 1,140 ultimate estimated claim counts closed with pay greater than $500.

We offer the following observation(s) on the claims experience:

- The loss rate in Kentucky has been rising modestly, but steadily, since 2014.

Figure 24: Kentucky Loss Rate

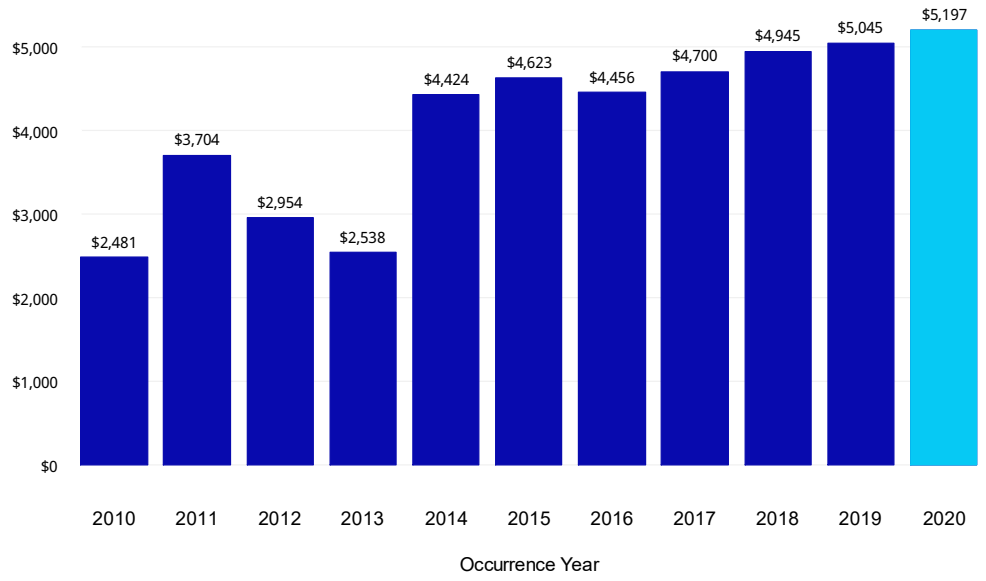


Figure 25: Kentucky Frequency

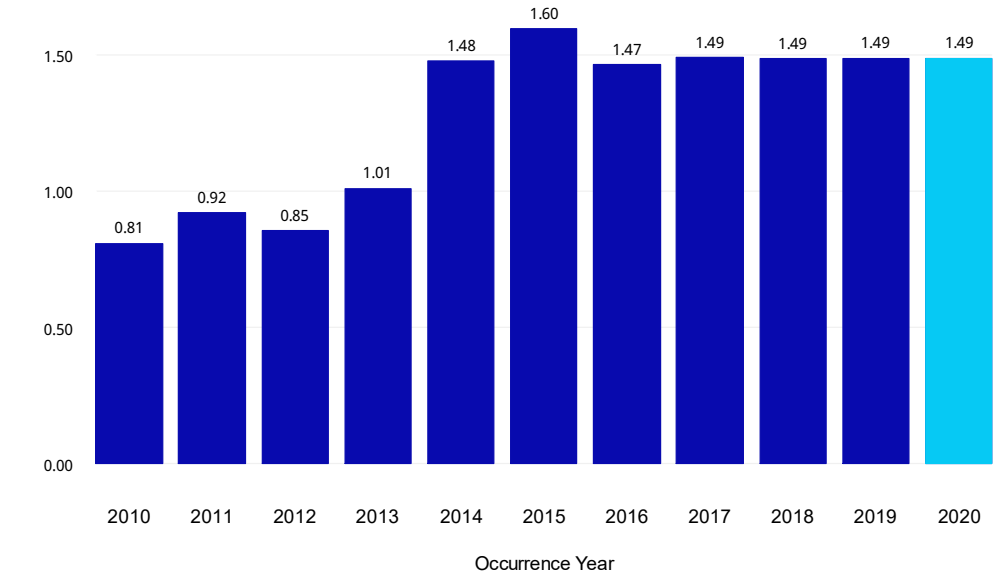
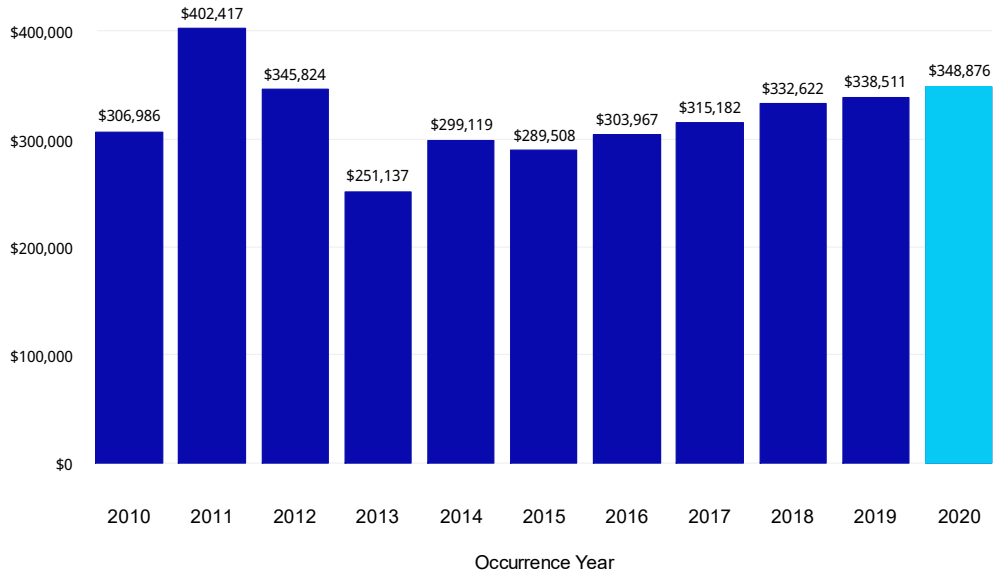


Figure 26: Kentucky Severity



LOUISIANA

Figure 27 through Figure 29 present the loss rate, frequency, and severity for Louisiana based on more than 60 ultimate estimated claim counts closed with pay greater than $500.

We offer the following observation(s) on the claims experience:

- Loss costs peaked in 2015 as frequency was at its highest level since 2012.
- We recognize the increased volatility due to the smaller volume of projected ultimate claim counts closed with pay.

Figure 27: Louisiana Loss Rate

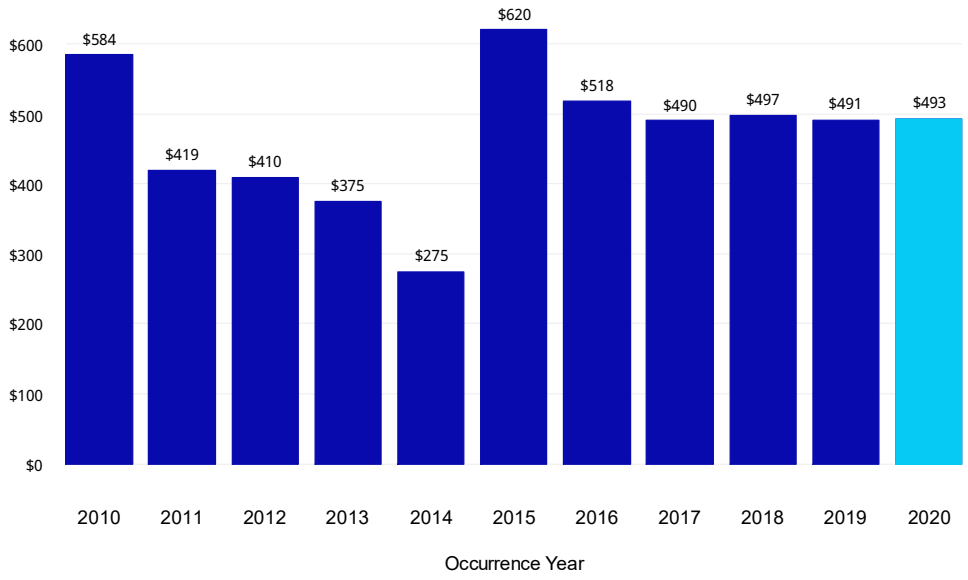


Figure 28: Louisiana Frequency

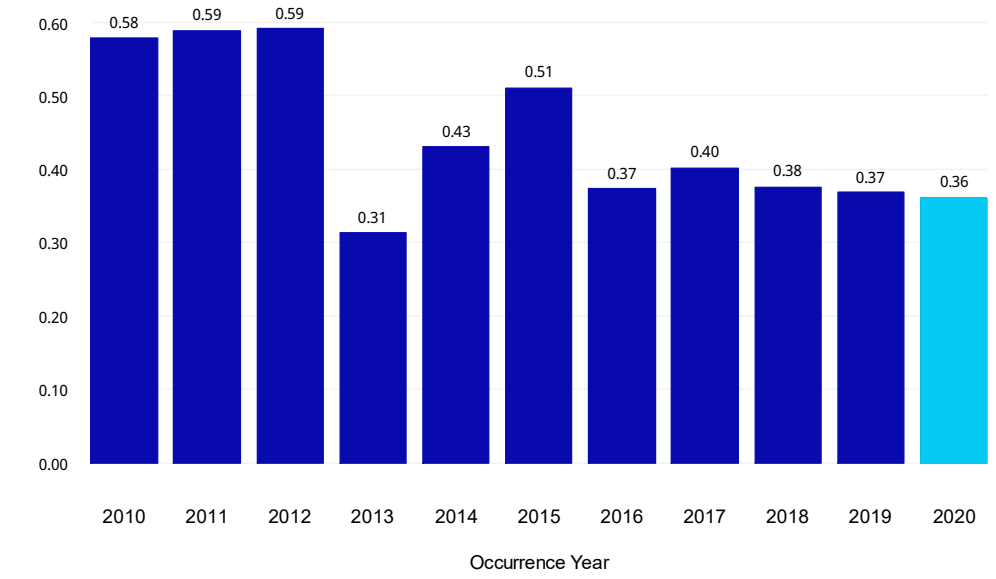
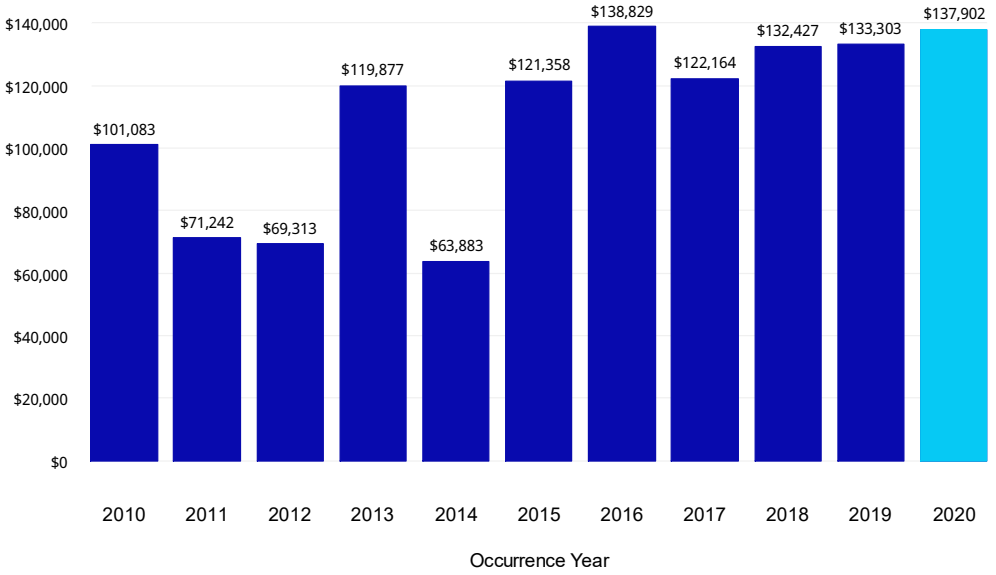


Figure 29: Louisiana Severity



MASSACHUSETTS

Figure 30 through Figure 32 present the loss rate, frequency, and severity for Massachusetts based on more than 90 ultimate estimated claim counts closed with pay greater than $500.

We offer the following observation(s) on the claims experience:

- Loss rates in Massachusetts are among the lowest in the country.
- We recognize the increased volatility due to the smaller volume of projected ultimate claim counts closed with pay.

Figure 30: Massachusetts Loss Rate

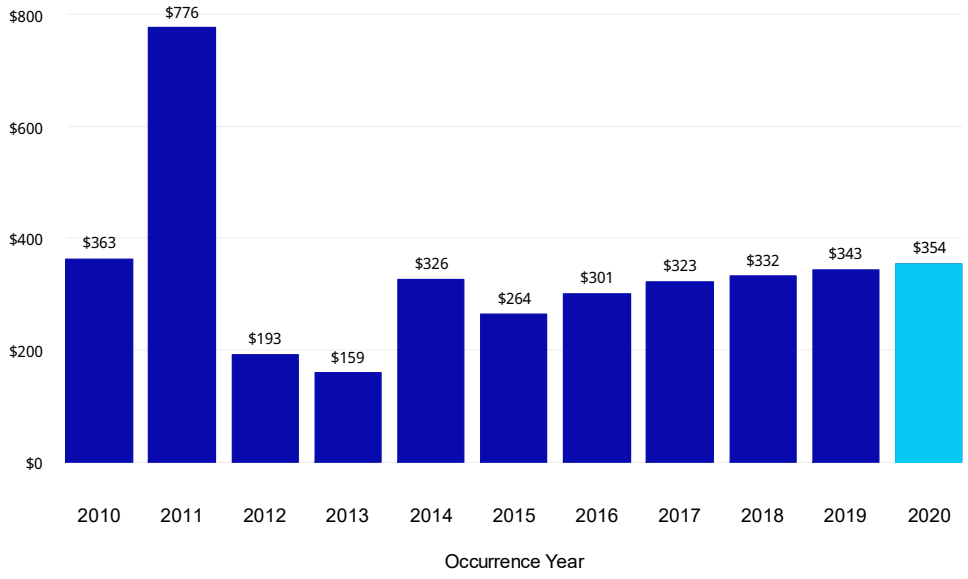


Figure 31: Massachusetts Frequency

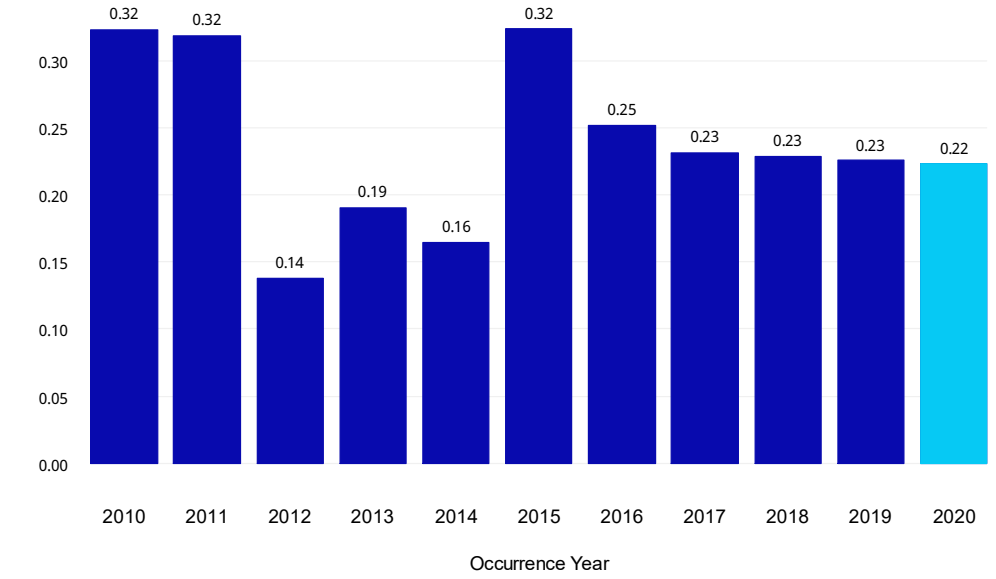
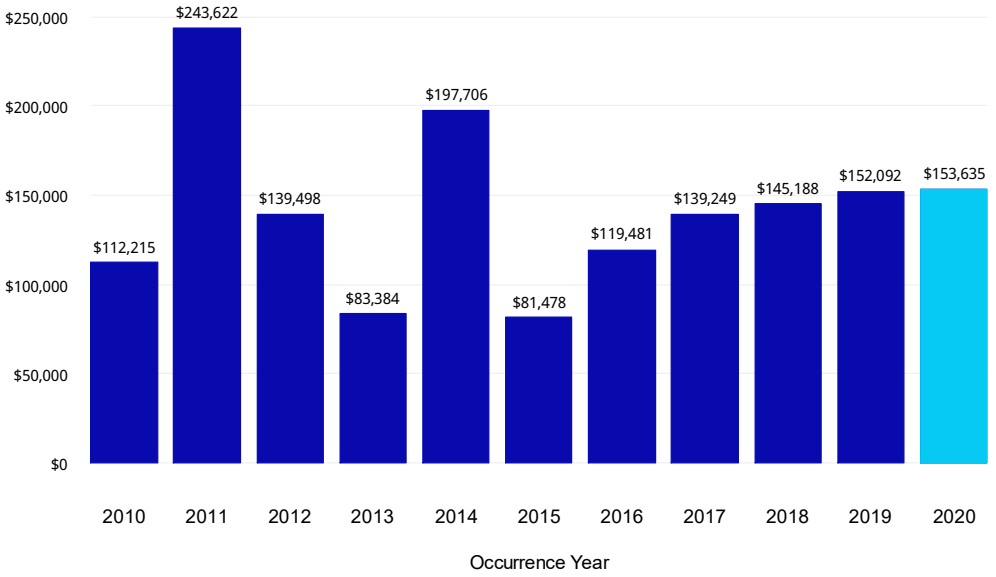


Figure 32: Massachusetts Severity



MARYLAND

Figure 33 through Figure 35 present the loss rate, frequency, and severity for Maryland based on more than 400 ultimate estimated claim counts closed with pay greater than $500.

We offer the following observation(s) on the claims experience:

- We observe a slight declining frequency since 2017.
- Excluding 2016, severity has been trending at less than 1.0% per year for the past 10 years.

Figure 33: Maryland Loss Rate

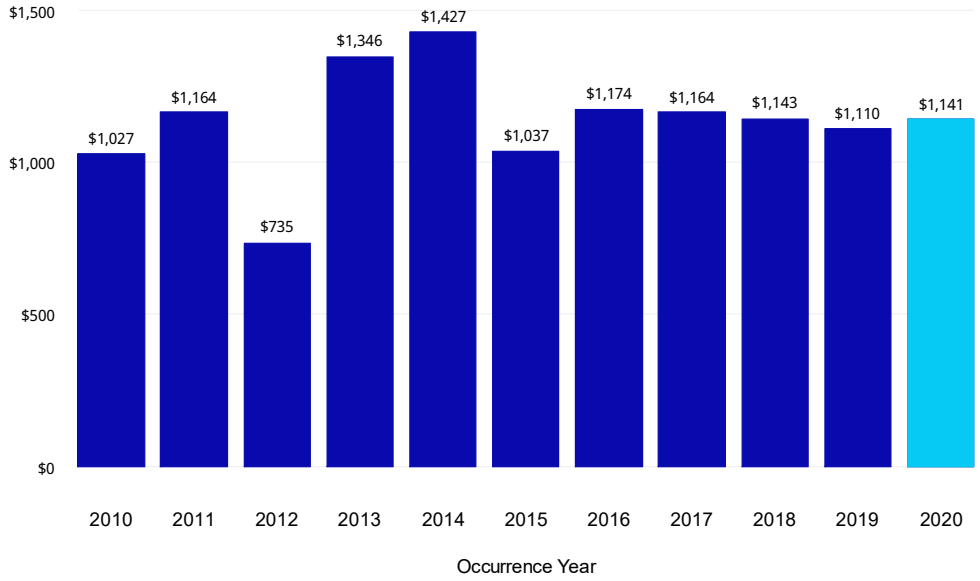


Figure 34: Maryland Frequency

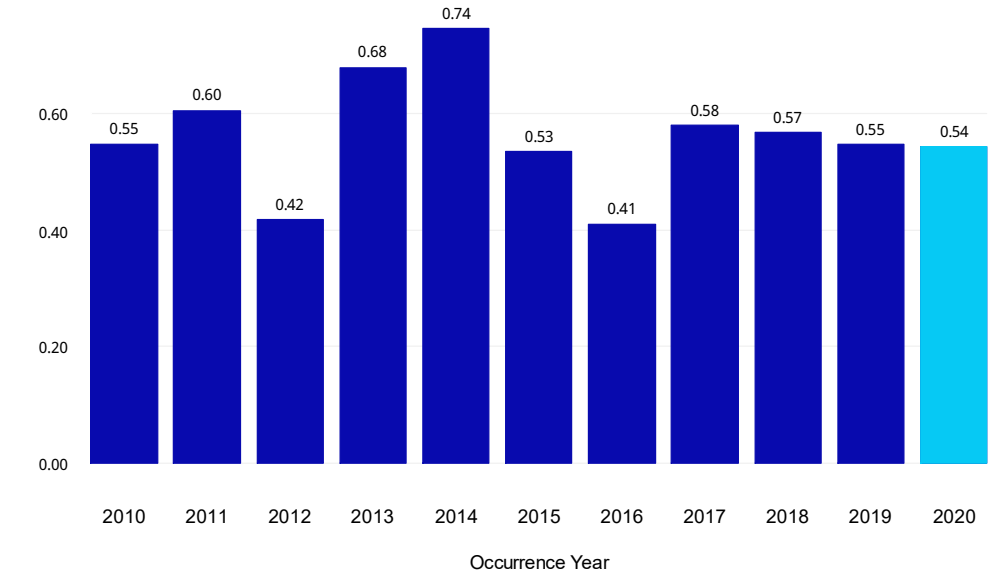
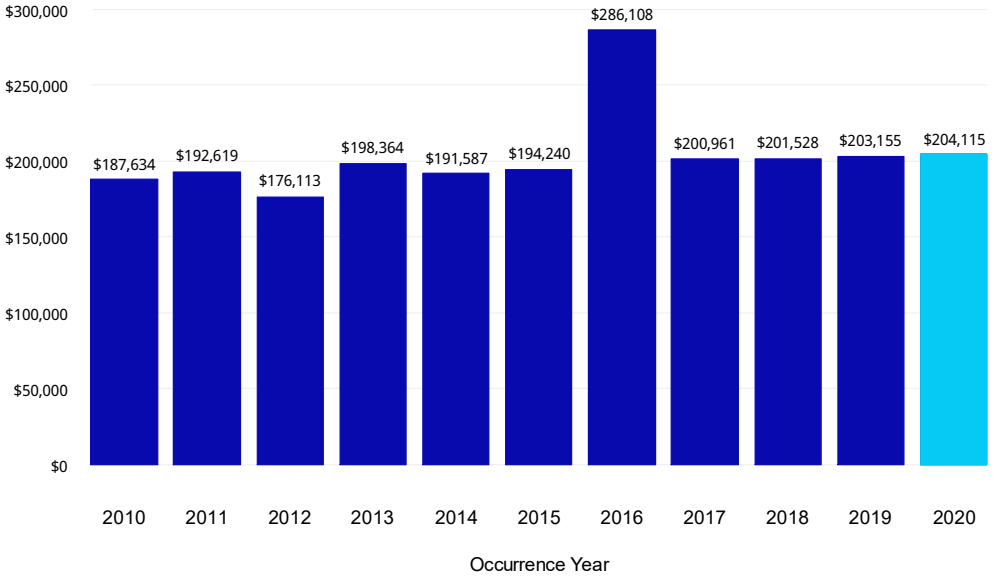


Figure 35: Maryland Severity



MICHIGAN

Figure 36 through Figure 38 present the loss rate, frequency, and severity for Michigan based on more than 450 ultimate estimated claim counts closed with pay greater than $500.

We offer the following observation(s) on the claims experience:

- Michigan frequency peaked in 2015, while severity peaked in 2016.
- Frequency has increased for the past three years, resulting in higher loss rates for the same period, while severity has remained relatively flat for the past four years.

Figure 36: Michigan Loss Rate

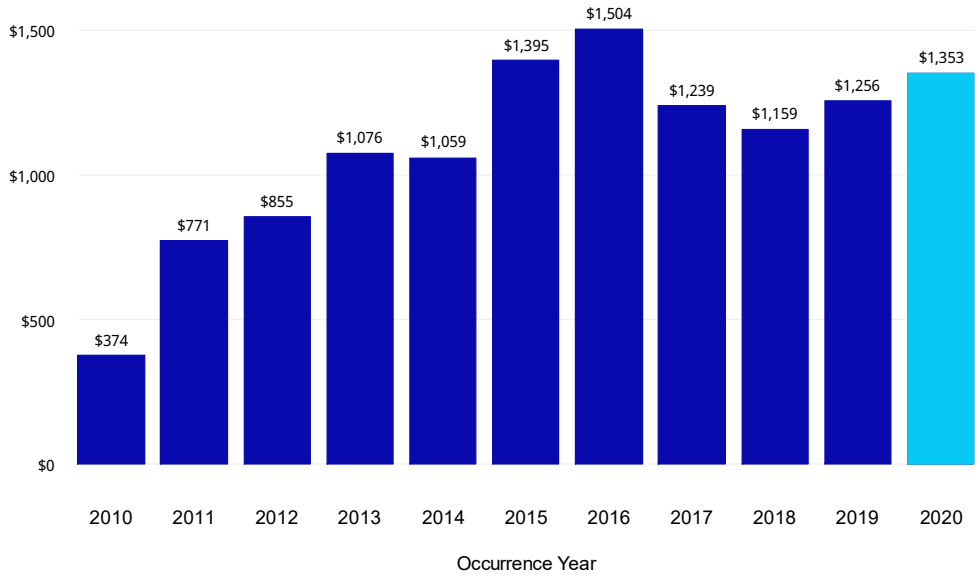


Figure 37: Michigan Frequency

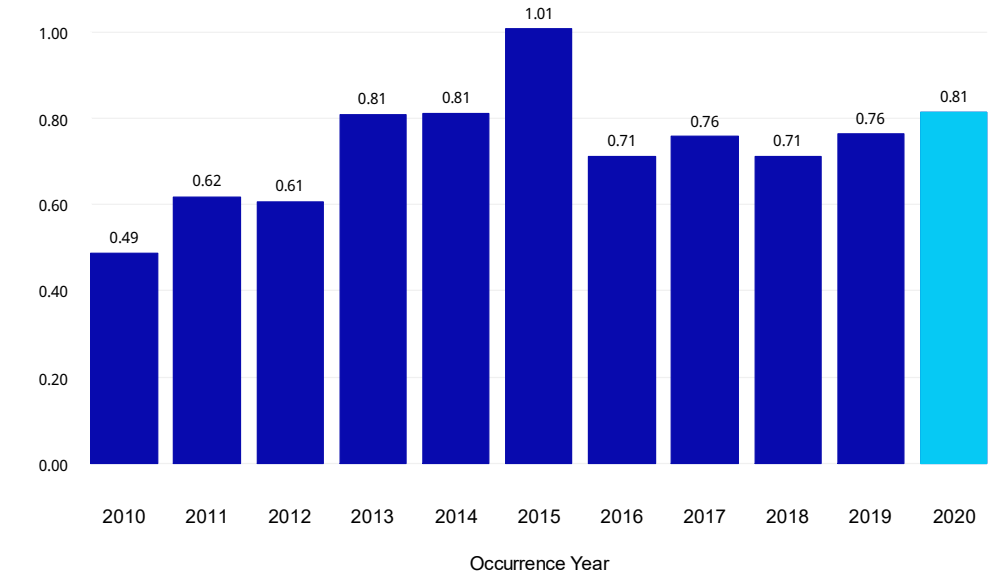
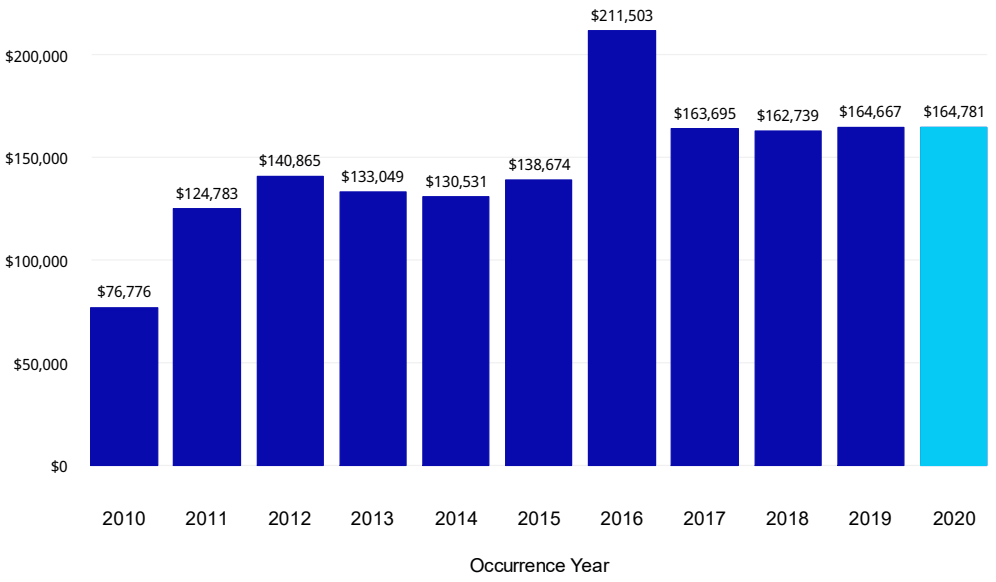


Figure 38: Michigan Severity



MISSOURI

Figure 39 through Figure 41 present the loss rate, frequency, and severity for Missouri based on more than 200 ultimate estimated claim counts closed with pay greater than $500.

We offer the following observation(s) on the claims experience:

- Loss rates have generally been increasing for the past seven years. The 2013 year appears to be an outlier due to both lower frequency and severity levels.
- Severity is increasing at approximately 2% since 2016.

Figure 39: Missouri Loss Rate

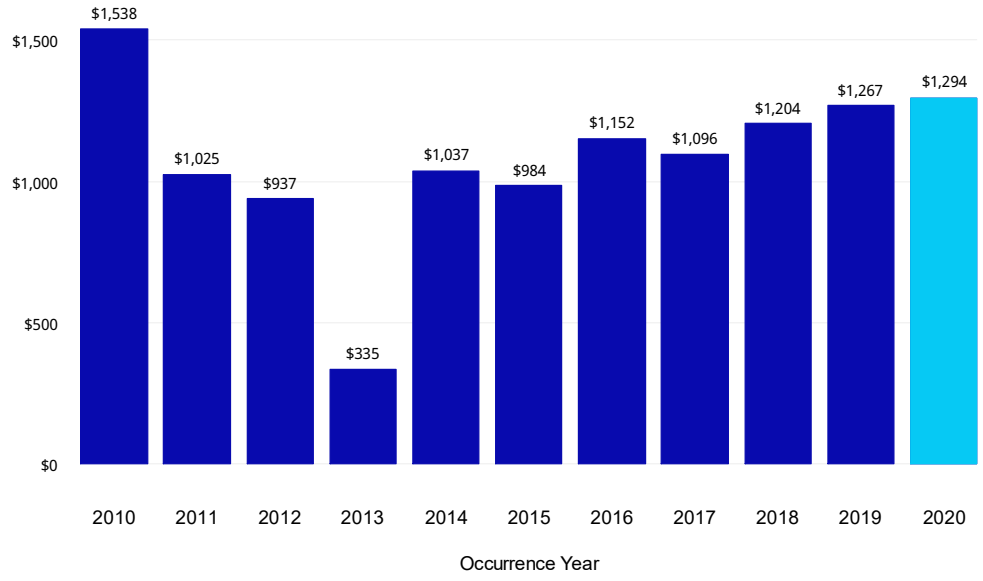


Figure 40: Missouri Frequency

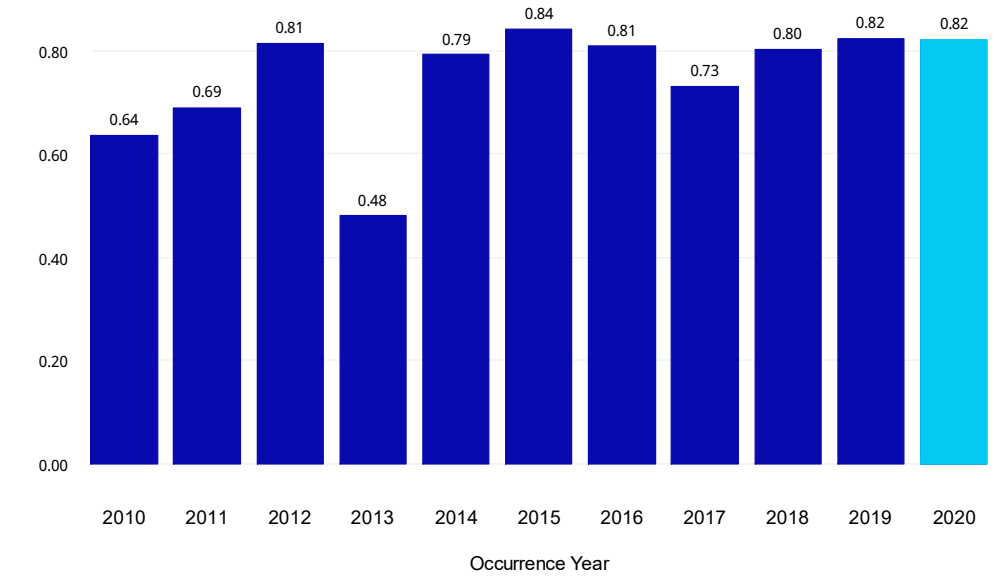
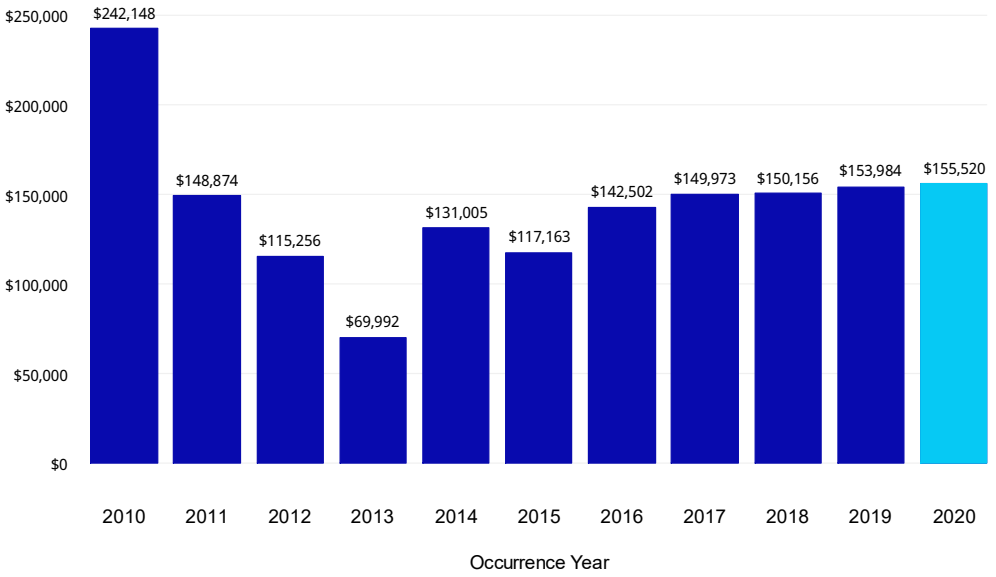


Figure 41: Missouri Severity



NORTH CAROLINA

Figure 42 through Figure 44 present the loss rate, frequency, and severity for North Carolina based on more than 480 ultimate estimated claim counts closed with pay greater than $500.

We offer the following observation(s) on the claims experience:

- Loss rates have been increasing for the past five years.
- Frequency peaked in 2014, but has since remained at lower levels.

Figure 42: North Carolina Loss Rate

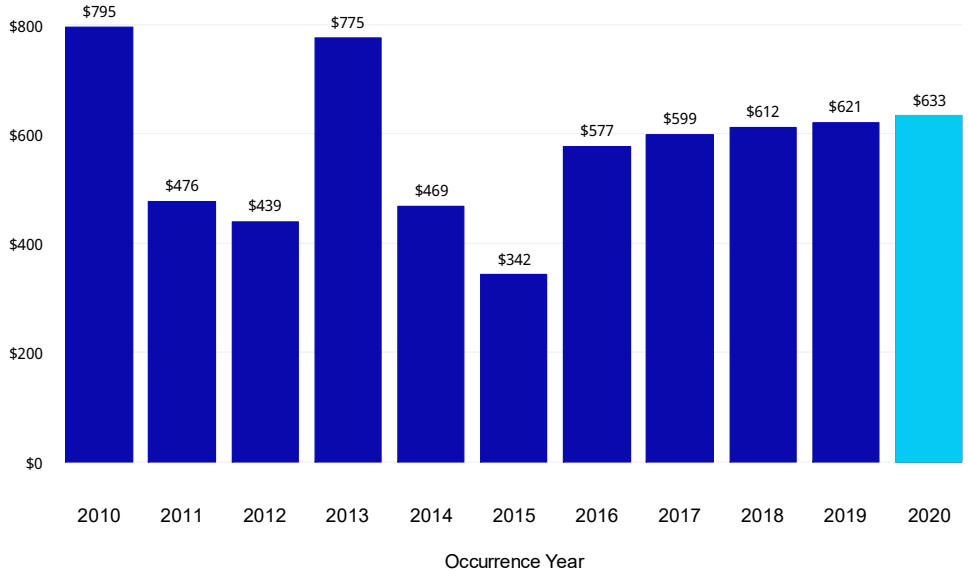


Figure 43: North Carolina Frequency

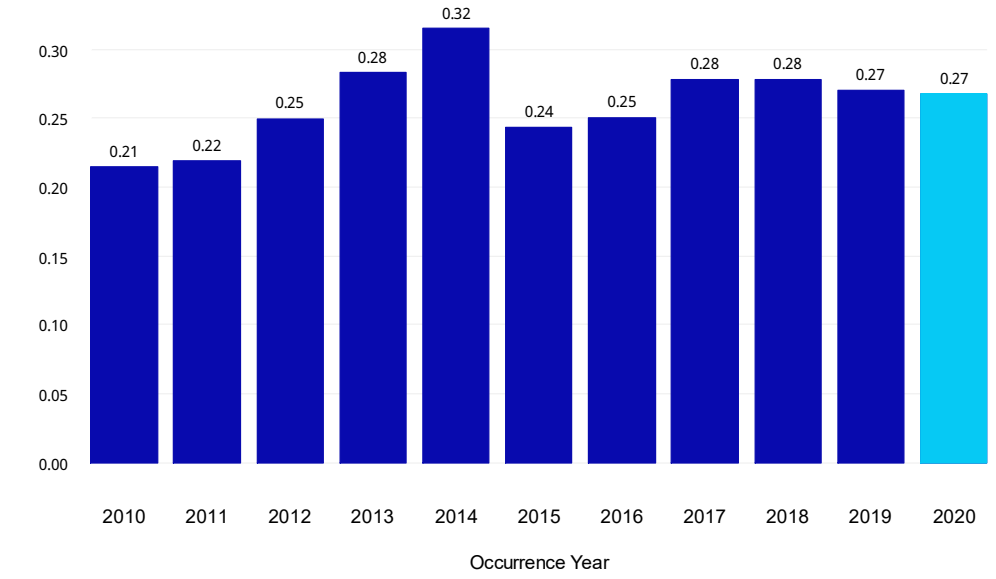
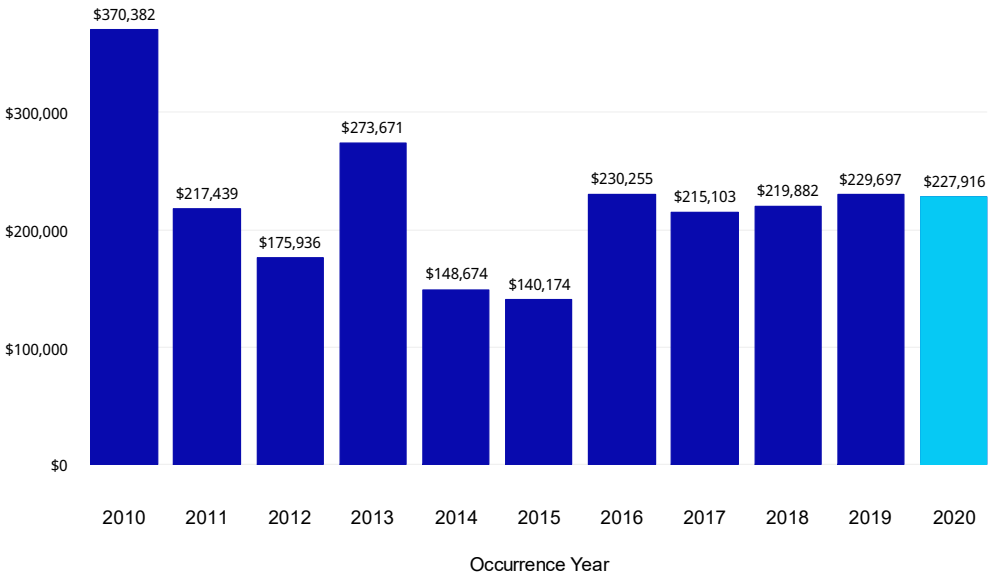


Figure 44: North Carolina Severity



NEW JERSEY

Figure 45 through Figure 47 present the loss rate, frequency, and severity for New Jersey based on more than 460 ultimate estimated claim counts closed with pay greater than $500.

We offer the following observation(s) on the claims experience:

- Loss rates peaked in 2014. After declining in 2015, loss rates have been steadily increasing.

Figure 45: New Jersey Loss Rate

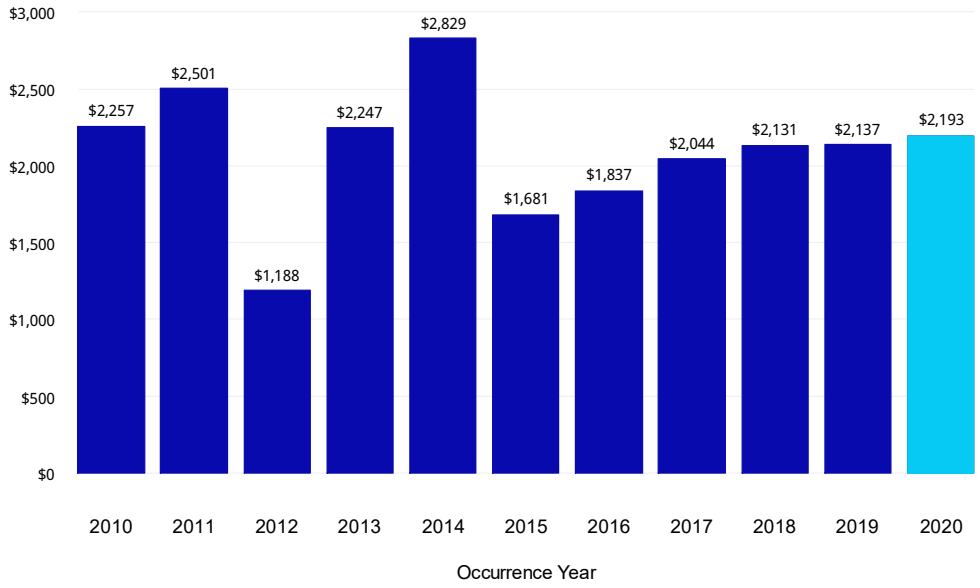


Figure 46: New Jersey Frequency

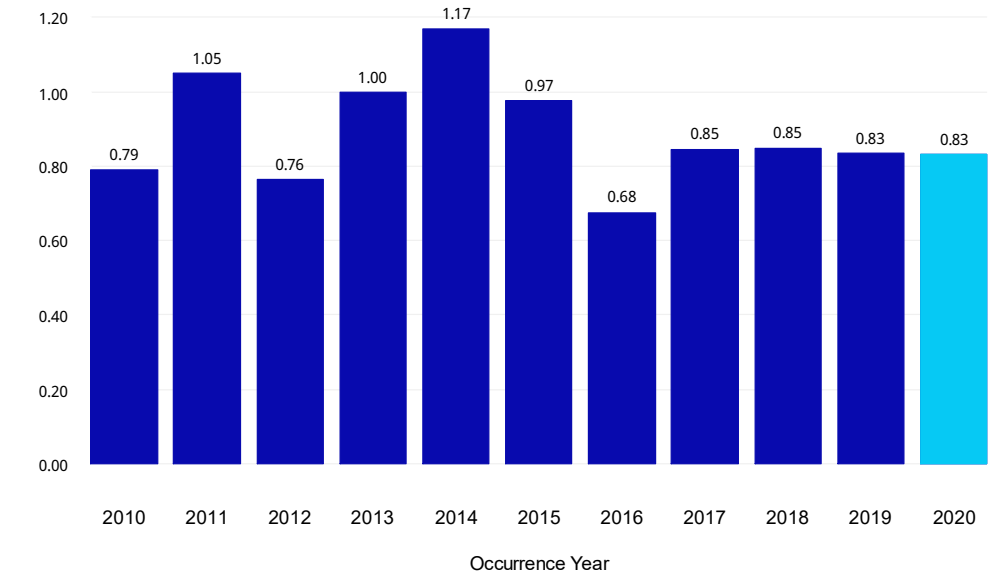
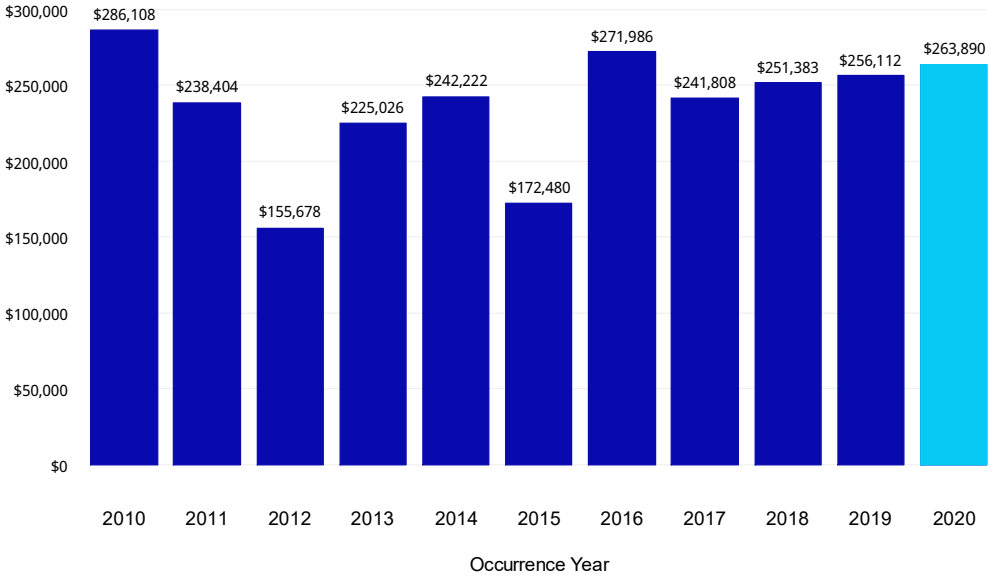


Figure 47: New Jersey Severity



OHIO

Figure 48 through Figure 50 present the loss rate, frequency, and severity for Ohio based on more than 370 ultimate estimated claim counts closed with pay greater than $500.

We offer the following observation(s) on the claims experience:

- The higher loss rate in 2016 is the result of unusually high severity.
- Frequency has remained relatively flat in the past five years.

Figure 48: Ohio Loss Rate

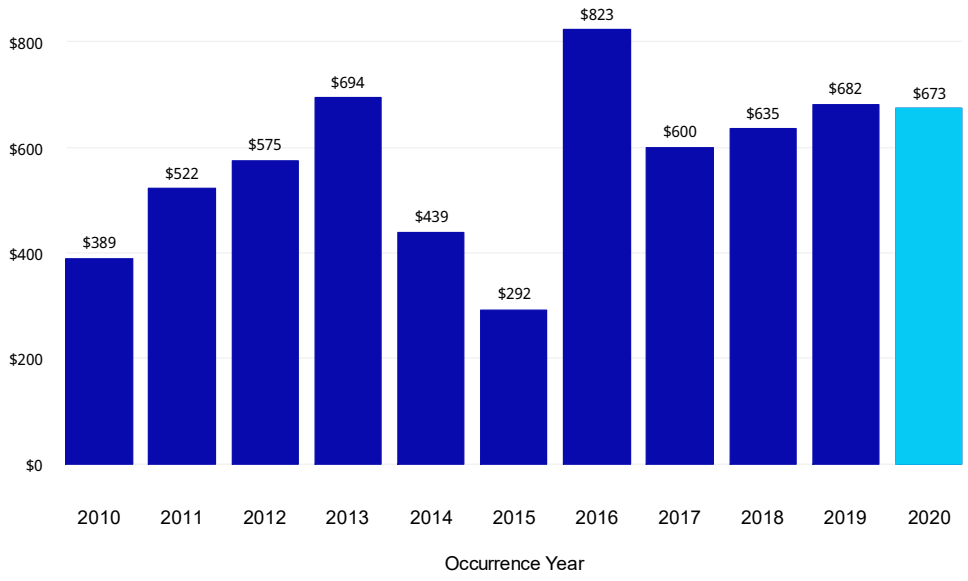


Figure 49: Ohio Frequency

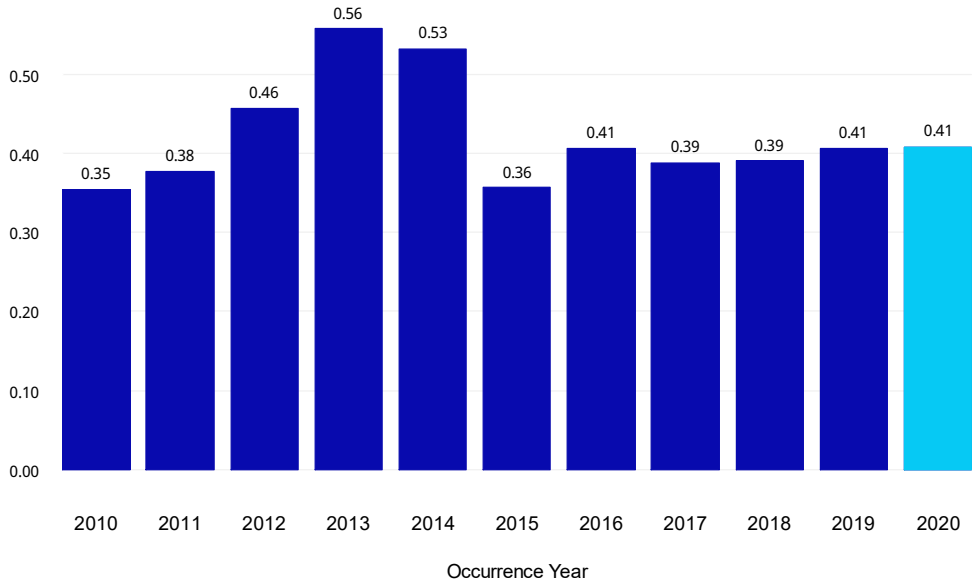
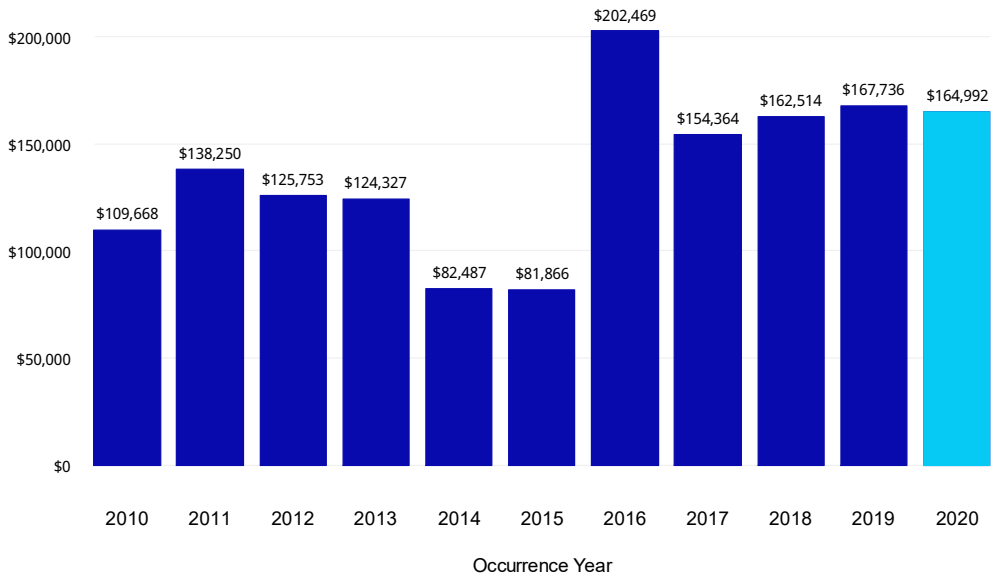


Figure 50: Ohio Severity



PENNSYLVANIA

Figure 51 through Figure 53 present the loss rate, frequency, and severity for Pennsylvania based on more than 1,380 ultimate estimated claim counts closed with pay greater than $500.

We offer the following observation(s) on the claims experience:

- Loss rates have remained relatively flat since 2016 due to stable frequency and severity values for the past five years.

Figure 51: Pennsylvania Loss Rate

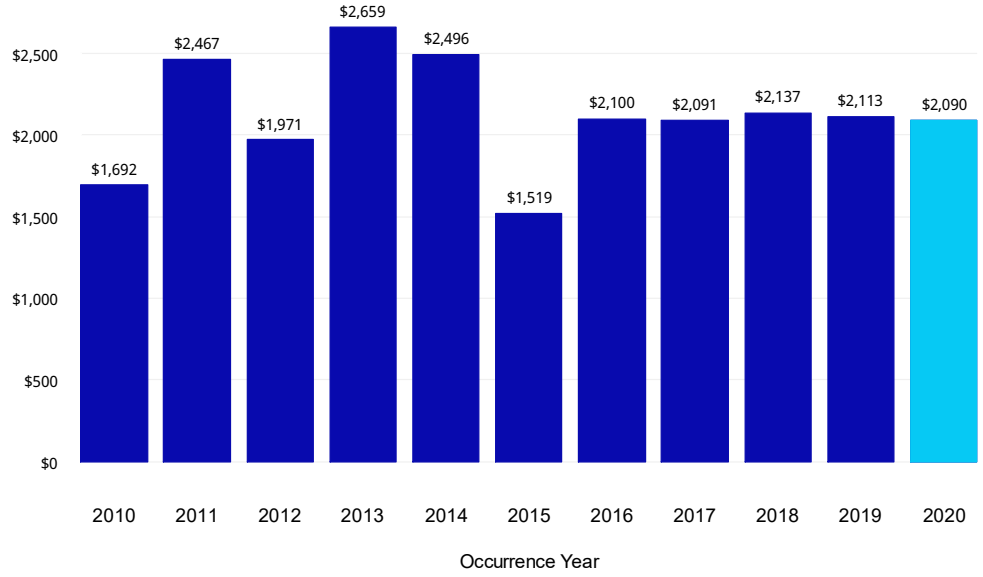


Figure 52: Pennsylvania Frequency

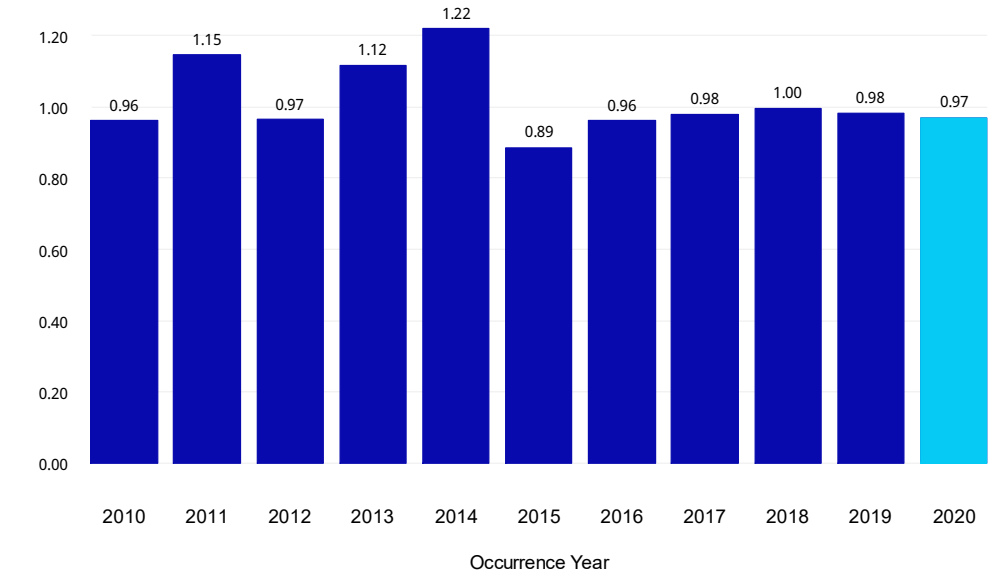
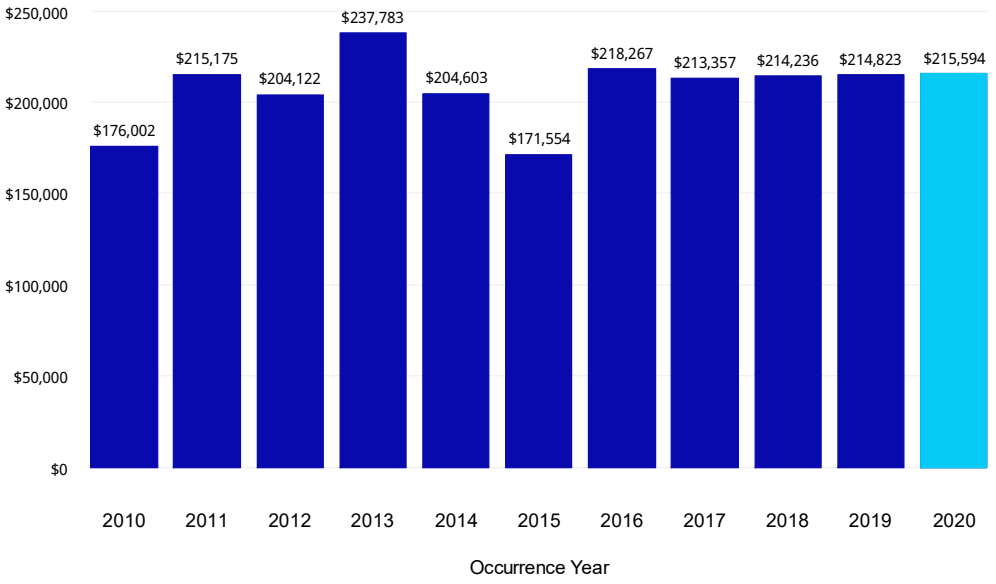


Figure 53: Pennsylvania Severity



SOUTH CAROLINA

Figure 54 through Figure 56 present the loss rate, frequency, and severity for South Carolina based on more than 540 ultimate estimated claim counts closed with pay greater than $500.

We offer the following observation(s) on the claims experience:

- Loss rates have remained relatively flat since 2015 due to stable frequency and severity values for the past five years.

Figure 54: South Carolina Loss Rate

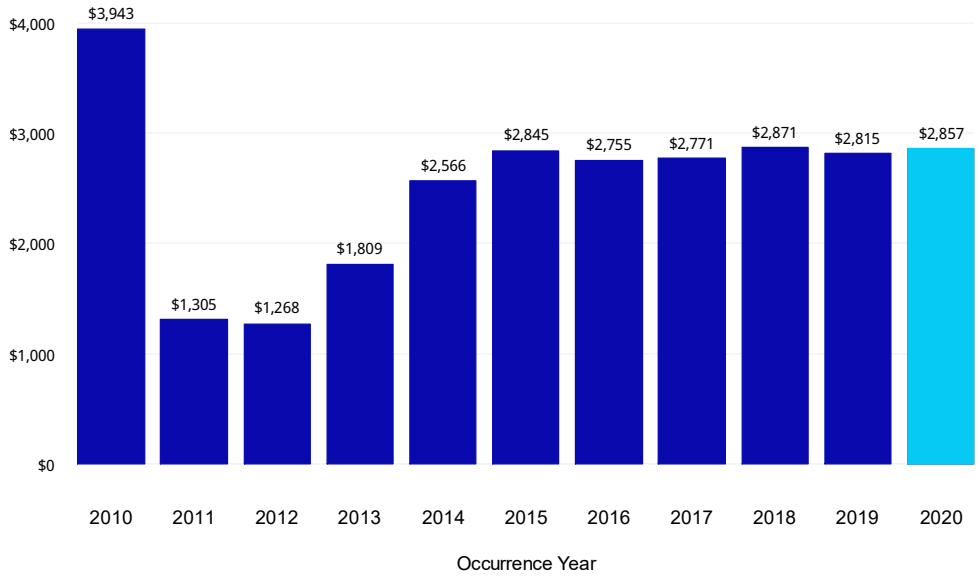


Figure 55: South Carolina Frequency

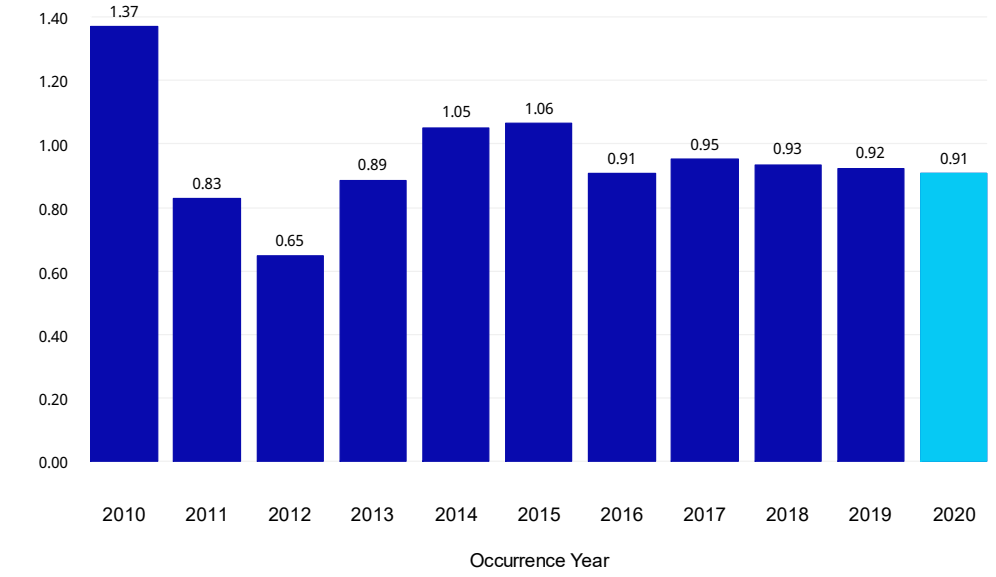
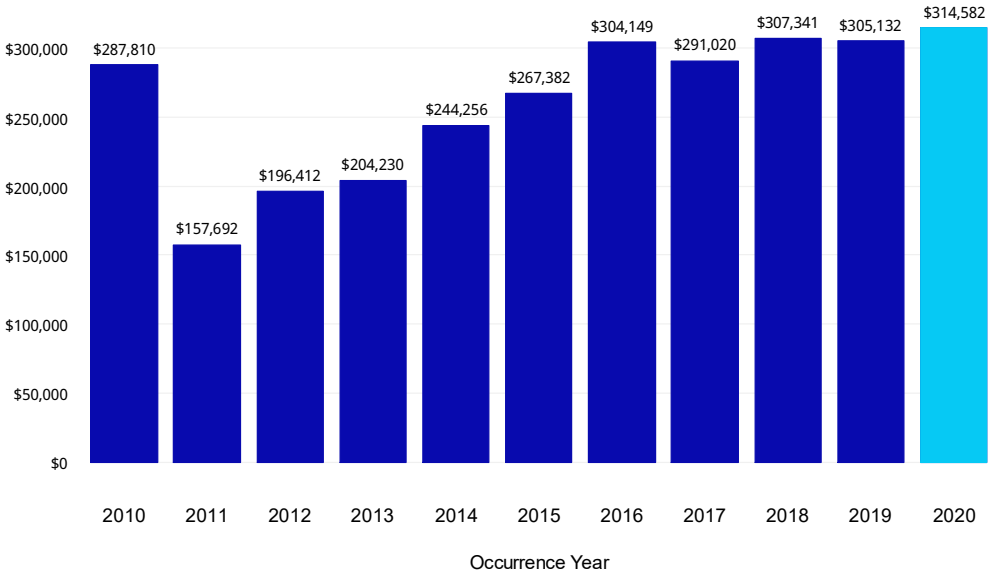


Figure 56: South Carolina Severity



TENNESSEE

Figure 57 through Figure 59 present the loss rate, frequency, and severity for Tennessee based on more than 890 ultimate estimated claim counts closed with pay greater than $500.

We offer the following observation(s) on the claims experience:

- Loss rates peaked in 2013 and 2014, caused mainly by higher severity values.

Figure 57: Tennessee Loss Rate

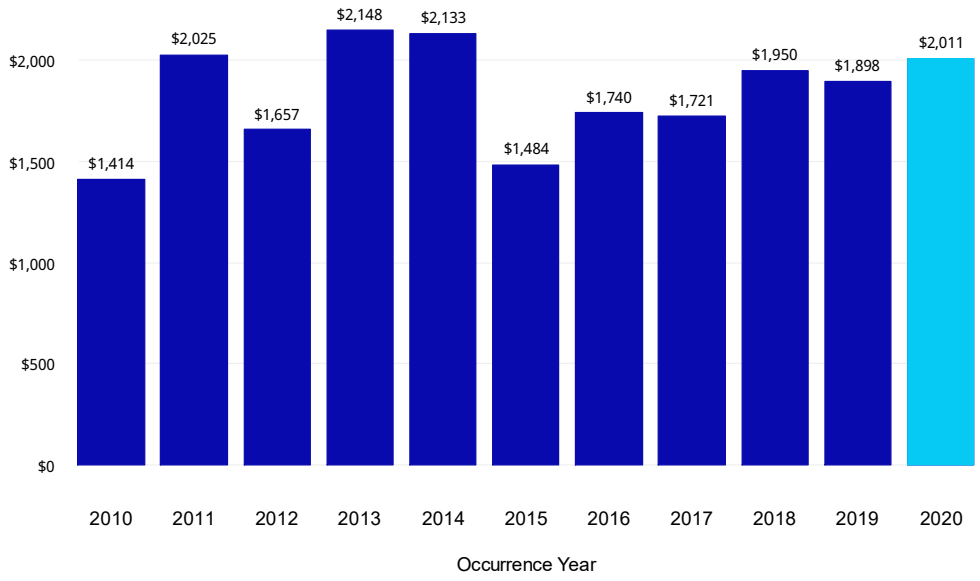


Figure 58: Tennessee Frequency

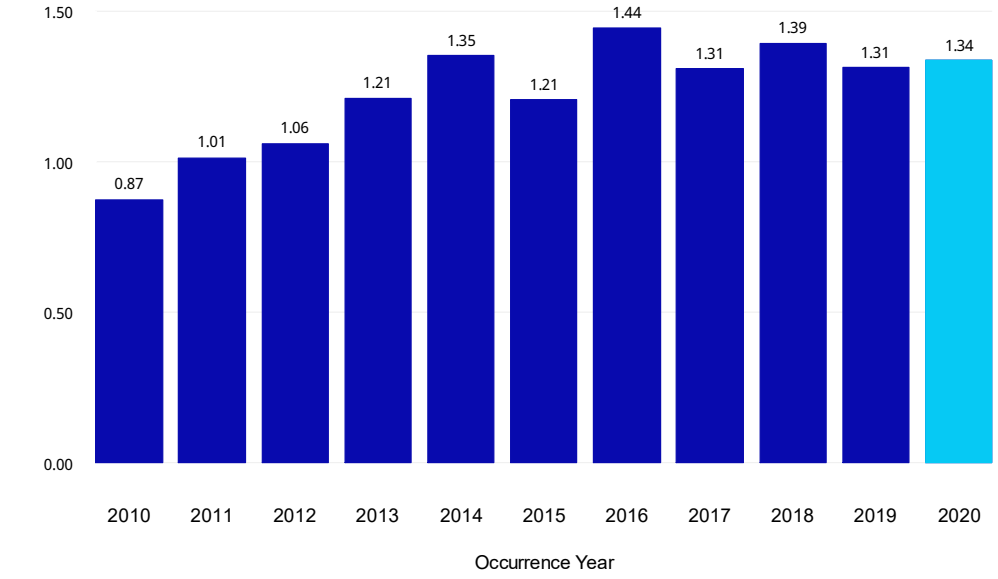
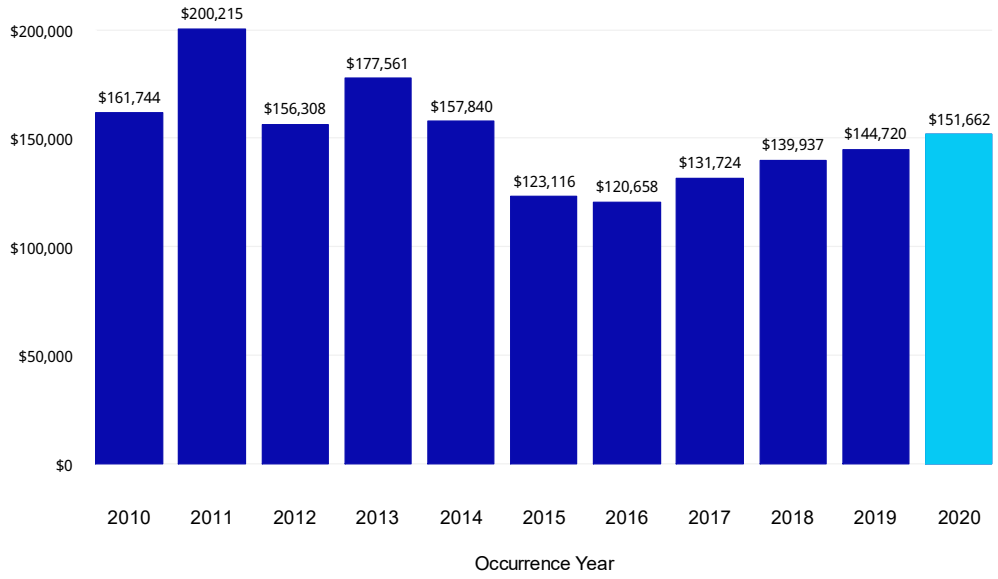


Figure 59: Tennessee Severity



TEXAS

Figure 60 through Figure 62 present the loss rate, frequency, and severity for Texas based on more than 520 ultimate estimated claim counts closed with pay greater than $500.

We offer the following observation(s) on the claims experience:

- Loss rates peaked in 2014 due to a higher frequency, but have remained mostly unchanged since 2015.

Figure 60: Texas Loss Rate

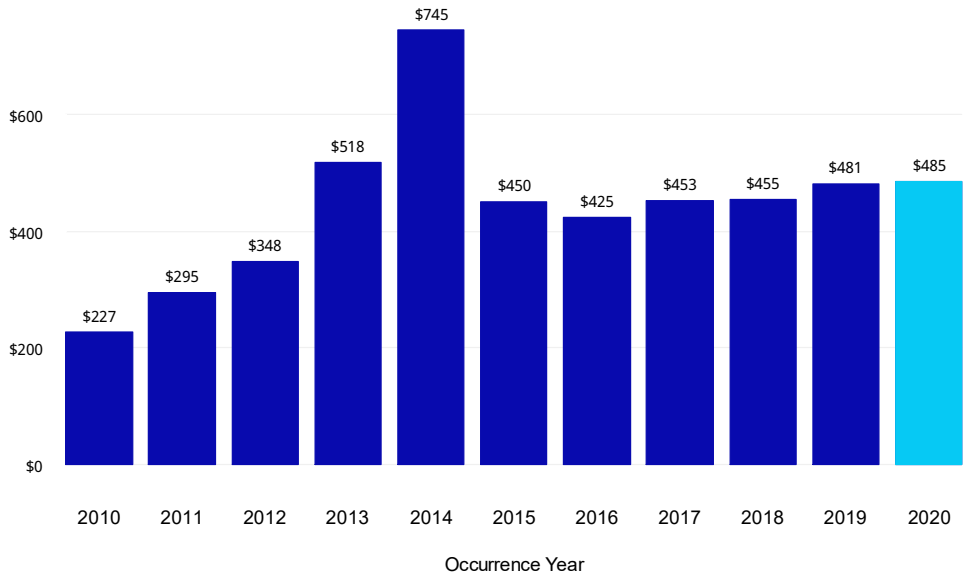


Figure 61: Texas Frequency

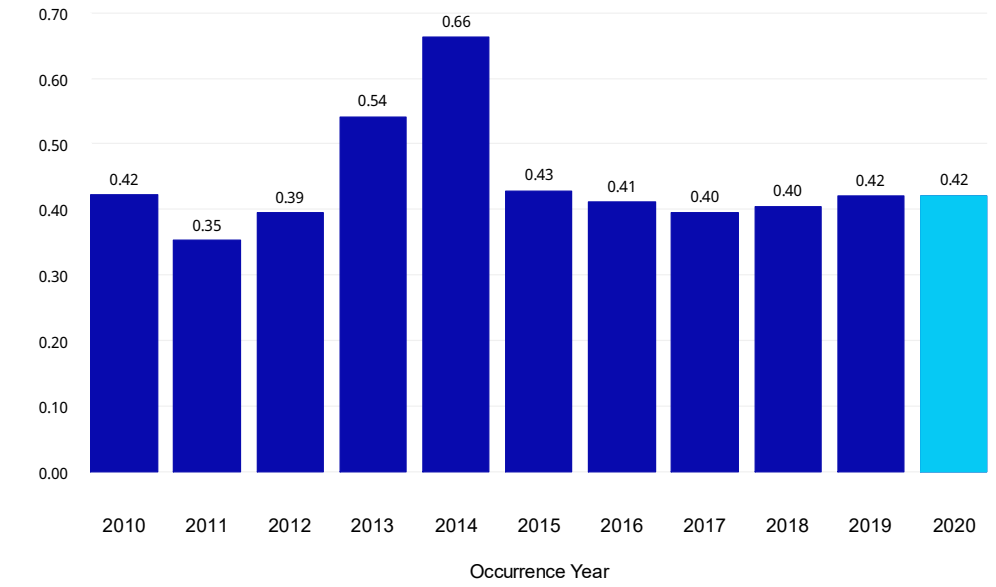
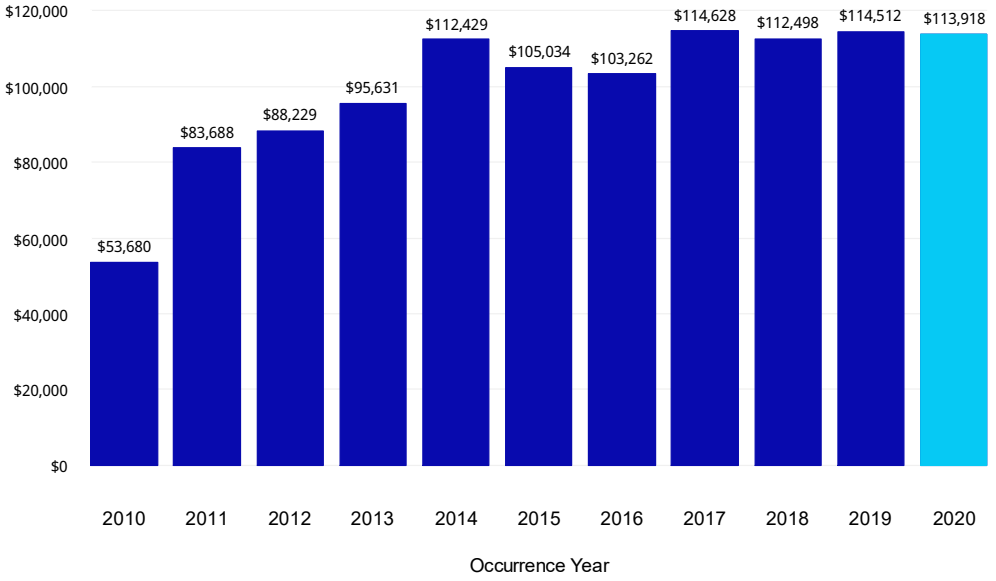


Figure 62: Texas Severity



WEST VIRGINIA

Figure 63 through Figure 65 present the loss rate, frequency, and severity for West Virginia based on more than 900 ultimate estimated claim counts closed with pay greater than $500.

We offer the following observation(s) on the claims experience:

- Loss rates have remained mostly unchanged since 2017, while frequency has been declining since 2015.

Figure 63: West Virginia Loss Rate

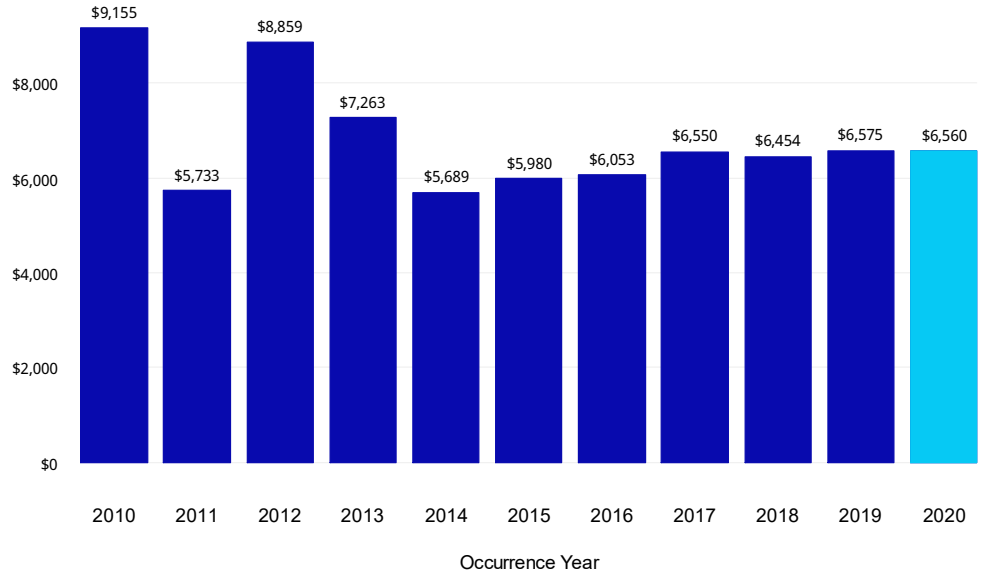


Figure 64: West Virginia Frequency

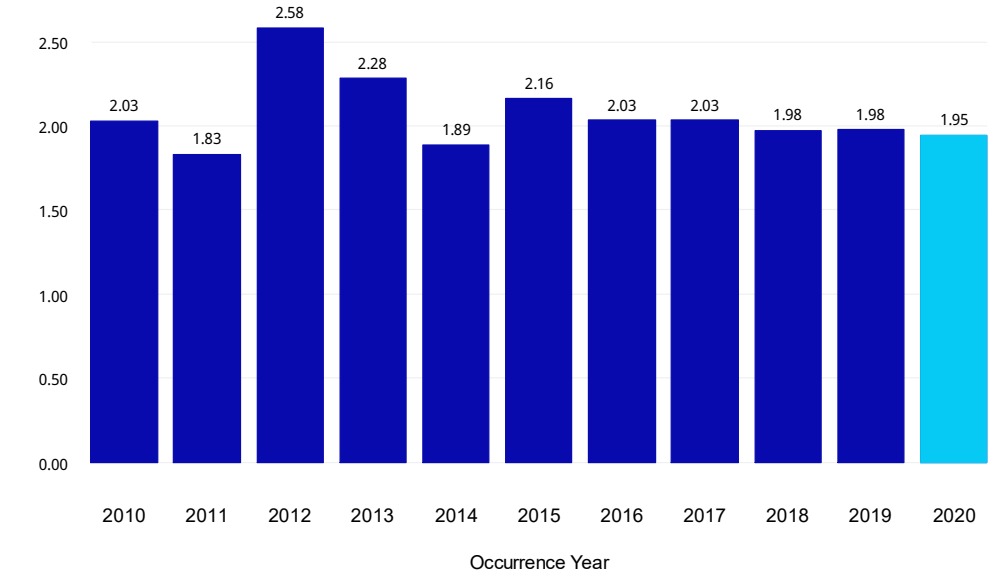
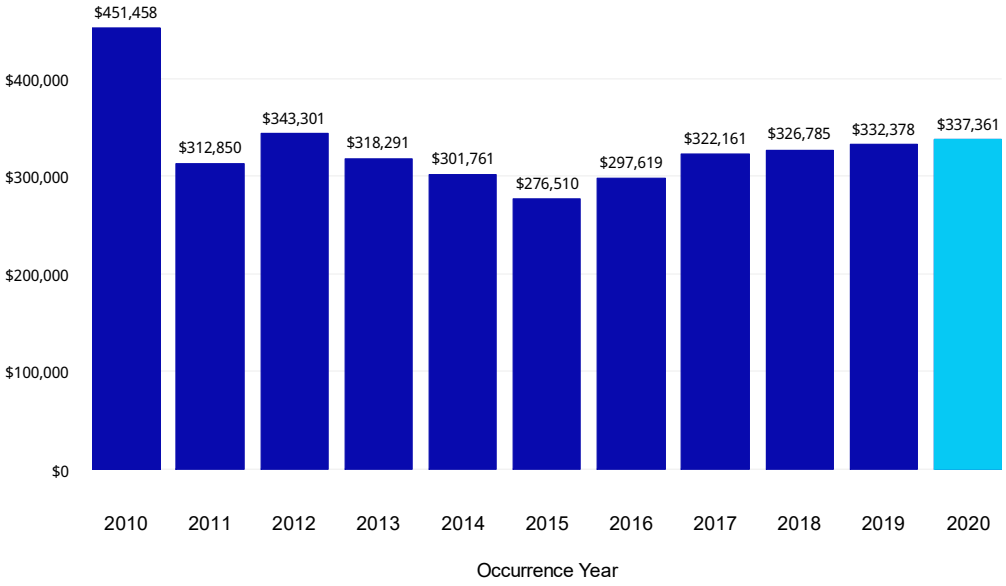


Figure 65: West Virginia Severity



R PACKAGES

In developing the analysis documents in this report, we used R and packages included in the R installation (collectively referred to as Base-R).

Citations for Base-R and other packages used in our review are as follows:

R Core Team (2020). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL https://www.R-project.org/.

C. Dutang, V. Goulet and M. Pigeon (2008). actuar: An R Package for Actuarial Science. Journal of Statistical Software, vol. 25, no. 7, 1-37. URL http://www.jstatsoft.org/v25/i07

Rajesh Sahasrabuddhe (2020). phillyR: Utilities for the Philadelphia P&C practice of Oliver Wyman Actuarial Consulting. R package version 0.1.3.

Hadley Wickham (2019). stringr: Simple, Consistent Wrappers for Common String Operations. R package version 1.4.0. https://CRAN.R-project.org/package=stringr

Oliver Wyman Actuarial Consulting and Bryce Chamberlain (2020). easyr: Helpful Functions from Oliver Wyman Actuarial Consulting. R package version 0.5-2. https://CRAN.R-project.org/package=easyr

Gábor Csárdi and Rich FitzJohn (2019). progress: Terminal Progress Bars. R package version 1.2.2. https://CRAN.R-project.org/package=progress

David Robinson (2020). fuzzyjoin: Join Tables Together on Inexact Matching. R package version 0.1.6. https://CRAN.R-project.org/package=fuzzyjoin

Kirill Müller (2020). here: A Simpler Way to Find Your Files. R package version 1.0.0. https://CRAN.R-project.org/package=here

Garrett Grolemund, Hadley Wickham (2011). Dates and Times Made Easy with lubridate. Journal of Statistical Software, 40(3), 1-25. URL https://www.jstatsoft.org/v40/i03/.

Bryce Chamberlain, et al (2019). owactools: R Codebase for Oliver Wyman Actuarial Consulting.. R package version 1.9.40.

Markus Gesmann, Daniel Murphy, Yanwei (Wayne) Zhang, Alessandro Carrato, Mario Wuthrich, Fabio Concina and Eric Dal Moro (2020). ChainLadder: Statistical Methods and Models for Claims Reserving in General Insurance. R package version 0.2.11. https://CRAN.R-project.org/package=ChainLadder

Hadley Wickham, Romain François, Lionel Henry and Kirill Müller (2020). dplyr: A Grammar of Data Manipulation. R package version 1.0.2. https://CRAN.R-project.org/package=dplyr

Winston Chang, (2014). extrafont: Tools for using fonts. R package version 0.17. https://CRAN.R-project.org/package=extrafont

Dan Murphy (2013). mondate: Keep track of dates in terms of months. R package version 0.10.01.02. https://CRAN.R-project.org/package=mondate

H. Wickham. ggplot2: Elegant Graphics for Data Analysis. Springer-Verlag New York, 2016.

Hadley Wickham and Jennifer Bryan (2019). readxl: Read Excel Files. R package version 1.3.1. https://CRAN.R-project.org/package=readxl

Stefan Milton Bache and Hadley Wickham (2020). magrittr: A Forward-Pipe Operator for R. R package version 2.0.1. https://CRAN.R-project.org/package=magrittr

CONDITIONS AND LIMITATIONS

COVID-19 Pandemic – We have included no explicit adjustments in this report for the effect of the COVID-19 pandemic on loss experience, except as specifically noted in this report. The impact of this event on loss experience is highly uncertain and generally unquantifiable at this time.

Data Verification – For our analysis, we relied on data and information provided by multiple participants without independent audit. Though we have reviewed the data for reasonableness and consistency, we have not audited or otherwise verified these data. Our review of data may not always reveal imperfections. We have assumed that the data provided are both accurate and complete. The results of our analysis are dependent on this assumption. If these data or information are inaccurate or incomplete, our findings and conclusions might therefore be unreliable.

Exclusion of Other Program Costs – The scope of the project does not include the estimation of any costs other than those described herein. Such ancillary costs may include unallocated loss adjustment expenses (ULAE); excess insurance premiums; the costs of trustee, legal, administrative, risk management and actuarial services; fees and assessments; and costs for surety bonds or letters of credit pertaining to claim liabilities.

Rounding and Accuracy – Our models may retain more digits than those displayed. Also, the results of certain calculations may be presented in the exhibits with more or fewer digits than would be considered significant. As a result, there may be rounding differences between the results of calculations presented in the exhibits and replications of those calculations based on displayed underlying amounts. Also, calculation results may not have been adjusted to reflect the precision of the calculation.

Unanticipated Changes – We developed our conclusions based on an analysis of the data provided by multiple participants and on the estimation of the outcome of many contingent events. We developed our estimates from the historical claim experience and covered exposure, with adjustments for anticipated changes. Our estimates make no provision for extraordinary future emergence of new types of losses not sufficiently represented in historical databases or which are not yet quantifiable. Also, we assumed that each participant will remain a going concern, and we have not anticipated any impacts of potential insolvency, bankruptcy, or any similar event.

Internal / External Changes – The sources of uncertainty affecting our estimates are numerous and include factors internal and external to each participant. Internal factors include items such as changes in claim reserving or settlement practices. The most significant external influences include, but are not limited to, changes in the legal, social,

or regulatory environment surrounding the claims process. Uncontrollable factors such as general economic conditions also contribute to the variability.

Uncertainty Inherent in Projections – While this analysis complies with applicable Actuarial Standards of Practice and Statements of Principles, users of this analysis should recognize that our projections involve estimates of future events and are subject to economic and statistical variations from expected values. We have not anticipated any extraordinary changes to the legal, social, or economic environment that might affect the frequency or severity of claims. For these reasons, we do not guarantee that the emergence of actual losses will correspond to the projections in this analysis.

GLOSSARY

Accident Period

The period in which the event giving rise to a claim occurred, regardless of when the claim is reported.

Actuarial Central Estimate

An estimate that represents an expected value over the range of reasonably possible outcomes. Such a range of reasonably possible outcomes may not include all conceivable outcomes.

Allocated Claims Adjustment Expense (ACAE)

Expense costs associated with the handling and settling of an individual claim that can be directly attributed to the particular claim. Fees paid to outside defense attorneys and investigation firms are examples of this expense cost.

Case Reserves

The unpaid claim estimates established by adjusters on an individual claim basis.

Claim

A demand for payment under the coverage provided by a plan or contract. As used throughout this glossary, it also includes suits, potentially compensable events, notifications, and unasserted claims.

Claim Frequency

The number of claims that occur over a period of time per unit of exposure.

Claim Reporting Pattern

The rate at which claims are assumed to be reported over time.

Claim Severity

The average cost per claim.

Claims-Made Insurance Coverage

Insurance coverage for claims reported during the policy period regardless of the date the event occurred (subject to a retroactive date that defines the earliest occurrence date that is covered and other policy terms / conditions).

Claims-Made Period

The period in which the claim arising from an event is considered to be reported under the terms of the claims-made insurance coverage.

Development

The change between valuation dates in the observed values of certain fundamental quantities that may be used in the unpaid claim estimation process.

For example, the number of reported claims associated with events occurring within a particular period will change from one valuation date to the next until all claims have been reported. Similarly, the paid claim amounts for events occurring within a particular period will change from one valuation date to the next until all claims have been reported and closed. The change in the number of reported claims or the change in the paid claim amounts is referred to as development. The concept of development also applies to reported incurred losses.

Estimated Ultimate Claims

The estimated cost of claims during a period. Ultimate incurred claims represent the total of paid claim amounts, case reserves, and IBNR.

Exposure

A measure of the underlying potential for claim costs.

IBNR

The unpaid claim estimate for: (a) events that have occurred for which claims have not been reported as of the accounting date, (b) future development of the case reserves, (c) claims that have been reported but not yet recorded in the loss listing, and (d) claims that have been closed but that will be reopened.

Occurrence Insurance Coverage

A policy that provides coverage for all claims arising from events that occur during the policy period, no matter when they are reported.

Occurrence Period

The period in which the event giving rise to a claim occurred, regardless of when the claim is reported.

Paid Claims

The total aggregate dollar amount paid on all reported claims as of a certain date.

Payment Pattern

The rate at which claims are paid over time.

Recorded Claim Reserve or Liability

The provision for unpaid claim amounts shown in a published financial statement or in an internal statement of financial condition.

Report Date

The date on which the claim is reported or recorded (in practice, it is often taken to be the recorded date).

Report Period

The period in which a claim is reported, regardless of the time period in which the event occurred.

Reported Incurred Claims Amount

The total of paid claim amounts and case reserves.

Subrogation

Recoveries from a third party responsible for the event for which a claim has already been paid.

Tail or Unreported Claims Estimate

The unpaid claims estimate for events that have occurred for which claims have not been reported as of the accounting date.

Unallocated Claims Adjustment Expense (UCAE)

Claim adjustment expenses that cannot be attributed to an individual claim. Typically includes salaries, utilities, and rent apportioned to the claim adjustment expense function but not readily assignable to specific claims.

Valuation Date

The date through which transactions are included in the data used in the unpaid claims estimate analysis. The valuation date for this review is December 31, 2019.

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Compliance Number: MA21-16060