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ACTUARIAL ANALYSIS OF WORKERS' COMPENSATION UNPAID LOSSES & ALAE AS OF JUNE 30, 2021

CITY OF CHANDLER

September 29, 2021

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1. EXECUTIVE SUMMARY

Purpose and Scope

Oliver Wyman Actuarial Consulting, Inc. (Oliver Wyman) has been retained by the City of Chandler (the City) to provide actuarial consulting services. The purpose of this analysis is to estimate unpaid losses and allocated loss adjustment expense (ALAE) as well as claim cost projections for the City's workers' compensation (WC) exposures. The conclusions in this study are related to its stated purpose and may not be applicable for other purposes.

The analysis provides the following:

- Unpaid losses and ALAE as of June 30, 2021 for claims incurred through that same date.
- Projected ultimate losses and ALAE for policy period July 1, 2021-22.
- Estimates of the 70%, 80% and 90% probability levels of the unpaid losses and ALAE as well as the projected ultimate losses as of June 30, 2021.

The estimates are based on data evaluated as of June 30, 2021 and additional information provided to Oliver Wyman (and only that information provided) through September 29, 2021.

The estimates are prepared on a nominal basis only; that is, there is no consideration of the time value of money.

Estimates are presented as actuarial central estimates. An actuarial central estimate is defined as an expected value over the range of reasonably possible, as opposed to all conceivable, outcomes.

Additionally, estimates are provided at the 70%, 80% and 90% probability levels, meaning the estimates include a margin for potential adverse development over the long term average. These estimates represent the amount for which there is a 70%, 80% or 90% chance that the actual unpaid losses and ALAE or projected ultimate losses and ALAE will be less than or equal to this value.

Unless otherwise stated, all references to loss should be understood to include ALAE and be net of salvage and subrogation. Please note that ALAE is an insurance industry term which generally refers to costs that can be attributed to the settlement of individual claims. Fees paid to outside defense attorneys and medical management costs represent a major portion of this expense item. Also, please note that the terms unpaid losses, reserves and liabilities are used interchangeably throughout this report.

The scope of this project did not include the estimation of any expenses other than ALAE that are sometimes associated with insurance programs. Such expenses include unallocated loss adjustment expense (ULAE), reinsurance premiums, the costs of trustee, legal, administrative, risk management and actuarial services, taxes, fees and assessments, and costs for surety bonds or letters of credit pertaining to outstanding liabilities or capital requirements. ULAE is the insurance industry term generally used to refer to any claims-handling costs that cannot be attributed to individual claims. Fees paid to third party administrators (TPAs) and salaries paid to in-house claim adjusters and in-house defense attorneys represent examples of this type of expense.

This report sets forth the results of Oliver Wyman's analysis and is accompanied by exhibits which should be considered integral parts of this report.

Actuarial Findings

Table 1 below summarizes the nominal unpaid losses & ALAE, at the appropriate self-insured retention (SIR) levels as of June 30, 2021. Estimates are presented both at an actuarial central estimate and the 70%, 80% and 90% probability levels.

Table 1: **Estimated Unpaid Losses & ALAE**

Evaluation Date	Actuarial Central Estimate	Probability Levels		
		70th	80th	90th
As of June 30, 2021	10,458,761	11,975,281	13,878,776	17,016,404
As of June 30, 2020	8,795,715	10,079,889	11,707,097	14,416,177
Change	*1,663,046*	*1,895,392*	*2,171,679*	*2,600,227*

The estimate of approximately $10.5 million as of June 30, 2021 represents an increase of approximately $1.7 million since the actuarial analysis performed as of June 30, 2020. The increase is driven by the inclusion of the experience in policy year 7/1/20 – 6/30/21, which already has seven claims above the $75,000 incurred threshold, including claim number CN-21-005148, which has approximately $1.1 million in case reserves and is one of three police officer COVID claims the City has seen with incurred amounts over $75,000. Total incurred to date for this policy year, approximately $2.6 million, has already surpassed our initial projected ultimate loss for the period and is notably higher than the incurred values of prior policy years 12 months from inception.

Projected Ultimate Losses and ALAE

The nominal losses and ALAE expected to be incurred during policy period 7/1/21– 6/30/22 by the City, with a self-insured retention of $3.0 million for police and fire employees and $1.0 million for all other employees, are as shown in Table 2 below.

Table 2: Projected Ultimate Losses and ALAE for Policy Period 21/22

Self-Insured Retention	Actuarial Central Estimate	Probability Levels		
		70th	80th	90th
1M / 3M	2,700,000	3,096,900	3,626,100	4,514,400

This forecast is based on Oliver Wyman's estimated loss costs (losses per unit of exposure) and the City's forecasted exposures. It should be noted that since the projected losses and ALAE are directly related to the forecasted exposures, if actual exposures differ from the forecast, the projected losses and ALAE should be adjusted accordingly.

Relevant Comments

Unpaid losses and ALAE are composed of claims examiners' estimates and IBNR amounts. The claims examiners' estimates are established by individual claim adjusters on open claims. Claims examiners' estimates are based on the facts of a claim as they are known today; these estimates do not anticipate that a claim will change. The IBNR amounts are estimated by Oliver Wyman and include amounts for late reported and re-opened claims as well as development on known open claims. The fact that Oliver Wyman's IBNR amounts include a provision for development on known claims does not necessarily imply that there is a problem with the claim examiner estimates. The tendency is that, in aggregate, damages or injuries are worse than originally thought. Thus, an adequate provision for unpaid losses and ALAE should include a provision for upward development. Please note that Oliver Wyman's IBNR amounts are appropriate for all historical policy periods in aggregate but not necessarily for any one particular policy period.

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2. BACKGROUND

Founded on May 17, 1912, the City of Chandler is located in the Greater Phoenix Valley of Arizona, located 20 miles from the Phoenix Sky Harbor Airport.

The City began self-insuring its Workers' Compensation exposures on July 1, 2002 and has maintained a self-insured retention since inception. Prior to that date, the City's Workers' Compensation liabilities were covered through a guaranteed cost program.

The City's self-insured retentions since July 1, 2002 are as displayed below. All self-insured retentions are assumed to be on a per occurrence basis and eroded by loss and ALAE.

Policy Years	Self-Insured Retention	
	Police / Fire	All Other
7/1/02-03 to 7/1/11-12	500,000	
7/1/12-13 to 7/1/14-15	600,000	
7/1/15-16 to 7/1/17-18	1,000,000	600,000
7/1/18-19 to 7/1/19-20	1,250,000	600,000
7/1/20-21	2,250,000	750,000
7/1/21-22	3,000,000	1,000,000

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3. DATA

For this study, Oliver Wyman relied on the accuracy and completeness of data and information provided by the City without independent audit. This actuarial analysis is based upon the review of this data and also insurance industry data, along with practical knowledge and training in actuarial theory, which together enable us to interpret the results of calculations. Throughout the process, the data played an important role. The accuracy and validity of the actuarial analysis are dependent on, among other things, the quality of the data used. If the underlying data are inaccurate or incomplete, the results of Oliver Wyman's analysis may likewise be inaccurate or incomplete.

Oliver Wyman has attempted to review the data used directly in this analysis for the purpose of identifying values that are questionable or relationships that are materially inconsistent. In cases where the data are incomplete, inaccurate, or not as appropriate as desired, Oliver Wyman has considered whether the use of such data may produce material biases in the results of this study, or whether the data are so inadequate that the data cannot be used to satisfy the purpose of this study.

Oliver Wyman has not, however, audited or verified this data since this is beyond the scope of the assignment. Also, it should be noted that Oliver Wyman's review of data may not always reveal imperfections and that there may be situations where it is impossible or impracticable to perform a sufficient review of the data. Neither has Oliver Wyman examined any insurance contracts covering the years applicable to this analysis.

Specifically, the data relied upon are as follows:

- Historical ground-up and unlimited detailed claims listings as June 30, 2021 provided by the City
- Historical estimated and audited (where applicable) payrolls by period provided by the City
- Oliver Wyman's prior study *Actuarial Analysis of Workers' Compensation Unpaid Loss and ALAE as of June 30, 2020* dated September 29, 2020
- Industry loss development factors, increased limit factors and benefit level changes from the 2019 and 2020 Annual Statistical Bulletins published by National Council on Compensation Insurance (NCCI)

4. METHODOLOGY

The estimates in this report are developed in accordance with of the Casualty Actuarial Society and the applicable standards of the American Academy of Actuaries. Below is a discussion of the details underlying the actuarial methodologies and assumptions used by Oliver Wyman in the analysis. Oliver Wyman's projections for the City assumed that the patterns observed in historical policy periods will be applicable to future policy periods.

Oliver Wyman first selected ultimate losses limited to $75,000, which provides a more stable base for projections than the City's historical SIRs (or losses at statutory limits). Oliver Wyman then used the City's data supplemented with insurance industry data to bring the $75,000 limit estimates to the actual SIR by policy period.

To develop the estimates of limited ultimate losses, Oliver Wyman applied the following generally accepted actuarial techniques.

- Paid loss development method
- Incurred loss development method
- Paid Bornhuetter-Ferguson method
- Incurred Bornhuetter-Ferguson method
- Frequency / severity method
- Loss cost method

The following describes these methods in more detail:

Loss Development Method

This method involves estimating how losses will develop in the future. Historical patterns are identified by creating a loss triangle. The triangle presents paid or incurred losses over time at successive 12-month valuations. The triangle reveals how paid or incurred losses have changed over time. From this historical loss development experience, loss development factors (LDFs) are selected to represent Oliver Wyman's expectations of future loss development. If the Company's exposure is small and there is not enough historical data to determine its own patterns, or if the Company's own patterns are volatile, then insurance industry data may be used to help select appropriate loss development factors.

An accumulation of the selected LDFs provides a means of estimating how losses will develop up to the time that all losses have been settled. The calculated accumulated LDFs are applied directly to the latest paid or incurred losses to project ultimate losses.

An advantage of the paid loss development method is that its predictive accuracy is independent of case reserving practices and philosophies.

The advantages of the incurred loss development method are that incurred losses provide a larger statistical database than paid losses (since claims examiners' estimates are used in addition to payments) and that incurred losses provide more current information (since payments lag behind the establishment of claims examiners' estimates).

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Bornhuetter-Ferguson Method

The Bornhuetter-Ferguson (B-F) method is a blending of the results of the loss development method with an *a priori* expectation of ultimate losses. Expected unpaid or unreported losses are added to cumulative paid or incurred losses to derive an estimate of ultimate losses. Expected unpaid or unreported losses are derived by applying the portion of ultimate losses that are estimated to be unpaid or unreported to the expected ultimate losses.

Please note that the preliminary ultimate losses are selected based on the loss development methods and the loss cost method (described below) for the more recent years. The loss development factors are the same as those used in the loss development method.

An advantage of the B-F method is that estimates of ultimate losses tend to be more stable than the usual loss development method. This is because estimates based on the B-F method are generally a weighted average between the estimate based on a loss development methodology and the preliminary estimates of ultimate losses.

Frequency / Severity Method

Under the frequency / severity method, the ultimate loss for each policy period is the product of the selected ultimate severity (i.e., average cost per claim) multiplied by the ultimate number of reported claims. The preliminary ultimate losses are based on the loss development methods.

The ultimate severity for the most recent policy period is judgmentally selected based on the historical severities trended to the current period's cost level. The ultimate severity for prior policy periods equals the selected current severity, detrended to the appropriate cost level.

Loss Cost Method

Under the loss cost method, an ultimate loss cost is judgmentally selected and multiplied by the exposure to obtain the ultimate loss estimate. Loss cost equals ultimate losses divided by exposure. Ultimate loss costs are judgmentally selected based on the City's historical loss cost, adjusted for inflation. The preliminary losses are based on the loss development methods.

This method can be useful for estimating ultimate losses for the most recent and for future policy periods. The advantages of using a loss cost method for the more recent policy periods are that it accounts for changes in exposure and is less affected by changes in closing and reserving practices than are the incurred and paid development methods.

Estimated Ultimate Number of Claims

Similar to the paid and incurred loss development factors, reported claim count development factors are calculated based on historical claims triangles created from the City's own experience. The selected count development factors are applied to the City's reported counts to determine an estimate of the ultimate number of claims.

A second estimate of the ultimate number of claims is developed based on a combination of the frequency and B–F methods. Oliver Wyman first trends the above-estimated ultimate counts by using a judgmentally

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selected frequency trend. Using the selected count development factors, the percentage of unreported claim counts is determined. Lastly, these unreported counts are then added to the reported counts to date to create a second estimate of ultimate number of claims. Oliver Wyman then judgmentally selects the ultimate number of claims based on the two estimates.

Estimated Unpaid Losses and ALAE at Retained Limits

To develop the estimates of retained ultimate losses, Oliver Wyman applied three generally accepted actuarial techniques: the Increased Limit Factor (ILF) Method, the LDF method, and the Excess Method.

In the ILF Method, Oliver Wyman used the City's data supplemented with insurance industry data to create ILFs, which is a ratio of expected losses at higher limits to expected losses the selected limit of $75,000. These selected ILFs were multiplied by the $75,000 limited ultimate loss estimates to bring these estimates to the actual SIR by policy period. This method can be useful for estimating ultimate losses for policy periods with a larger unknown. Typically, this is most useful for more recent or future policy periods and for policy periods with a significantly high SIR, where actual losses have not yet had time to develop into that layer.

In the LDF Method, Oliver Wyman used internal data to adjust the selected limited loss development factors to reflect the incurred loss development pattern appropriate for the actual retention limit by policy period. These LDFs were then applied to the retained incurred losses. This method is useful when it is appropriate to assume that historical development patterns are representative of future development patterns, regardless of what has been reported so far in a given policy period.

In the Excess Method, Oliver Wyman used the aforementioned ILFs, LDFs at the $75,000 limits, and LDFs at the actual retention limit to calculate an estimate of IBNR excess of the $75,000 limit. This amount was then added to the limited ultimate losses and the excess incurred losses to estimate ultimate losses at the actual retention limit. This method is a blend of the ILF and LDF methods.

To estimate the unpaid losses at the City's retention limits, Oliver Wyman selected ultimate losses at the City's retention limits based on the three methods described above, and then subtracted the City's actual payments at the retention limits.

Estimates of Reserves at Various Probability Levels

Oliver Wyman provides estimates of loss and ALAE reserves as of June 30, 2021 at the actuarial central estimate and at various probability levels. A compound Poisson model was developed to gauge the volatility of potential losses. The parameters for the stochastic model were determined based on Oliver Wyman's analysis of the claim detail.

Oliver Wyman has assumed the loss and ALAE reserves follow a lognormal distribution with a coefficient of variation (CV) of 50%. The frequency and severity for the lognormal distribution were estimated based on the number of open and IBNR claims and based on the CV of the City's loss experience, respectively. Oliver Wyman has judgmentally introduced a variable to calculate any additional parameter risk involved.

These calculations assume Oliver Wyman has correctly measured the parameters of the model and do not include estimates of the additional variation which will be caused by misestimating the expected number of claims and the average claim cost.

Projection of Ultimate Losses and ALAE for Future Policy Periods

To project future losses at the SIR (assuming SIR remains unchanged in the upcoming period), Oliver Wyman adjusted historical ultimate losses limited to $75,000 to the projected cost and benefit levels and adjusted historical ultimate claim counts to the projected frequency levels.

Using the loss cost method, Oliver Wyman selected a projected loss cost, the result of which was multiplied by projected payroll. The results are estimated ultimate loss and ALAE, limited to $75,000, for calendar accident period 7/1/2021 – 6/30/2022. Using the frequency/severity method, Oliver Wyman selected a projected frequency and severity. The selected frequency was multiplied by projected payroll to arrive at an estimate of projected ultimate claim counts, which was then multiplied by the selected severity to arrive at a second indication of the estimate ultimate loss and ALAE, limited to $75,000, for calendar period 7/1/2021 – 6/30/2022. Oliver Wyman then judgmentally selects a projected ultimate loss and ALAE, limited to $75,000, based on these two indications and shows the resulting selected limited forecasted loss cost, limited to $75,000.

This selected limited forecasted loss cost was then multiplied by the projected payroll and an increased limit factor to bring the estimate up to the SIR.

5. DISTRIBUTION AND USE

Usage and Responsibility of Client – Oliver Wyman prepared this report for the sole use of the client named herein for the stated purpose. This report includes important considerations, assumptions, and limitations and, as a result, is intended to be read and used only as a whole. This report may not be separated into, or distributed, in parts other than by the client to whom this report was issued, as needed, in the case of distribution to such client's directors, officers, or employees. All decisions in connection with the implementation or use of advice or recommendations contained in this report are the sole responsibility of the client named herein.

Third Party Reliance and Due Diligence – Oliver Wyman's consent to any distribution of this report (whether herein or in the written agreement pursuant to which we issued this report) to parties other than of the client named herein does not constitute advice by Oliver Wyman to any such third parties. Any distribution to third parties shall be solely for informational purposes and not for purposes of reliance by any such parties. Oliver Wyman assumes no liability related to third party use of this report or any actions taken or decisions made as a consequence of the results, advice or recommendations set forth herein. This report should not replace the due diligence on behalf of any such third party.

6. CONSIDERATIONS AND LIMITATIONS

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

Prospective Policy / Accident Period Estimates – We estimated the prospective policy/accident period estimates developed in this analysis using estimated loss costs and the projected exposures. Prospective period loss and ALAE estimates are directly related to the projected exposures. Therefore, if actual exposures differ from the projection, we would need to adjust the prospective policy/accident period estimates accordingly.

Supplemental Data – Where historical data of the client named herein was either (i) not available, (ii) not appropriate or (iii) not sufficiently credible to develop our actuarial assumptions, we supplemented it with external information, as we deemed appropriate. Although we believe these external sources may be more predictive of future experience of the client named herein than any other data of which we are aware, the use of external data adds to the uncertainty associated with our projections.

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.

Assumption of Valid Insurance / Reinsurance – We assumed that all insurance/reinsurance is valid and fully collectible. We made no assessment, and do not express any opinion, concerning the viability or collectability of any insurance or reinsurance. We have not evaluated the financial strength, claims-paying ability or any other factors with regard to the past, current, and prospective insurers/reinsurers of the client named herein.

Funding of Claim Payments – We have not examined any assets that may be supporting the liabilities, and have made no assumptions regarding the maturities and liquidity of these assets, should they exist. This examination is beyond the scope of our review.

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 of the client named herein 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

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the client named herein 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 the client named herein. 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, 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.

Probability Levels – We have calculated estimates of the statistical uncertainty associated with the process risk inherent in our estimates. However, unless otherwise indicated, our probability level estimates do not address parameter or model risk. To the extent that the probability estimates do not address parameter risk or model risk, the true variability of results is greater than the range of outcomes presented. The client named herein may wish to consider this additional uncertainty in evaluating the estimates presented in this report.

Obamacare - The Patient Protection and Affordable Care Act (PPACA or "Obamacare") was signed into law in 2010 with the goals of increasing coverage, affordability, quality, and efficiency of the current health care system. Provisions to accomplish these intended goals were implemented in phases, with some provisions taking effect in 2014 and beyond. Our estimates do not account for any potential impact, including potential future revisions or repeal/replacement, the PPACA will have on any lines of business included in this analysis.

Workers' Compensation - The Medicare, Medicaid and SCHIP Extension Act of 2007 (the Act) was enacted in part to ensure that Medicare does not pay medical benefits for beneficiaries whose medical treatments arise out of a liability or work-related accident. While Medicare has always been a secondary payer of these benefits, Medicare's rights to reimbursement have not been frequently exercised in the past. New reporting requirements under the Act enable Medicare to enforce its liens against primary payers and effectuate the reimbursement process. The ability of liability and workers compensation insurers to procure full and final medical settlements may be diminished under this Act. The passage of this Act increases the uncertainty in any estimate of unpaid losses and we have not attempted to quantify the impact of this Act.

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.

The potential impact of the COVID-19 pandemic on workers compensation experience is highly uncertain. The unprecedented nature of the pandemic, the numerous potential impacts on claims experience, and the uncertainty associated with activities and actions intended to temper the impact (such as client-specific actions or more general governmental interventions) increase the uncertainty underlying the estimates contained in this report. There are numerous known and unknown potential impacts. We describe several of these uncertainties below:

- **Compensability of COVID-19 Claims** Businesses may incur workers compensation claims due to employees becoming infected with COVID-19. However, claims directly related to COVID-19 may or may not be determined compensable as an occupational disease, depending on statutes, regulations, and court interpretations specific to an individual jurisdiction.
  - Some jurisdictions have different standards for different diseases.
  - Some jurisdictions exclude ordinary diseases of life, such as influenza, from coverage.
  - Specific employee classifications, most notably those involved in healthcare with direct patient contact, and public safety officers, may have lower thresholds of compensability than other employee classifications.
  - Some jurisdictions, such as Washington State, have implemented material policy changes with respect to the compensability of COVID-19 related claims. Other jurisdictions may follow.
- **Claim Frequency and Severity** Considerations for potential impacts of the COVID-19 pandemic and related societal and economic impacts on workers compensation claim frequency and severity include:
  - Health Care Coverage: Some states have mandated that health insurance must cover testing and emergency room/ urgent care visits related to COVID-19 without deductibles or copays. These types of measures may serve to temper workers compensation claim activity related directly to the illness. Actions taken by individual employers may have the same impact.
  - High Demand Industries and Essential Businesses: The hiring of new employees to meet growing demand in some industries could lead to an increase in claims, as claim incidence rates associated with new employees are typically higher than those associated with longer-tenured employees. Additionally, employees performing work to which they are not accustomed may lead to higher average severity of claims. The new demand for these workers is likely leading to longer working hours, which may increase the number of claims. Essential businesses may also see an increase in mental stress claims. Compensability of mental stress claims varies by jurisdiction.
  - Economic Impacts: Sectors most affected by sudden job loss and furloughs may see an increase in workers compensation claims as employees seek to supplement their lost income. Potentially offsetting this increase, remaining employees may file fewer claims due to concerns over job security. The overall impact is unknown at this time. An economic downturn may also lead to an increase in claim severity. For example, employees may be more likely to involve attorneys in their claims, and claimants who are already receiving temporary disability benefits may attempt to extend those benefits.
- **Employers Liability** Employers liability may serve as a remedy for an employee who believes the infection was the result of employer negligence. If an employee's family member becomes infected, that could also lead to an employers liability claim.
- **Teleworking** Companies with a material shift to a teleworking environment may see an increase in claims for injuries related to non-ergonomic work environments stations and other potential safety hazards in employees' homes. Compensability of incidents related to these issues will vary by jurisdiction. Less exposure to other work-place hazards may have a counter effect.

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- **Claims Handling Considerations** The claims process is likely to lengthen during this pandemic, leading to an increase in claim severity as workers compensation hearings and mediations are potentially postponed, and claimant access to doctors, nurse case managers and medical services is limited. Reduced availability of transitional duty jobs may also serve to increase claim costs for claimants who would have otherwise been able to return to work.

Potential impacts of the pandemic are many and the above only represents a sample of anticipated effects.

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7. ACKNOWLEDGEMENT OF QUALIFICATIONS

Thank you for providing Oliver Wyman with the opportunity to develop this analysis for the City. We are prepared to discuss the results at your request.

I, Adam Hirsch, am a Principal with Oliver Wyman Actuarial Consulting, Inc. I am a Fellow of the Casualty Actuarial Society (FCAS), a Member of the American Academy of Actuaries (MAAA), and meet the Qualification Standards of the American Academy of Actuaries to counsel on the results contained herein.

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APPENDIX A. GLOSSARY

Accident Period

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

Accounting Date

The point in time at which the estimate of unpaid claims and ALAE is evaluated.

Actuarial Central Estimate

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

Allocated Loss Adjustment Expense (ALAE)

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.

Coefficient of Variation

A statistical measure of dispersion. The coefficient of variation is calculated as the standard deviation of the random process divided by the expected value (mean).

Confidence Level

The probability that the outcome of a random process will not exceed an associated estimate. For example, a 75% confidence level for an unpaid claim estimate of $10 million would indicate that there is a 75% probability that the actual claim payments will be less than or equal to $10 million. The estimate is defined in the context of the risks modeled in our analysis and may not consider all factors contributing to variability of outcomes.

Credibility

A measure of the predictive value of a body of data.

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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. In a similar fashion, 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 Incurred Losses

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

Event

The incident or activity that triggers potential for claim or allocated claim adjustment expense payment.

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.

Loss

The cost associated with a claim. The cost may or may not include loss adjustment expenses.

Loss Adjustment Expenses

The costs of administering, determining coverage for, settling, or defending claims. Loss adjustment expenses include allocated loss adjustment expenses and unallocated loss adjustment expenses.

Loss Cost

The loss amount per exposure unit.

Method

The systematic procedure for developing an actuarial estimate.

Model

A mathematical or empirical representation of a specified phenomenon.

Model Risk

The risk that the methods are not appropriate to the circumstances or the models are not representative of the specified phenomenon.

Paid Losses

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

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Parameter Risk
The risk that the assumptions or parameters used in the methods or models are not representative of future outcomes.

Payment Pattern
The rate at which claims are paid over time.

Process Risk
The uncertainty associated with the projection of future contingencies that are inherently variable, even when the parameters are known with certainty.

Reported Incurred Loss 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.

Unallocated Loss Adjustment Expense (ULAE)
Loss 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.

Unpaid Loss Estimate
The estimate of the obligation for future payments resulting from losses due to past events.

Valuation Date
The date through which transactions are included in the data used in the unpaid claim estimate analysis.

City of Chandler
Workers' Compensation
Losses & ALAE Forecast for period 7/1/21 to 6/30/22
Based on Data as of June 30, 2021

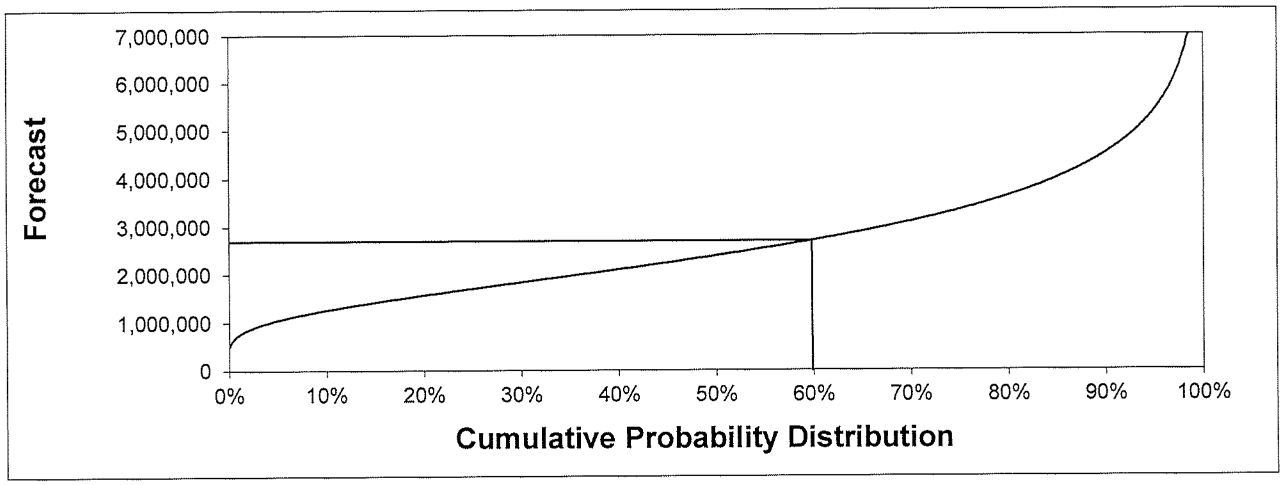
(1)	Forecasted Loss Rate Limited to $75,000	9.22				
(2)	Projected Exposures ($1,000 Payroll)	142,931				
		75,000	*750k / 1M*	*750k / 1.25M*	*750k / 2.25M*	*1M / 3M*
(3)	Increased Limit Factor from $75,000 to SIR	1.000	1.868	1.916	1.996	2.049
(4)	Forecasted Loss Rate Limited to SIR	9.22	17.23	17.67	18.41	18.89
(5)	Forecasted Ultimate Losses & ALAE *(Central Estimate)*	**1,318,000**	**2,462,000**	**2,526,000**	**2,631,000**	**2,700,000**
(6)	70th Percentile Losses & ALAE Multiplier	1.147				
(7)	Forecasted Ultimate Losses & ALAE *(70th Percentile Value)*	**1,511,746**	**2,823,914**	**2,897,322**	**3,017,757**	**3,096,900**
(8)	80th Percentile Losses & ALAE Multiplier	1.343				
(9)	Forecasted Ultimate Losses & ALAE *(80th Percentile Value)*	**1,770,074**	**3,306,466**	**3,392,418**	**3,533,433**	**3,626,100**
(10)	90th Percentile Losses & ALAE Multiplier	1.672				
(11)	Forecasted Ultimate Losses & ALAE *(90th Percentile Value)*	**2,203,696**	**4,116,464**	**4,223,472**	**4,399,032**	**4,514,400**

Notes:
(1) from Exhibit A, Page 3, Row (9)
(2) from City of Chandler
(3) from Appendix B, Page 1, Column (5), assuming 70% of losses limited to $75,000 correspond to public safety employees, (limit adjusted for trend)
(4) = (1) x (3)
(5) = (2) x (4)
(6) from Exhibit A, Page 2
(7) = (5) x (6)
(8) from Exhibit A, Page 2
(9) = (5) x (8)
(10) from Exhibit A, Page 2
(11) = (5) x (10)

City of Chandler
Workers' Compensation
Percentile Factor Calculation for Losses & ALAE Forecast
Based on Data as of June 30, 2021

Losses & ALAE CV	5.639
Forecasted Ultimate Counts	142
Parameter Risk	0.200
Forecasted Losses & ALAE CV	0.530
σ	0.498
$\sigma 2$	0.248
μ	(0.124)
Losses & ALAE Forecast *(Central Estimate)*	2,700,000

Percentile	Percentile Factor	Percentile Losses & ALAE Forecast
50.0%	0.884	2,386,800
60.0%	1.002	2,705,400
70.0%	1.147	3,096,900
80.0%	1.343	3,626,100
90.0%	1.672	4,514,400
95.0%	2.003	5,408,100
99.0%	2.811	7,589,700



Note:
based on a lognormal distribution

City of Chandler

Workers' Compensation
Losses & ALAE Forecast for period 7/1/21 to 6/30/22 - Limited to $75,000
Based on Data as of June 30, 2021

(1)	Selected Frequency for period 7/1/21 to 6/30/22	0.990
(2)	Projected Exposures ($1,000 Payroll)	142,931
(3)	Forecasted Ultimate Counts *(Central Estimate)*	**142**
(4)	Selected Loss Cost for period 7/1/21 to 6/30/22	9.20
(5)	Selected Severity for period 7/1/21 to 6/30/22	9,340
(6)	Estimated Ultimate Losses & ALAE *(Loss Cost)*	1,314,962
(7)	Estimated Ultimate Losses & ALAE *(Frequency/Severity)*	1,321,622
(8)	Forecasted Ultimate Losses & ALAE *(Central Estimate)*	**1,318,000**
(9)	Forecasted Loss Rate *(Central Estimate)*	9.22

Notes:
(1) from Exhibit A, Page 5, Column (8)
(2) from City of Chandler
(3) = (1) / 1,000 x (2)
(4) from Exhibit A, Page 4, Column (8)
(5) from Exhibit A, Page 5, Column (12)
(6) = (2) x (4)
(7) = (1) / 1,000 x (2) x (5)
(8) selected
(9) = (8) / (2)

City of Chandler
Workers' Compensation
Losses & ALAE Forecast Loss Cost Method - Limited to $75,000
Based on Data as of June 30, 2021

Policy Period	(1) Age in Months	(2) Ultimate	(3) Exposures ($1,000 Payroll)	(4) Ultimate Loss Cost	(5) Exposure Trend	(6) Benefit Level Factor	(7) Loss Cost Trend Factor	(8) Trended Ultimate Loss Cost
1/1/2003 to 6/30/2003	225	478,631	38,782	12.34	1.617	1.269	1.446	14.01
7/1/2003 to 6/30/2004	216	786,281	82,686	9.51	1.600	1.252	1.425	10.61
7/1/2004 to 6/30/2005	204	621,971	84,675	7.35	1.587	1.237	1.397	8.00
7/1/2005 to 6/30/2006	192	649,576	90,201	7.20	1.524	1.208	1.370	7.82
7/1/2006 to 6/30/2007	180	608,000	102,877	5.91	1.454	1.193	1.343	6.52
7/1/2007 to 6/30/2008	168	812,000	111,710	7.27	1.400	1.159	1.317	7.93
7/1/2008 to 6/30/2009	156	675,237	120,668	5.60	1.371	1.107	1.292	5.84
7/1/2009 to 6/30/2010	144	1,310,000	119,800	10.93	1.362	1.064	1.266	10.82
7/1/2010 to 6/30/2011	132	966,822	113,843	8.49	1.341	1.049	1.242	8.25
7/1/2011 to 6/30/2012	120	1,170,000	110,414	10.60	1.303	1.041	1.218	10.31
7/1/2012 to 6/30/2013	108	1,069,226	119,088	8.98	1.270	1.033	1.194	8.72
7/1/2013 to 6/30/2014	96	1,493,000	115,348	12.94	1.262	1.015	1.171	12.17
7/1/2014 to 6/30/2015	84	990,329	119,528	8.29	1.234	1.007	1.148	7.76
7/1/2015 to 6/30/2016	72	1,090,362	127,517	8.55	1.210	0.996	1.125	7.93
7/1/2016 to 6/30/2017	60	1,264,190	128,452	9.84	1.194	1.005	1.103	9.14
7/1/2017 to 6/30/2018	48	1,198,000	133,497	8.97	1.154	1.005	1.082	8.45
7/1/2018 to 6/30/2019	36	1,117,000	135,570	8.24	1.116	1.001	1.061	7.84
7/1/2019 to 6/30/2020	24	1,142,000	136,800	8.35	1.074	1.000	1.040	8.09
7/1/2020 to 6/30/2021	12	1,654,000	140,084	11.81	1.036	1.000	1.020	11.62
TOTALS		**19,096,625**	**2,131,539**					

Arithmetic Average	*9.04*
Weighted Average	*8.88*
Arithmetic Average Excluding Current Period	*8.90*
Weighted Average Excluding Current Period	*8.68*
5 Period Arithmetic Average	*9.03*
3 Period Arithmetic Average	*9.18*
Selected Loss Cost for period 7/1/21 to 6/30/22	***9.20***

Notes:
(1) = (average evaluation period) - (average policy period)
(2) from Exhibit C, Page 3, Column (12)
(3) from City of Chandler
(4) = (2) / (3)
(5) derived from the 2020 edition of NCCI Annual Statistical Bulletin
(6) based on information published by NCCI
(7) 2.0% annual trend
(8) = (4) x (6) x (7) / (5)

City of Chandler
Workers' Compensation
Losses & ALAE Forecast Frequency / Severity Method - Limited to $75,000
Based on Data as of June 30, 2021

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Policy Period	Age in Months	Exposures ($1,000 Payroll)	Exposure Trend	Ultimate Losses	Ultimate Counts	Ultimate Frequency (per $1M)	Frequency Trend	Trended Ultimate Frequency (per $1M)	Ultimate Severity	Benefit Level Factor	Severity Trend Factor	Trended Ultimate Severity
1/1/2003 to 6/30/2003	225	38,782	1.617	478,631	63	1.005	0.910	0.914	7,597	1.269	1.589	15,320
7/1/2003 to 6/30/2004	216	82,686	1.600	786,281	149	1.126	0.914	1.029	5,277	1.252	1.560	10,307
7/1/2004 to 6/30/2005	204	84,675	1.587	621,971	143	1.064	0.918	0.977	4,349	1.237	1.522	8,184
7/1/2005 to 6/30/2006	192	90,201	1.524	649,576	147	1.069	0.923	0.987	4,419	1.208	1.485	7,924
7/1/2006 to 6/30/2007	180	102,877	1.454	608,000	135	0.903	0.928	0.837	4,504	1.193	1.448	7,784
7/1/2007 to 6/30/2008	168	111,710	1.400	812,000	161	1.029	0.932	0.960	5,043	1.159	1.413	8,262
7/1/2008 to 6/30/2009	156	120,668	1.371	675,237	165	0.998	0.937	0.935	4,092	1.107	1.378	6,244
7/1/2009 to 6/30/2010	144	119,800	1.362	1,310,000	142	0.870	0.942	0.819	9,225	1.064	1.345	13,206
7/1/2010 to 6/30/2011	132	113,843	1.341	966,822	153	1.002	0.946	0.949	6,319	1.049	1.312	8,701
7/1/2011 to 6/30/2012	120	110,414	1.303	1,170,000	161	1.119	0.951	1.065	7,267	1.041	1.280	9,687
7/1/2012 to 6/30/2013	108	119,088	1.270	1,069,226	135	0.893	0.956	0.853	7,920	1.033	1.249	10,218
7/1/2013 to 6/30/2014	96	115,348	1.262	1,493,000	154	1.058	0.961	1.016	9,695	1.015	1.218	11,983
7/1/2014 to 6/30/2015	84	119,528	1.234	990,329	143	0.969	0.966	0.936	6,925	1.007	1.189	8,290
7/1/2015 to 6/30/2016	72	127,517	1.210	1,090,362	153	0.992	0.970	0.962	7,127	0.996	1.160	8,236
7/1/2016 to 6/30/2017	60	128,452	1.194	1,264,190	133	0.867	0.975	0.846	9,505	1.005	1.131	10,812
7/1/2017 to 6/30/2018	48	133,497	1.154	1,198,000	149	0.967	0.980	0.948	8,040	1.005	1.104	8,920
7/1/2018 to 6/30/2019	36	135,570	1.116	1,117,000	158	1.044	0.985	1.029	7,070	1.001	1.077	7,623
7/1/2019 to 6/30/2020	24	136,800	1.074	1,142,000	148	1.008	0.990	0.998	7,716	1.000	1.051	8,107
7/1/2020 to 6/30/2021	12	140,084	1.036	1,654,000	144	0.992	0.995	0.987	11,486	1.000	1.025	11,773
TOTALS		2,131,539		19,096,625	2,736							

Arithmetic Average	*0.950*	*Arithmetic Average*	*9,557*
Weighted Average	*0.950*	*Weighted Average*	*9,339*
Arithmetic Average Excluding Current Period	*0.948*	*Arithmetic Average Excluding Current Period*	*9,434*
Weighted Average Excluding Current Period	*0.947*	*Weighted Average Excluding Current Period*	*9,203*
5 Period Arithmetic Average	*0.961*	*5 Period Arithmetic Average*	*9,447*
3 Period Arithmetic Average	*1.005*	*3 Period Arithmetic Average*	*9,168*
Selected Frequency for period 7/1/21 to 6/30/22	***0.990***	***Selected Severity for period 7/1/21 to 6/30/22***	***9,340***

Notes:
(1) = (average evaluation period) - (average policy period)
(2) from City of Chandler
(3) derived from the 2020 edition of NCCI Annual Statistical Bulletin
(4) from Exhibit C, Page 3, Column (12)
(5) from Exhibit D, Page 7, Column (12)
(6) = (5) / (2) x 1,000 / (3)
(7) -0.5% annual trend
(8) = (6) x (7)
(9) = (4) / (5)
(10) based on information published by NCCI
(11) 2.5% annual trend
(12) = (9) x (10) x (11)

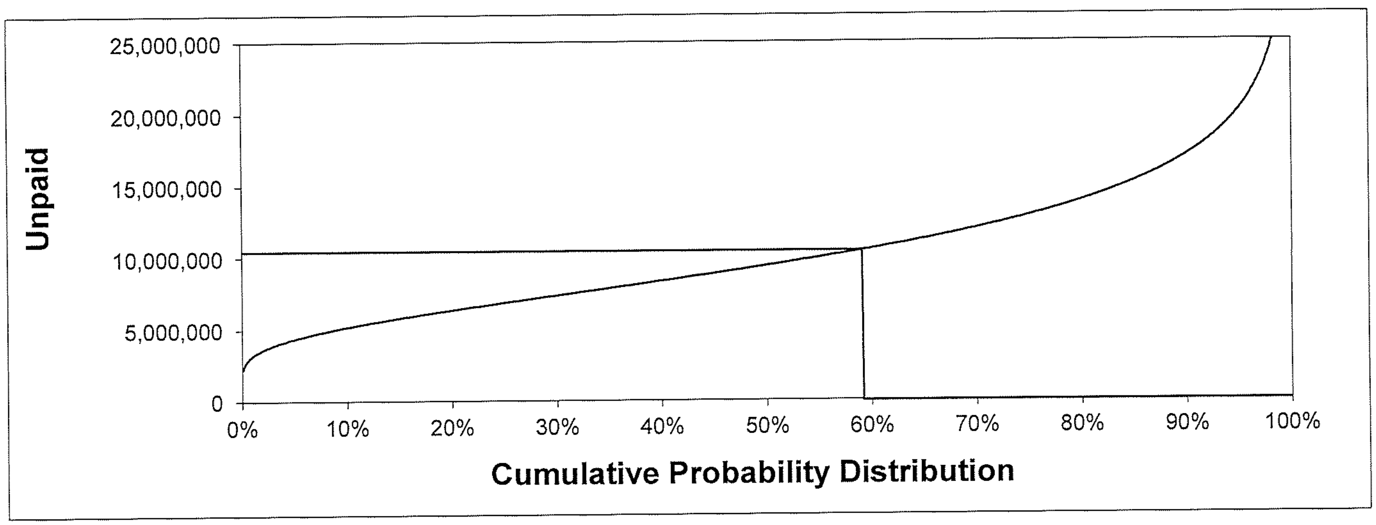
City of Chandler

Workers' Compensation

Percentile Factor Calculation for Unpaid Losses & ALAE as of 6/30/21
Based on Data as of June 30, 2021

Losses & ALAE CV	5.639
Open & IBNR Claim Count	152
Parameter Risk	0.150
Unpaid Losses & ALAE CV	0.490
σ	0.464
$\sigma 2$	0.215
μ	(0.108)
Unpaid Losses & ALAE *(Central Estimate)*	10,458,761

Percentile	Percentile Factor	Percentile Unpaid Losses & ALAE
50.0%	0.898	9,391,967
60.0%	1.010	10,563,349
70.0%	1.145	11,975,281
80.0%	1.327	13,878,776
90.0%	1.627	17,016,404
95.0%	1.926	20,143,574
99.0%	2.642	27,632,047



Note:
based on a lognormal distribution

City of Chandler

Workers' Compensation

Unpaid Losses & ALAE Reconciliation from 6/30/20 to 6/30/21 - Limited to Self-Insured Retention (SIR)

Based on Data as of June 30, 2021

(1)	Indicated Unpaid Losses & ALAE as of 6/30/20	8,795,715
(2)	Estimated Ultimate Losses & ALAE for period 7/1/20 to 6/30/21	3,515,000
(3)	Payments for period 7/1/20 to 6/30/21	1,868,615
(4)	Change in Ultimate Losses & ALAE since 6/30/20	16,661
(5)	Indicated Unpaid Losses & ALAE as of 6/30/21	10,458,761

Notes:
(1) from Exhibit B, Page 3, Column (11)
(2) from Exhibit B, Page 3, Column (20)
(3) from Exhibit B, Page 3, Column (13)
(4) from Exhibit B, Page 3, Column (19)
(5) = (1) + (2) - (3) + (4)

City of Chandler
Workers' Compensation
Comparison of Losses & ALAE to Previous Analysis - Limited to Self-Insured Retention (SIR)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
		Based on Data as of June 30, 2021						Based on Data as of June 30, 2020					
Policy Period	Self-Insured Retention (SIR)	Paid Losses & ALAE	Case Reserves	Incurred Losses & ALAE	IBNR	Unpaid Losses & ALAE	Estimated Ultimates	Paid Losses & ALAE	Case Reserves	Incurred Losses & ALAE	IBNR	Unpaid Losses & ALAE	Estimated Ultimates
1/1/2003 to 6/30/2003	500,000	1,071,106	14,836	1,085,942	58	14,894	1,086,000	1,070,699	15,243	1,085,942	558	15,801	1,086,500
7/1/2003 to 6/30/2004	500,000	818,038	15,218	833,257	243	15,462	833,500	817,817	15,440	833,257	743	16,183	834,000
7/1/2004 to 6/30/2005	500,000	651,732	0	651,732	0	0	651,732	651,732	0	651,732	0	0	651,732
7/1/2005 to 6/30/2006	500,000	980,808	44,214	1,025,022	78	44,292	1,025,100	978,139	65,851	1,043,990	4,010	69,861	1,048,000
7/1/2006 to 6/30/2007	500,000	599,653	19,515	619,168	832	20,347	620,000	599,641	19,527	619,168	5,832	25,359	625,000
7/1/2007 to 6/30/2008	500,000	727,568	372,363	1,099,931	1,069	373,432	1,101,000	717,151	258,598	975,748	19,252	277,849	995,000
7/1/2008 to 6/30/2009	500,000	1,160,444	137,225	1,297,670	5,330	142,556	1,303,000	1,155,117	141,876	1,296,993	23,007	164,883	1,320,000
7/1/2009 to 6/30/2010	500,000	1,480,728	272,100	1,752,829	23,171	295,272	1,776,000	1,472,878	280,827	1,753,706	46,294	327,122	1,800,000
7/1/2010 to 6/30/2011	500,000	1,456,561	0	1,456,561	0	0	1,456,561	1,456,434	20,862	1,477,295	37,705	58,566	1,515,000
7/1/2011 to 6/30/2012	500,000	1,880,655	513,530	2,394,185	33,815	547,345	2,428,000	1,802,412	515,165	2,317,576	52,424	567,588	2,370,000
7/1/2012 to 6/30/2013	600,000	2,096,347	236,053	2,332,401	39,599	275,653	2,372,000	2,042,029	169,956	2,211,985	63,015	232,971	2,275,000
7/1/2013 to 6/30/2014	600,000	2,355,943	294,531	2,650,474	76,526	371,057	2,727,000	2,314,518	320,717	2,635,235	114,765	435,482	2,750,000
7/1/2014 to 6/30/2015	600,000	1,393,200	689,023	2,082,223	0	689,023	2,082,223	1,325,087	757,135	2,082,223	0	757,135	2,082,223
7/1/2015 to 6/30/2016	600k / 1M	2,530,046	1,007,866	3,537,912	98,088	1,105,954	3,636,000	2,394,097	1,148,344	3,542,441	207,559	1,355,903	3,750,000
7/1/2016 to 6/30/2017	600k / 1M	1,628,931	522,112	2,151,043	155,957	678,069	2,307,000	1,579,189	214,013	1,793,202	256,798	470,811	2,050,000
7/1/2017 to 6/30/2018	600k / 1M	1,606,123	1,112,092	2,718,215	215,785	1,327,877	2,934,000	1,515,924	795,226	2,311,150	238,850	1,034,076	2,550,000
7/1/2018 to 6/30/2019	600k / 1.25M	976,327	577,682	1,554,009	198,991	776,673	1,753,000	859,922	678,100	1,538,022	471,978	1,150,078	2,010,000
7/1/2019 to 6/30/2020	600k / 1.25M	1,048,235	300,850	1,349,085	637,915	938,765	1,987,000	513,953	442,438	956,392	1,393,608	1,836,047	2,350,000
7/1/2020 to 6/30/2021	750k / 2.25M	672,909	1,913,465	2,586,374	928,626	2,842,091	3,515,000						
TOTALS		25,135,355	8,042,677	33,178,032	2,416,084	10,458,761	35,594,116	23,266,740	5,859,317	29,126,058	2,936,397	8,795,715	32,062,455

		(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		Difference							
Policy Period	Self-Insured Retention (SIR)	Paid Losses & ALAE	Case Reserves	Incurred Losses & ALAE	IBNR	Unpaid Losses & ALAE	Estimated Ultimates	Estimated Ultimates Through 6/30/20	Estimated Ultimates from 7/1/20 to 6/30/21
1/1/2003 to 6/30/2003	500,000	407	(407)	0	(500)	(907)	(500)	(500)	0
7/1/2003 to 6/30/2004	500,000	221	(221)	0	(500)	(721)	(500)	(500)	0
7/1/2004 to 6/30/2005	500,000	0	0	0	0	0	0	0	0
7/1/2005 to 6/30/2006	500,000	2,668	(21,637)	(18,968)	(3,932)	(25,568)	(22,900)	(22,900)	0
7/1/2006 to 6/30/2007	500,000	12	(12)	0	(5,000)	(5,012)	(5,000)	(5,000)	0
7/1/2007 to 6/30/2008	500,000	10,417	113,765	124,183	(18,183)	95,583	106,000	106,000	0
7/1/2008 to 6/30/2009	500,000	5,327	(4,650)	677	(17,677)	(22,327)	(17,000)	(17,000)	0
7/1/2009 to 6/30/2010	500,000	7,850	(8,727)	(877)	(23,123)	(31,850)	(24,000)	(24,000)	0
7/1/2010 to 6/30/2011	500,000	128	(20,862)	(20,734)	(37,705)	(58,566)	(58,439)	(58,439)	0
7/1/2011 to 6/30/2012	500,000	78,244	(1,634)	76,609	(18,609)	(20,244)	58,000	58,000	0
7/1/2012 to 6/30/2013	600,000	54,318	66,097	120,415	(23,415)	42,682	97,000	97,000	0
7/1/2013 to 6/30/2014	600,000	41,425	(26,186)	15,239	(38,239)	(64,425)	(23,000)	(23,000)	0
7/1/2014 to 6/30/2015	600,000	68,113	(68,113)	(0)	0	(68,113)	(0)	(0)	0
7/1/2015 to 6/30/2016	600k / 1M	135,949	(140,478)	(4,529)	(109,471)	(249,949)	(114,000)	(114,000)	0
7/1/2016 to 6/30/2017	600k / 1M	49,741	308,099	357,841	(100,841)	207,259	257,000	257,000	0
7/1/2017 to 6/30/2018	600k / 1M	90,199	316,865	407,064	(23,064)	293,801	384,000	384,000	0
7/1/2018 to 6/30/2019	600k / 1.25M	116,405	(100,417)	15,987	(272,987)	(373,405)	(257,000)	(257,000)	0
7/1/2019 to 6/30/2020	600k / 1.25M	534,282	(141,588)	392,694	(755,694)	(897,282)	(363,000)	(363,000)	0
7/1/2020 to 6/30/2021	750k / 2.25M	672,909	1,913,465	2,586,374	928,626	2,842,091	3,515,000	N/A	3,515,000
TOTALS		1,868,615	2,183,360	4,051,975	(520,314)	1,663,046	3,531,661	16,661	3,515,000

Notes:
(1) from City of Chandler
(2) from City of Chandler
(3) from City of Chandler
(4) = (6) - (3)
(5) = (6) - (1)
(6) from Exhibit C, Page 1, Column (7)
(7) to (12) from previous Oliver Wyman study
(13) = (1) - (7)
(14) = (2) - (8)
(15) = (3) - (9)
(16) = (4) - (10)
(17) = (5) - (11)
(18) = (6) - (12)
(19) = (6) - (12) at 6/30/20
(20) derived from (6)

City of Chandler
Workers' Compensation
Summary - Limited to Self-Insured Retention (SIR)
Based on Data as of June 30, 2021

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
			Losses & ALAE @ SIR						Claim Counts (ex. CWOP)					
Policy Period	Self-Insured Retention (SIR)	Exposures ($1,000 Payroll)	Paid	Case Reserves	Incurred	IBNR	Unpaid	Selected Ultimate	Closed	Open	Reported	IBNR	Open & IBNR	Selected Ultimate
1/1/2003 to 6/30/2003	500,000	38,782	1,071,106	14,836	1,085,942	58	14,894	1,086,000	61	2	63	0	2	63
7/1/2003 to 6/30/2004	500,000	82,686	818,038	15,218	833,257	243	15,462	833,500	148	1	149	0	1	149
7/1/2004 to 6/30/2005	500,000	84,675	651,732	0	651,732	0	0	651,732	143	0	143	0	0	143
7/1/2005 to 6/30/2006	500,000	90,201	980,808	44,214	1,025,022	78	44,292	1,025,100	146	1	147	0	1	147
7/1/2006 to 6/30/2007	500,000	102,877	599,653	19,515	619,168	832	20,347	620,000	134	1	135	0	1	135
7/1/2007 to 6/30/2008	500,000	111,710	727,568	372,363	1,099,931	1,069	373,432	1,101,000	158	3	161	0	3	161
7/1/2008 to 6/30/2009	500,000	120,668	1,160,444	137,225	1,297,670	5,330	142,556	1,303,000	163	2	165	0	2	165
7/1/2009 to 6/30/2010	500,000	119,800	1,480,728	272,100	1,752,829	23,171	295,272	1,776,000	139	3	142	0	3	142
7/1/2010 to 6/30/2011	500,000	113,843	1,456,561	0	1,456,561	0	0	1,456,561	152	1	153	0	1	153
7/1/2011 to 6/30/2012	500,000	110,414	1,880,655	513,530	2,394,185	33,815	547,345	2,428,000	157	4	161	0	4	161
7/1/2012 to 6/30/2013	600,000	119,088	2,096,347	236,053	2,332,401	39,599	275,653	2,372,000	131	4	135	0	4	135
7/1/2013 to 6/30/2014	600,000	115,348	2,355,943	294,531	2,650,474	76,526	371,057	2,727,000	149	5	154	0	5	154
7/1/2014 to 6/30/2015	600,000	119,528	1,393,200	689,023	2,082,223	0	689,023	2,082,223	141	2	143	0	2	143
7/1/2015 to 6/30/2016	600k / 1M	127,517	2,530,046	1,007,866	3,537,912	98,088	1,105,954	3,636,000	149	4	153	0	4	153
7/1/2016 to 6/30/2017	600k / 1M	128,452	1,628,931	522,112	2,151,043	155,957	678,069	2,307,000	128	5	133	0	5	133
7/1/2017 to 6/30/2018	600k / 1M	133,497	1,606,123	1,112,092	2,718,215	215,785	1,327,877	2,934,000	144	5	149	0	5	149
7/1/2018 to 6/30/2019	600k / 1.25M	135,570	976,327	577,682	1,554,009	198,991	776,673	1,753,000	144	14	158	0	14	158
7/1/2019 to 6/30/2020	600k / 1.25M	136,800	1,048,235	300,850	1,349,085	637,915	938,765	1,987,000	124	23	147	1	24	148
7/1/2020 to 6/30/2021	750k / 2.25M	140,084	672,909	1,913,465	2,586,374	928,626	2,842,091	3,515,000	73	55	128	16	71	144
TOTALS		2,131,539	25,135,355	8,042,677	33,178,032	2,416,084	10,458,761	35,594,116	2,584	135	2,719	17	152	2,736

		(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(Losses & ALAE @ SIR) / (Claim Counts)						
Policy Period	Self-Insured Retention (SIR)	Paid per Closed	Case Reserves per Open	Incurred per Reported	Unpaid per Open & IBNR	Ultimate per Ultimate	Ultimate Frequency (per $1M)	Implied Ultimate Loss Cost per Exposure
1/1/2003 to 6/30/2003	500,000	17,559	7,418	17,237	7,447	17,238	1.624	28.00
7/1/2003 to 6/30/2004	500,000	5,527	15,218	5,592	15,462	5,594	1.802	10.08
7/1/2004 to 6/30/2005	500,000	4,558		4,558		4,558	1.689	7.70
7/1/2005 to 6/30/2006	500,000	6,718	44,214	6,973	44,292	6,973	1.630	11.36
7/1/2006 to 6/30/2007	500,000	4,475	19,515	4,586	20,347	4,593	1.312	6.03
7/1/2007 to 6/30/2008	500,000	4,605	124,121	6,832	124,477	6,839	1.441	9.86
7/1/2008 to 6/30/2009	500,000	7,119	68,613	7,865	71,278	7,897	1.367	10.80
7/1/2009 to 6/30/2010	500,000	10,653	90,700	12,344	98,424	12,507	1.185	14.82
7/1/2010 to 6/30/2011	500,000	9,583	0	9,520	0	9,520	1.344	12.79
7/1/2011 to 6/30/2012	500,000	11,979	128,383	14,871	136,836	15,081	1.458	21.99
7/1/2012 to 6/30/2013	600,000	16,003	59,013	17,277	68,913	17,570	1.134	19.92
7/1/2013 to 6/30/2014	600,000	15,812	58,906	17,211	74,211	17,708	1.335	23.64
7/1/2014 to 6/30/2015	600,000	9,881	344,511	14,561	344,511	14,561	1.196	17.42
7/1/2015 to 6/30/2016	600k / 1M	16,980	251,966	23,124	276,488	23,765	1.200	28.51
7/1/2016 to 6/30/2017	600k / 1M	12,726	104,422	16,173	135,614	17,346	1.035	17.96
7/1/2017 to 6/30/2018	600k / 1M	11,154	222,418	18,243	265,575	19,691	1.116	21.98
7/1/2018 to 6/30/2019	600k / 1.25M	6,780	41,263	9,835	55,477	11,095	1.165	12.93
7/1/2019 to 6/30/2020	600k / 1.25M	8,454	13,080	9,177	39,115	13,426	1.082	14.52
7/1/2020 to 6/30/2021	750k / 2.25M	9,218	34,790	20,206	40,029	24,410	1.028	25.09
TOTALS		9,727	59,575	12,202	68,808	13,010	1.284	16.70

Notes:
(1) from City of Chandler
(2) from City of Chandler
(3) from City of Chandler
(4) from City of Chandler
(5) = (7) - (4)
(6) = (3) + (5)
(7) from Exhibit C, Page 2, Column (16)
(8) from City of Chandler
(9) = (10) - (8)
(10) from City of Chandler
(11) = (13) - (10)
(12) = (9) + (11)
(13) from Exhibit D, Page 7, Column (12)
(14) = (2) / (8)
(15) = (3) / (9)
(16) = (4) / (10)
(17) = (6) / (12)
(18) = (7) / (13)
(19) = (13) / (1) x 1,000
(20) = (7) / (1)

City of Chandler
Workers' Compensation
Selected Ultimate Losses & ALAE - Limited to Self-Insured Retention (SIR)
Based on Data as of June 30, 2021

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
			Limited to $75,000				Limited to SIR				Excess	
Policy Period	Self-Insured Retention (SIR)	Age in Months	Incurred	Ultimate	Incurred LDFs	Expected IBNR	Incurred	ILFs to SIR	Incurred LDFs	Expected IBNR	Incurred	Expected IBNR
1/1/2003 to 6/30/2003	500,000	225	478,631	478,631	1.000	0	1,085,942	1.579	1.000	0	607,311	0
7/1/2003 to 6/30/2004	500,000	216	786,281	786,281	1.000	0	833,257	1.582	1.000	0	46,975	0
7/1/2004 to 6/30/2005	500,000	204	621,971	621,971	1.000	0	651,732	1.586	1.000	0	29,762	0
7/1/2005 to 6/30/2006	500,000	192	649,576	649,576	1.000	0	1,025,022	1.590	1.000	0	375,446	0
7/1/2006 to 6/30/2007	500,000	180	607,316	608,000	1.000	0	619,168	1.593	1.000	0	11,852	0
7/1/2007 to 6/30/2008	500,000	168	811,227	812,000	1.000	0	1,099,931	1.596	1.000	0	288,704	0
7/1/2008 to 6/30/2009	500,000	156	675,237	675,237	1.001	675	1,297,670	1.599	1.006	6,081	622,433	5,407
7/1/2009 to 6/30/2010	500,000	144	1,305,417	1,310,000	1.002	2,616	1,752,829	1.604	1.010	21,588	447,411	18,972
7/1/2010 to 6/30/2011	500,000	132	966,822	966,822	1.003	2,895	1,456,561	1.610	1.015	22,270	489,739	19,375
7/1/2011 to 6/30/2012	500,000	120	1,164,313	1,170,000	1.004	4,668	2,394,185	1.616	1.018	33,017	1,229,872	28,349
7/1/2012 to 6/30/2013	600,000	108	1,069,226	1,069,226	1.005	5,330	2,332,401	1.683	1.026	44,986	1,263,175	39,655
7/1/2013 to 6/30/2014	600,000	96	1,483,450	1,493,000	1.006	8,927	2,650,474	1.689	1.031	75,973	1,167,024	67,046
7/1/2014 to 6/30/2015	600,000	84	990,329	990,329	1.007	6,905	2,082,223	1.694	1.036	57,644	1,091,893	50,739
7/1/2015 to 6/30/2016	600k / 1M	72	1,090,362	1,090,362	1.010	10,841	3,537,912	1.822	1.058	109,134	2,447,550	98,293
7/1/2016 to 6/30/2017	600k / 1M	60	1,264,190	1,264,190	1.015	18,796	2,151,043	1.829	1.082	175,204	886,853	156,408
7/1/2017 to 6/30/2018	600k / 1M	48	1,148,254	1,198,000	1.020	23,683	2,718,215	1.836	1.094	189,452	1,569,961	165,769
7/1/2018 to 6/30/2019	600k / 1.25M	36	1,080,187	1,117,000	1.030	32,923	1,554,009	1.897	1.102	195,566	473,822	162,644
7/1/2019 to 6/30/2020	600k / 1.25M	24	1,040,193	1,142,000	1.051	55,392	1,349,085	1.904	1.110	216,350	308,892	160,958
7/1/2020 to 6/30/2021	750k / 2.25M	12	1,334,418	1,654,000	1.340	419,667	2,586,374	2.043	1.466	1,073,833	1,251,956	654,165
TOTALS			**18,567,401**	**19,096,625**		**593,317**	**33,178,032**			**2,221,097**	**14,610,632**	**1,627,780**

		(12)	(13)	(14)	(15)	(16)
		Limited to SIR				
		Indicated Ultimate				
Policy Period	Self-Insured Retention (SIR)	ILF Method	LDF Method	Excess Method	Prior Ultimate	Selected Ultimate
1/1/2003 to 6/30/2003	500,000	755,797	1,085,942	1,085,942	1,086,500	1,086,000
7/1/2003 to 6/30/2004	500,000	1,244,163	833,257	833,257	834,000	833,500
7/1/2004 to 6/30/2005	500,000	986,617	651,732	651,732	651,732	651,732
7/1/2005 to 6/30/2006	500,000	1,032,610	1,025,022	1,025,022	1,048,000	1,025,100
7/1/2006 to 6/30/2007	500,000	968,559	619,168	619,852	625,000	620,000
7/1/2007 to 6/30/2008	500,000	1,295,892	1,099,931	1,100,704	995,000	1,101,000
7/1/2008 to 6/30/2009	500,000	1,079,398	1,305,022	1,303,076	1,320,000	1,303,000
7/1/2009 to 6/30/2010	500,000	2,100,641	1,771,029	1,776,383	1,800,000	1,776,000
7/1/2010 to 6/30/2011	500,000	1,556,379	1,477,705	1,475,936	1,515,000	1,456,561
7/1/2011 to 6/30/2012	500,000	1,890,710	2,436,738	2,428,221	2,370,000	2,428,000
7/1/2012 to 6/30/2013	600,000	1,799,197	2,392,214	2,372,056	2,275,000	2,372,000
7/1/2013 to 6/30/2014	600,000	2,520,993	2,732,831	2,727,070	2,750,000	2,727,000
7/1/2014 to 6/30/2015	600,000	1,677,771	2,156,308	2,132,962	2,082,223	2,082,223
7/1/2015 to 6/30/2016	600k / 1M	1,987,099	3,743,510	3,636,205	3,750,000	3,636,000
7/1/2016 to 6/30/2017	600k / 1M	2,312,476	2,327,375	2,307,451	2,050,000	2,307,000
7/1/2017 to 6/30/2018	600k / 1M	2,199,470	2,974,418	2,933,730	2,550,000	2,934,000
7/1/2018 to 6/30/2019	600k / 1.25M	2,118,815	1,712,029	1,753,465	2,010,000	1,753,000
7/1/2019 to 6/30/2020	600k / 1.25M	2,174,352	1,498,153	1,611,850	2,350,000	1,987,000
7/1/2020 to 6/30/2021	750k / 2.25M	3,379,750	3,790,811	3,560,121	2,555,000	3,515,000
TOTALS		**33,080,688**	**35,633,195**	**35,335,036**	**34,617,455**	**35,594,116**

Notes:
(1) = (average evaluation period) - (average policy period)
(2) from City of Chandler
(3) from Exhibit C, Page 3, Column (12)
(4) from Appendix A, Page 1
(5) = (3) x [1 - 1 / (4)]
(6) from City of Chandler
(7) from Appendix B, Page 1
(limit adjusted for trend for prior years)
(8) from Appendix A, Page 1
(9) = (3) x (7) x [1 - 1 / (8)]
(10) = (6) - (2)
(11) = (9) - (5)
(12) = (3) x (7)
(13) = (6) x (8)
(14) = (3) + (10) + (11)
(15) from previous Oliver Wyman study
(16) selected

City of Chandler
Workers' Compensation
Selected Ultimate Losses & ALAE - Limited to $75,000
Based on Data as of June 30, 2021

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Policy Period	Exposures ($1,000 Payroll)	Open & IBNR Claim Count	Paid	Incurred	Paid Development Method	Incurred Development Method	Loss Cost Method	Frequency / Severity Method	Paid Bornhuetter-Ferguson Method	Incurred Bornhuetter-Ferguson Method	Prior Ultimate	Selected Ultimate
1/1/2003 to 6/30/2003	38,782	2	478,631	478,631	484,086	478,631			484,024	478,631	478,631	478,631
7/1/2003 to 6/30/2004	82,686	1	775,091	786,281	784,998	786,281			785,014	786,281	786,281	786,281
7/1/2004 to 6/30/2005	84,675	0	621,971	621,971	631,180	621,971			631,046	621,971	621,971	621,971
7/1/2005 to 6/30/2006	90,201	1	649,576	649,576	660,512	649,576			660,331	649,576	649,576	649,576
7/1/2006 to 6/30/2007	102,877	1	587,801	607,316	598,893	607,316			599,049	607,316	608,000	608,000
7/1/2007 to 6/30/2008	111,710	3	695,966	811,227	710,704	811,227			712,789	811,227	740,000	812,000
7/1/2008 to 6/30/2009	120,668	2	675,237	675,237	691,246	675,912			690,875	675,911	674,560	675,237
7/1/2009 to 6/30/2010	119,800	3	1,299,626	1,305,417	1,334,429	1,308,029			1,334,085	1,308,056	1,310,000	1,310,000
7/1/2010 to 6/30/2011	113,843	1	966,822	966,822	997,676	969,725			996,722	969,716	966,822	966,822
7/1/2011 to 6/30/2012	110,414	4	1,160,847	1,164,313	1,203,883	1,168,977			1,203,259	1,169,047	1,172,000	1,170,000
7/1/2012 to 6/30/2013	119,088	4	1,069,226	1,069,226	1,117,736	1,074,583			1,115,631	1,074,556	1,069,226	1,069,226
7/1/2013 to 6/30/2014	115,348	5	1,482,601	1,483,450	1,562,264	1,492,373			1,560,482	1,492,582	1,479,586	1,493,000
7/1/2014 to 6/30/2015	119,528	2	990,329	990,329	1,053,978	997,282			1,050,134	997,234	990,329	990,329
7/1/2015 to 6/30/2016	127,517	4	1,040,344	1,090,362	1,121,359	1,101,311			1,119,119	1,101,203	1,090,362	1,090,362
7/1/2016 to 6/30/2017	128,452	5	1,264,190	1,264,190	1,383,075	1,283,269			1,372,856	1,282,986	1,264,190	1,264,190
7/1/2017 to 6/30/2018	133,497	5	1,098,692	1,148,254	1,220,043	1,171,411	1,255,498	1,170,170	1,223,570	1,173,074	1,230,000	1,198,000
7/1/2018 to 6/30/2019	135,570	14	947,621	1,080,187	1,073,333	1,112,992	1,261,703	1,276,632	1,095,395	1,117,375	1,185,000	1,117,000
7/1/2019 to 6/30/2020	136,800	24	927,549	1,040,193	1,166,164	1,093,219	1,250,718	1,227,296	1,183,465	1,100,858	1,230,000	1,142,000
7/1/2020 to 6/30/2021	140,084	71	589,321	1,334,418	1,370,712	1,788,114	1,260,755	1,224,000	1,308,029	1,654,308	1,296,000	1,654,000
TOTALS	**2,131,539**	**152**	**17,321,440**	**18,567,401**	**19,166,270**	**19,192,202**			**19,125,875**	**19,071,908**	**18,842,534**	**19,096,625**

Notes:
(1) from City of Chandler
(2) = Exhibit D, Page 7, Column (12) - closed claim counts with payment
(3) from City of Chandler
(4) from City of Chandler
(5) from Exhibit D, Page 1, Column (4)
(6) from Exhibit D, Page 2, Column (4)
(7) from Exhibit D, Page 3, Column (10)
(8) from Exhibit D, Page 4, Column (8)
(9) from Exhibit D, Page 5, Column (7)
(10) from Exhibit D, Page 6, Column (7)
(11) from previous Oliver Wyman study
(12) selected

City of Chandler

Workers' Compensation

Paid Losses & ALAE Development Method - Limited to $75,000

Based on Data as of June 30, 2021

Policy Period	(1) Age in Months	(2) Paid	(3) Cumulative Development Factors	(4) Ultimate
1/1/2003 to 6/30/2003	225	478,631	1.011	484,086
7/1/2003 to 6/30/2004	216	775,091	1.013	784,998
7/1/2004 to 6/30/2005	204	621,971	1.015	631,180
7/1/2005 to 6/30/2006	192	649,576	1.017	660,512
7/1/2006 to 6/30/2007	180	587,801	1.019	598,893
7/1/2007 to 6/30/2008	168	695,966	1.021	710,704
7/1/2008 to 6/30/2009	156	675,237	1.024	691,246
7/1/2009 to 6/30/2010	144	1,299,626	1.027	1,334,429
7/1/2010 to 6/30/2011	132	966,822	1.032	997,676
7/1/2011 to 6/30/2012	120	1,160,847	1.037	1,203,883
7/1/2012 to 6/30/2013	108	1,069,226	1.045	1,117,736
7/1/2013 to 6/30/2014	96	1,482,601	1.054	1,562,264
7/1/2014 to 6/30/2015	84	990,329	1.064	1,053,978
7/1/2015 to 6/30/2016	72	1,040,344	1.078	1,121,359
7/1/2016 to 6/30/2017	60	1,264,190	1.094	1,383,075
7/1/2017 to 6/30/2018	48	1,098,692	1.110	1,220,043
7/1/2018 to 6/30/2019	36	947,621	1.133	1,073,333
7/1/2019 to 6/30/2020	24	927,549	1.257	1,166,164
7/1/2020 to 6/30/2021	12	589,321	2.326	1,370,712
TOTALS		**17,321,440**		**19,166,270**

Notes:

(1) = (average evaluation period) - (average policy period)
(2) from City of Chandler
(3) from Appendix A, Page 1
(4) = (2) x (3)

City of Chandler

Workers' Compensation
Incurred Losses & ALAE Development Method - Limited to $75,000
Based on Data as of June 30, 2021

Policy Period	(1) Age in Months	(2) Incurred	(3) Cumulative Development Factors	(4) Ultimate
1/1/2003 to 6/30/2003	225	478,631	1.000	478,631
7/1/2003 to 6/30/2004	216	786,281	1.000	786,281
7/1/2004 to 6/30/2005	204	621,971	1.000	621,971
7/1/2005 to 6/30/2006	192	649,576	1.000	649,576
7/1/2006 to 6/30/2007	180	607,316	1.000	607,316
7/1/2007 to 6/30/2008	168	811,227	1.000	811,227
7/1/2008 to 6/30/2009	156	675,237	1.001	675,912
7/1/2009 to 6/30/2010	144	1,305,417	1.002	1,308,029
7/1/2010 to 6/30/2011	132	966,822	1.003	969,725
7/1/2011 to 6/30/2012	120	1,164,313	1.004	1,168,977
7/1/2012 to 6/30/2013	108	1,069,226	1.005	1,074,583
7/1/2013 to 6/30/2014	96	1,483,450	1.006	1,492,373
7/1/2014 to 6/30/2015	84	990,329	1.007	997,282
7/1/2015 to 6/30/2016	72	1,090,362	1.010	1,101,311
7/1/2016 to 6/30/2017	60	1,264,190	1.015	1,283,269
7/1/2017 to 6/30/2018	48	1,148,254	1.020	1,171,411
7/1/2018 to 6/30/2019	36	1,080,187	1.030	1,112,992
7/1/2019 to 6/30/2020	24	1,040,193	1.051	1,093,219
7/1/2020 to 6/30/2021	12	1,334,418	1.340	1,788,114
TOTALS		**18,567,401**		**19,192,202**

Notes:
(1) = (average evaluation period) - (average policy period)
(2) from City of Chandler
(3) from Appendix A, Page 1
(4) = (2) x (3)

City of Chandler
Workers' Compensation
Losses & ALAE Cost Method - Limited to $75,000
Based on Data as of June 30, 2021

Policy Period	(1) Age in Months	(2) Preliminary Ultimate	(3) Exposures ($1,000 Payroll)	(4) Exposure Trend	(5) Benefit Level Factor	(6) Preliminary Ultimate Loss Cost	(7) Loss Cost Trend Factor	(8) Preliminary Trended Ult Loss Cost	(9) Adjusted Selected Loss Cost	(10) Ultimate
1/1/2003 to 6/30/2003	225	478,631	38,782	1.561	1.269	10.04	1.418	14.23	7.80	
7/1/2003 to 6/30/2004	216	786,281	82,686	1.544	1.252	7.71	1.397	10.78	7.94	
7/1/2004 to 6/30/2005	204	621,971	84,675	1.532	1.237	5.93	1.370	8.12	8.14	
7/1/2005 to 6/30/2006	192	649,576	90,201	1.471	1.208	5.91	1.343	7.95	8.16	
7/1/2006 to 6/30/2007	180	607,316	102,877	1.403	1.193	5.02	1.317	6.61	8.03	
7/1/2007 to 6/30/2008	168	811,227	111,710	1.351	1.159	6.23	1.292	8.05	8.12	
7/1/2008 to 6/30/2009	156	675,237	120,668	1.323	1.107	4.68	1.266	5.93	8.49	
7/1/2009 to 6/30/2010	144	1,321,229	119,800	1.315	1.064	8.93	1.242	11.09	8.95	
7/1/2010 to 6/30/2011	132	966,822	113,843	1.294	1.049	6.89	1.218	8.39	9.11	
7/1/2011 to 6/30/2012	120	1,186,430	110,414	1.257	1.041	8.90	1.194	10.62	9.10	
7/1/2012 to 6/30/2013	108	1,069,226	119,088	1.225	1.033	7.57	1.171	8.86	9.12	
7/1/2013 to 6/30/2014	96	1,527,319	115,348	1.218	1.015	11.02	1.148	12.65	9.42	
7/1/2014 to 6/30/2015	84	990,329	119,528	1.191	1.007	7.00	1.125	7.88	9.46	
7/1/2015 to 6/30/2016	72	1,090,362	127,517	1.168	0.996	7.30	1.103	8.05	9.56	
7/1/2016 to 6/30/2017	60	1,264,190	128,452	1.153	1.005	8.58	1.082	9.29	9.54	
7/1/2017 to 6/30/2018	48	1,195,727	133,497	1.114	1.005	8.08	1.061	8.57	9.40	1,255,498
7/1/2018 to 6/30/2019	36	1,112,992	135,570	1.077	1.001	7.63	1.040	7.94	9.31	1,261,703
7/1/2019 to 6/30/2020	24	1,129,691	136,800	1.036	1.000	7.97	1.020	8.13	9.14	1,250,718
7/1/2020 to 6/30/2021	12	1,410,613	140,084	1.000	1.000	10.07	1.000	10.07	9.00	1,260,755
TOTALS		18,895,170	2,131,539							

Arithmetic average	*9.06*	*Excluding Current Period*
Weighted average	*8.84*	
5 Period Arithmetic average	*8.40*	
3 Period Arithmetic average	*8.21*	
Prior Forecast	*9.20*	
Frequency x Severity	*8.76*	
Selected for period 7/1/20 to 6/30/21	***9.00***	

Notes:
(1) = (average evaluation period) - (average policy period)
(2) based on Exhibit D, Page 1 and 2, Column (4) and actuarial judgment
(3) from City of Chandler
(4) derived from the 2020 edition of NCCI Annual Statistical Bulletin
(5) based on information published by NCCI
(6) = (2) x (5) / (3) / (4)
(7) 2.0% annual trend
(8) = (6) x (7)
(9) = (Selected for period 7/1/20 to 6/30/21) x (4) / (5) / (7)
(10) = (3) x (9)

City of Chandler

Workers' Compensation

Frequency / Severity Method for Losses & ALAE - Limited to $75,000
Based on Data as of June 30, 2021

Policy Period	(1) Preliminary Ultimate	(2) Selected Ultimate Counts	(3) Benefit Level Factor	(4) Preliminary Ultimate Severity	(5) Severity Trend Factor	(6) Preliminary Trended Ultimate Severity	(7) Adjusted Selected Severity	(8) Ultimate
1/1/2003 to 6/30/2003	478,631	63	1.269	9,643	1.550	14,946	4,321	
7/1/2003 to 6/30/2004	786,281	149	1.252	6,609	1.522	10,056	4,460	
7/1/2004 to 6/30/2005	621,971	143	1.237	5,379	1.485	7,984	4,630	
7/1/2005 to 6/30/2006	649,576	147	1.208	5,338	1.448	7,731	4,859	
7/1/2006 to 6/30/2007	607,316	135	1.193	5,369	1.413	7,586	5,041	
7/1/2007 to 6/30/2008	811,227	161	1.159	5,841	1.379	8,053	5,319	
7/1/2008 to 6/30/2009	675,237	165	1.107	4,530	1.345	6,092	5,710	
7/1/2009 to 6/30/2010	1,321,229	142	1.064	9,903	1.312	12,994	6,086	
7/1/2010 to 6/30/2011	966,822	153	1.049	6,631	1.280	8,489	6,327	
7/1/2011 to 6/30/2012	1,186,430	161	1.041	7,674	1.249	9,583	6,536	
7/1/2012 to 6/30/2013	1,069,226	135	1.033	8,182	1.218	9,969	6,753	
7/1/2013 to 6/30/2014	1,527,319	154	1.015	10,061	1.189	11,960	7,048	
7/1/2014 to 6/30/2015	990,329	143	1.007	6,974	1.160	8,087	7,279	
7/1/2015 to 6/30/2016	1,090,362	153	0.996	7,102	1.131	8,035	7,539	
7/1/2016 to 6/30/2017	1,264,190	133	1.005	9,556	1.104	10,548	7,659	
7/1/2017 to 6/30/2018	1,195,727	149	1.005	8,065	1.077	8,686	7,853	1,170,170
7/1/2018 to 6/30/2019	1,112,992	158	1.001	7,053	1.051	7,410	8,080	1,276,632
7/1/2019 to 6/30/2020	1,129,691	148	1.000	7,633	1.025	7,824	8,293	1,227,296
7/1/2020 to 6/30/2021	1,410,613	144	1.000	9,796	1.000	9,796	8,500	1,224,000
TOTALS	**18,895,170**	**2,736**						

Arithmetic Avg	*9,224*	*Excluding Current Period*
Weighted Avg	*9,001*	
5 Period Arithmetic Avg	*8,501*	
3 Period Arithmetic Avg	*7,973*	
Prior Forecast	*8,700*	
Selected for period 7/1/20 to 6/30/21	***8,500***	

Notes:
(1) based on Exhibit D, Page 1 and 2, Column (4) and actuarial judgment
(2) from Exhibit D, Page 7, Column (12)
(3) based on information published by NCCI
(4) = (1) / (2) x (3)
(5) 2.5% annual trend
(6) = (4) x (5)
(7) = (Selected for period 7/1/20 to 6/30/21) / [(3) x (5)]
(8) = (2) x (7)

City of Chandler

Workers' Compensation
Paid Losses & ALAE Bornhuetter-Ferguson Method - Limited to $75,000
Based on Data as of June 30, 2021

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Policy Period	Age in Months	Preliminary Ultimate	Actual Paid	Cumulative Development Factors	Expected Paid	Expected Unpaid	Ultimate
1/1/2003 to 6/30/2003	225	478,631	478,631	1.011	473,238	5,393	484,024
7/1/2003 to 6/30/2004	216	786,281	775,091	1.013	776,359	9,923	785,014
7/1/2004 to 6/30/2005	204	621,971	621,971	1.015	612,896	9,075	631,046
7/1/2005 to 6/30/2006	192	649,576	649,576	1.017	638,820	10,755	660,331
7/1/2006 to 6/30/2007	180	607,316	587,801	1.019	596,069	11,248	599,049
7/1/2007 to 6/30/2008	168	811,227	695,966	1.021	794,404	16,823	712,789
7/1/2008 to 6/30/2009	156	675,237	675,237	1.024	659,599	15,638	690,875
7/1/2009 to 6/30/2010	144	1,321,229	1,299,626	1.027	1,286,770	34,459	1,334,085
7/1/2010 to 6/30/2011	132	966,822	966,822	1.032	936,921	29,900	996,722
7/1/2011 to 6/30/2012	120	1,186,430	1,160,847	1.037	1,144,018	42,412	1,203,259
7/1/2012 to 6/30/2013	108	1,069,226	1,069,226	1.045	1,022,821	46,405	1,115,631
7/1/2013 to 6/30/2014	96	1,527,319	1,482,601	1.054	1,449,437	77,882	1,560,482
7/1/2014 to 6/30/2015	84	990,329	990,329	1.064	930,525	59,805	1,050,134
7/1/2015 to 6/30/2016	72	1,090,362	1,040,344	1.078	1,011,587	78,775	1,119,119
7/1/2016 to 6/30/2017	60	1,264,190	1,264,190	1.094	1,155,524	108,666	1,372,856
7/1/2017 to 6/30/2018	48	1,255,498	1,098,692	1.110	1,130,620	124,878	1,223,570
7/1/2018 to 6/30/2019	36	1,261,703	947,621	1.133	1,113,929	147,774	1,095,395
7/1/2019 to 6/30/2020	24	1,250,718	927,549	1.257	994,802	255,916	1,183,465
7/1/2020 to 6/30/2021	12	1,260,755	589,321	2.326	542,046	718,708	1,308,029
TOTALS		**19,074,820**	**17,321,440**		**17,270,384**	**1,804,435**	**19,125,875**

Notes:

(1) = (average evaluation period) - (average policy period)
(2) based on Exhibit D, Page 1 and 2, Column (4) and actuarial judgment; most recent 4 periods from Exhibit D, Page 3, Column (10)
(3) from City of Chandler
(4) from Appendix A, Page 1
(5) = (2) x [1 / (4)]
(6) = (2) x [1 - 1 / (4)]
(7) = (3) + (6)

City of Chandler

Workers' Compensation
Incurred Losses & ALAE Bornhuetter-Ferguson Method - Limited to $75,000
Based on Data as of June 30, 2021

Policy Period	(1) Age in Months	(2) Preliminary Ultimate	(3) Actual Incurred	(4) Cumulative Development Factors	(5) Expected Incurred	(6) Expected IBNR	(7) Ultimate
1/1/2003 to 6/30/2003	225	478,631	478,631	1.000	478,631	0	478,631
7/1/2003 to 6/30/2004	216	786,281	786,281	1.000	786,281	0	786,281
7/1/2004 to 6/30/2005	204	621,971	621,971	1.000	621,971	0	621,971
7/1/2005 to 6/30/2006	192	649,576	649,576	1.000	649,576	0	649,576
7/1/2006 to 6/30/2007	180	607,316	607,316	1.000	607,316	0	607,316
7/1/2007 to 6/30/2008	168	811,227	811,227	1.000	811,227	0	811,227
7/1/2008 to 6/30/2009	156	675,237	675,237	1.001	674,562	675	675,911
7/1/2009 to 6/30/2010	144	1,321,229	1,305,417	1.002	1,318,591	2,639	1,308,056
7/1/2010 to 6/30/2011	132	966,822	966,822	1.003	963,927	2,895	969,716
7/1/2011 to 6/30/2012	120	1,186,430	1,164,313	1.004	1,181,696	4,734	1,169,047
7/1/2012 to 6/30/2013	108	1,069,226	1,069,226	1.005	1,063,896	5,330	1,074,556
7/1/2013 to 6/30/2014	96	1,527,319	1,483,450	1.006	1,518,187	9,132	1,492,582
7/1/2014 to 6/30/2015	84	990,329	990,329	1.007	983,425	6,905	997,234
7/1/2015 to 6/30/2016	72	1,090,362	1,090,362	1.010	1,079,521	10,841	1,101,203
7/1/2016 to 6/30/2017	60	1,264,190	1,264,190	1.015	1,245,394	18,796	1,282,986
7/1/2017 to 6/30/2018	48	1,255,498	1,148,254	1.020	1,230,678	24,820	1,173,074
7/1/2018 to 6/30/2019	36	1,261,703	1,080,187	1.030	1,224,515	37,188	1,117,375
7/1/2019 to 6/30/2020	24	1,250,718	1,040,193	1.051	1,190,053	60,665	1,100,858
7/1/2020 to 6/30/2021	12	1,260,755	1,334,418	1.340	940,865	319,890	1,654,308
TOTALS		**19,074,820**	**18,567,401**		**18,570,312**	**504,508**	**19,071,908**

Notes:
(1) = (average evaluation period) - (average policy period)
(2) based on Exhibit D, Page 1 and 2, Column (4) and actuarial judgment; most recent 4 periods from Exhibit D, Page 3, Column (10)
(3) from City of Chandler
(4) from Appendix A, Page 1
(5) = (2) x [1 / (4)]
(6) = (2) x [1 - 1 / (4)]
(7) = (3) + (6)

City of Chandler

Workers' Compensation
Selected Ultimate Claim Counts - Excluding Closed Without Payments
Based on Data as of June 30, 2021

Policy Period	(1) Age in Months	(2) Exposures ($1,000 Payroll)	(3) Exposure Trend	(4) Reported Counts	(5) Cumulative Development Factors	(6) Estimated Ultimate Counts	(7) Preliminary Frequency (per $1M)	(8) Frequency Trend	(9) Preliminary Trended Frequency (per $1M)	(10) Estimated Ultimate Counts	(11) Prior Ultimate Counts	(12) Selected Ultimate Counts	(13) Selected Frequency (per $1M)
1/1/2003 to 6/30/2003	225	38,782	1.561	63	1.000	63	1.041	0.915	0.952	63	63	63	1.624
7/1/2003 to 6/30/2004	216	82,686	1.544	149	1.000	149	1.167	0.918	1.072	149	149	149	1.802
7/1/2004 to 6/30/2005	204	84,675	1.532	143	1.000	143	1.103	0.923	1.018	143	143	143	1.689
7/1/2005 to 6/30/2006	192	90,201	1.471	147	1.000	147	1.108	0.928	1.028	147	147	147	1.630
7/1/2006 to 6/30/2007	180	102,877	1.403	135	1.000	135	0.935	0.932	0.872	135	135	135	1.312
7/1/2007 to 6/30/2008	168	111,710	1.351	161	1.000	161	1.067	0.937	0.999	161	161	161	1.441
7/1/2008 to 6/30/2009	156	120,668	1.323	165	1.000	165	1.034	0.942	0.973	165	165	165	1.367
7/1/2009 to 6/30/2010	144	119,800	1.315	142	1.000	142	0.902	0.946	0.853	142	142	142	1.185
7/1/2010 to 6/30/2011	132	113,843	1.294	153	1.000	153	1.039	0.951	0.988	153	153	153	1.344
7/1/2011 to 6/30/2012	120	110,414	1.257	161	1.000	161	1.160	0.956	1.109	161	161	161	1.458
7/1/2012 to 6/30/2013	108	119,088	1.225	135	1.000	135	0.925	0.961	0.889	135	135	135	1.134
7/1/2013 to 6/30/2014	96	115,348	1.218	154	1.000	154	1.096	0.966	1.058	154	154	154	1.335
7/1/2014 to 6/30/2015	84	119,528	1.191	143	1.000	143	1.004	0.970	0.975	143	143	143	1.196
7/1/2015 to 6/30/2016	72	127,517	1.168	153	1.000	153	1.028	0.975	1.002	153	153	153	1.200
7/1/2016 to 6/30/2017	60	128,452	1.153	133	1.000	133	0.898	0.980	0.880	133	133	133	1.035
7/1/2017 to 6/30/2018	48	133,497	1.114	149	1.000	149	1.002	0.985	0.987	149	151	149	1.116
7/1/2018 to 6/30/2019	36	135,570	1.077	158	1.002	158	1.084	0.990	1.073	158	161	158	1.165
7/1/2019 to 6/30/2020	24	136,800	1.036	147	1.005	148	1.042	0.995	1.037	148	135	148	1.082
7/1/2020 to 6/30/2021	12	140,084	1.000	128	1.095	140	1.001	1.000	1.001	141	150	144	1.028
TOTALS		2,131,539		2,719		2,732				2,733	2,734	2,736	

Arithmetic Avg	*0.987*	*Excluding Current Period*
Weighted Avg	*0.987*	
5 Period Arithmetic Avg	*0.996*	
3 Period Arithmetic Avg	*1.032*	
Prior Forecast	*1.070*	
Selected for period 7/1/20 to 6/30/21	***1.030***	

Notes:
(1) = (average evaluation period) - (average policy period)
(2) from City of Chandler
(3) Arizona annual trend from 2020 edition of NCCI Annual Statistical Bulletin
(4) from City of Chandler
(5) from Appendix A, Page 1
(6) = (4) x (5)
(7) = (6) / (2) x 1,000 / (3)
(8) -0.5% annual trend
(9) = (7) x (8)
(10) = { selected (9) x (2) / 1,000 x (3) / (8) x [1 - 1 / (5)] } + (4)
(11) from previous Oliver Wyman study
(12) selected
(13) = (12) / (2) x 1,000

City of Chandler
Workers' Compensation
Actual vs. Expected Paid Losses & ALAE between 7/1/20 and 6/30/21 - Limited to Self-Insured Retention (SIR)
Based on Data as of June 30, 2021

Policy Period	(1) Ultimate @ 6/30/20	(2) Paid @ 6/30/20	(3) Unpaid @ 6/30/20	(4) Expected Period Paid %	(5) Expected Period Paid	(6) Actual Period Paid	(7) Difference
1/1/2003 to 6/30/2003	1,086,500	1,070,699	15,801	44.4%	7,023	407	(6,616)
7/1/2003 to 6/30/2004	834,000	817,817	16,183	33.3%	5,394	221	(5,173)
7/1/2004 to 6/30/2005	651,732	651,732	0	33.3%	0	0	0
7/1/2005 to 6/30/2006	1,048,000	978,139	69,861	69.5%	48,548	2,668	(45,880)
7/1/2006 to 6/30/2007	625,000	599,641	25,359	26.4%	6,701	12	(6,689)
7/1/2007 to 6/30/2008	995,000	717,151	277,849	17.7%	49,180	10,417	(38,763)
7/1/2008 to 6/30/2009	1,320,000	1,155,117	164,883	12.7%	20,877	5,327	(15,550)
7/1/2009 to 6/30/2010	1,800,000	1,472,878	327,122	22.0%	71,943	7,850	(64,093)
7/1/2010 to 6/30/2011	1,515,000	1,456,434	58,566	48.7%	28,494	128	(28,366)
7/1/2011 to 6/30/2012	2,370,000	1,802,412	567,588	28.2%	160,301	78,244	(82,057)
7/1/2012 to 6/30/2013	2,275,000	2,042,029	232,971	18.2%	42,429	54,318	11,889
7/1/2013 to 6/30/2014	2,750,000	2,314,518	435,482	17.2%	75,036	41,425	(33,611)
7/1/2014 to 6/30/2015	2,082,223	1,325,087	757,135	11.3%	85,510	68,113	(17,397)
7/1/2015 to 6/30/2016	3,750,000	2,394,097	1,355,903	20.2%	274,515	135,949	(138,566)
7/1/2016 to 6/30/2017	2,050,000	1,579,189	470,811	10.7%	50,224	49,741	(483)
7/1/2017 to 6/30/2018	2,550,000	1,515,924	1,034,076	2.6%	26,411	90,199	63,788
7/1/2018 to 6/30/2019	2,010,000	859,922	1,150,078	34.3%	394,227	116,405	(277,823)
7/1/2019 to 6/30/2020	2,350,000	513,953	1,836,047	58.1%	1,066,511	534,282	(532,229)
TOTALS	**32,062,455**	**23,266,740**	**8,795,715**		**2,413,326**	**1,195,706**	**(1,217,620)**

Notes:
(1) from previous Oliver Wyman study
(2) from previous Oliver Wyman study
(3) = (1) - (2)
(4) based on paid loss development factors from previous Oliver Wyman study
(5) = (3) x (4)
(6) from City of Chandler
(7) = (6) - (5)

City of Chandler

Workers' Compensation

Actual vs. Expected Incurred Losses & ALAE between 7/1/20 and 6/30/21 - Limited to Self-Insured Retention (SIR)
Based on Data as of June 30, 2021

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Policy Period	Ultimate @ 6/30/20	Incurred @ 6/30/20	IBNR @ 6/30/20	Expected Period Incurred %	Expected Period Incurred	Actual Period Incurred	Difference
1/1/2003 to 6/30/2003	1,086,500	1,085,942	558	44.4%	248	0	(248)
7/1/2003 to 6/30/2004	834,000	833,257	743	33.3%	248	0	(248)
7/1/2004 to 6/30/2005	651,732	651,732	0	50.0%	0	0	0
7/1/2005 to 6/30/2006	1,048,000	1,043,990	4,010	49.9%	2,001	(18,968)	(20,969)
7/1/2006 to 6/30/2007	625,000	619,168	5,832	43.6%	2,541	0	(2,541)
7/1/2007 to 6/30/2008	995,000	975,748	19,252	47.1%	9,059	124,183	115,124
7/1/2008 to 6/30/2009	1,320,000	1,296,993	23,007	28.5%	6,551	677	(5,874)
7/1/2009 to 6/30/2010	1,800,000	1,753,706	46,294	18.9%	8,741	(877)	(9,618)
7/1/2010 to 6/30/2011	1,515,000	1,477,295	37,705	12.2%	4,608	(20,734)	(25,343)
7/1/2011 to 6/30/2012	2,370,000	2,317,576	52,424	6.7%	3,526	76,609	73,083
7/1/2012 to 6/30/2013	2,275,000	2,211,985	63,015	2.6%	1,636	120,415	118,779
7/1/2013 to 6/30/2014	2,750,000	2,635,235	114,765	33.3%	38,207	15,239	(22,968)
7/1/2014 to 6/30/2015	2,082,223	2,082,223	0	20.8%	0	0	0
7/1/2015 to 6/30/2016	3,750,000	3,542,441	207,559	40.5%	84,046	(4,529)	(88,575)
7/1/2016 to 6/30/2017	2,050,000	1,793,202	256,798	25.6%	65,856	357,841	291,984
7/1/2017 to 6/30/2018	2,550,000	2,311,150	238,850	-32.1%	(76,707)	407,064	483,771
7/1/2018 to 6/30/2019	2,010,000	1,538,022	471,978	-30.6%	(144,531)	15,987	160,519
7/1/2019 to 6/30/2020	2,350,000	956,392	1,393,608	74.9%	1,043,315	392,694	(650,622)
TOTALS	**32,062,455**	**29,126,058**	**2,936,397**		**1,049,346**	**1,465,601**	**416,255**

Notes:
(1) from previous Oliver Wyman study
(2) from previous Oliver Wyman study
(3) = (1) - (2)
(4) based on incurred loss development factors from previous Oliver Wyman study
(5) = (3) x (4)
(6) from City of Chandler
(7) = (6) - (5)

City of Chandler
Workers' Compensation
Actual vs. Expected Paid Losses & ALAE between 7/1/20 and 6/30/21 - Limited to $75,000
Based on Data as of June 30, 2021

Policy Period	(1) Ultimate @ 6/30/20	(2) Paid @ 6/30/20	(3) Unpaid @ 6/30/20	(4) Expected Period Paid %	(5) Expected Period Paid	(6) Actual Period Paid	(7) Difference
1/1/2003 to 6/30/2003	478,631	478,631	0	100.0%	0	0	0
7/1/2003 to 6/30/2004	786,281	774,870	11,412	100.0%	11,412	221	(11,190)
7/1/2004 to 6/30/2005	621,971	621,971	0	100.0%	0	0	0
7/1/2005 to 6/30/2006	649,576	649,576	0	50.0%	0	0	0
7/1/2006 to 6/30/2007	608,000	587,789	20,211	33.3%	6,730	12	(6,718)
7/1/2007 to 6/30/2008	740,000	691,745	48,255	25.0%	12,046	4,221	(7,825)
7/1/2008 to 6/30/2009	674,560	674,560	0	20.0%	0	677	677
7/1/2009 to 6/30/2010	1,310,000	1,300,357	9,643	28.5%	2,747	(732)	(3,479)
7/1/2010 to 6/30/2011	966,822	966,822	0	53.1%	0	0	0
7/1/2011 to 6/30/2012	1,172,000	1,159,929	12,071	34.5%	4,163	918	(3,245)
7/1/2012 to 6/30/2013	1,069,226	1,069,226	0	25.5%	0	0	0
7/1/2013 to 6/30/2014	1,479,586	1,479,586	0	24.0%	0	3,014	3,014
7/1/2014 to 6/30/2015	990,329	990,329	0	19.2%	0	0	0
7/1/2015 to 6/30/2016	1,090,362	1,034,850	55,512	27.3%	15,176	5,494	(9,682)
7/1/2016 to 6/30/2017	1,264,190	1,264,190	0	25.0%	0	0	0
7/1/2017 to 6/30/2018	1,230,000	1,098,076	131,924	19.6%	25,871	616	(25,255)
7/1/2018 to 6/30/2019	1,185,000	832,096	352,904	45.7%	161,154	115,525	(45,629)
7/1/2019 to 6/30/2020	1,230,000	513,953	716,047	63.6%	455,519	413,596	(41,923)
TOTALS	**17,546,534**	**16,188,557**	**1,357,977**		**694,818**	**543,562**	**(151,256)**

Notes:
(1) from previous Oliver Wyman study
(2) from previous Oliver Wyman study
(3) = (1) - (2)
(4) based on paid loss development factors from previous Oliver Wyman study
(5) = (3) x (4)
(6) from City of Chandler
(7) = (6) - (5)

City of Chandler
Workers' Compensation
Actual vs. Expected Incurred Losses & ALAE between 7/1/20 and 6/30/21 - Limited to $75,000
Based on Data as of June 30, 2021

Policy Period	(1) Ultimate @ 6/30/20	(2) Incurred @ 6/30/20	(3) IBNR @ 6/30/20	(4) Expected Period Incurred %	(5) Expected Period Incurred	(6) Actual Period Incurred	(7) Difference
1/1/2003 to 6/30/2003	478,631	478,631	0	100.0%	0	0	0
7/1/2003 to 6/30/2004	786,281	786,281	0	100.0%	0	0	0
7/1/2004 to 6/30/2005	621,971	621,971	0	100.0%	0	0	0
7/1/2005 to 6/30/2006	649,576	649,576	0	100.0%	0	0	0
7/1/2006 to 6/30/2007	608,000	607,316	684	100.0%	684	0	(684)
7/1/2007 to 6/30/2008	740,000	737,820	2,180	50.0%	1,090	73,407	72,318
7/1/2008 to 6/30/2009	674,560	674,560	0	33.3%	0	677	677
7/1/2009 to 6/30/2010	1,310,000	1,306,294	3,706	25.0%	925	(877)	(1,802)
7/1/2010 to 6/30/2011	966,822	966,822	0	20.0%	0	0	0
7/1/2011 to 6/30/2012	1,172,000	1,164,307	7,693	16.6%	1,279	6	(1,273)
7/1/2012 to 6/30/2013	1,069,226	1,069,226	0	14.2%	0	0	0
7/1/2013 to 6/30/2014	1,479,586	1,479,586	0	41.5%	0	3,864	3,864
7/1/2014 to 6/30/2015	990,329	990,329	0	29.2%	0	0	0
7/1/2015 to 6/30/2016	1,090,362	1,090,362	0	46.3%	0	0	0
7/1/2016 to 6/30/2017	1,264,190	1,264,190	0	37.7%	0	0	0
7/1/2017 to 6/30/2018	1,230,000	1,149,200	80,800	0.0%	0	(946)	(946)
7/1/2018 to 6/30/2019	1,185,000	1,079,028	105,972	0.0%	0	1,159	1,159
7/1/2019 to 6/30/2020	1,230,000	859,380	370,620	81.3%	301,377	180,813	(120,564)
TOTALS	**17,546,534**	**16,974,880**	**571,654**		**305,354**	**258,102**	**(47,252)**

Notes:
(1) from previous Oliver Wyman study
(2) from previous Oliver Wyman study
(3) = (1) - (2)
(4) based on incurred loss development factors from previous Oliver Wyman study
(5) = (3) x (4)
(6) from City of Chandler
(7) = (6) - (5)

City of Chandler
Workers' Compensation
Selected Loss Development Factors - Age to Ultimate
Based on Data as of June 30, 2021

	Paid Losses & ALAE							*Incurred Losses & ALAE*								*Reported Counts*
Age	75,000	500,000	600,000	880,000	1,000,000	1,055,000	1,755,000	75,000	500,000	600,000	880,000	1,000,000	1,055,000	1,755,000	Age	Excl. CWOP
12	***2.326***	2.555	2.566	2.597	2.610	2.611	2.625	***1.340***	1.434	1.438	1.451	1.456	1.457	1.466	12	1.095
24	***1.257***	1.340	1.344	1.355	1.361	1.361	1.366	***1.051***	1.089	1.091	1.102	1.110	1.110	1.120	24	1.005
36	***1.133***	1.282	1.292	1.322	1.335	1.336	1.349	***1.030***	1.079	1.082	1.094	1.101	1.102	1.111	36	1.002
48	***1.110***	1.257	1.267	1.296	1.309	1.310	1.323	***1.020***	1.077	1.081	1.094	1.100	1.101	1.110	48	1.000
60	***1.094***	1.238	1.248	1.277	1.289	1.290	1.303	***1.015***	1.063	1.067	1.082	1.088	1.089	1.099	60	1.000
72	***1.078***	1.216	1.227	1.260	1.274	1.276	1.290	***1.010***	1.042	1.046	1.058	1.063	1.064	1.073	72	1.000
84	***1.064***	1.195	1.206	1.243	1.258	1.259	1.275	***1.007***	1.032	1.036	1.046	1.051	1.051	1.059	84	1.000
96	***1.054***	1.176	1.188	1.227	1.243	1.245	1.262	***1.006***	1.028	1.031	1.043	1.048	1.049	1.057	96	1.000
108	***1.045***	1.157	1.168	1.207	1.223	1.225	1.242	***1.005***	1.022	1.026	1.038	1.043	1.044	1.052	108	1.000
120	***1.037***	1.138	1.149	1.187	1.203	1.204	1.222	***1.004***	1.018	1.021	1.033	1.038	1.039	1.047	120	1.000
132	***1.032***	1.132	1.143	1.182	1.198	1.200	1.217	***1.003***	1.015	1.017	1.028	1.032	1.032	1.039	132	1.000
144	***1.027***	1.120	1.131	1.167	1.183	1.184	1.200	***1.002***	1.010	1.012	1.020	1.023	1.023	1.029	144	1.000
156	***1.024***	1.116	1.127	1.163	1.178	1.180	1.196	***1.001***	1.006	1.007	1.011	1.013	1.013	1.016	156	1.000
168	***1.021***	1.111	1.121	1.157	1.172	1.174	1.190	***1.000***	1.000	1.000	1.000	1.000	1.000	1.000	168	1.000
180	***1.019***	1.107	1.117	1.153	1.168	1.169	1.185	***1.000***	1.000	1.000	1.000	1.000	1.000	1.000	180	1.000
192	***1.017***	1.104	1.114	1.149	1.164	1.165	1.181	***1.000***	1.000	1.000	1.000	1.000	1.000	1.000	192	1.000
204	***1.015***	1.099	1.109	1.144	1.158	1.159	1.175	***1.000***	1.000	1.000	1.000	1.000	1.000	1.000	204	1.000
216	***1.013***	1.093	1.102	1.135	1.149	1.150	1.165	***1.000***	1.000	1.000	1.000	1.000	1.000	1.000	216	1.000

Notes:
limited (bolded) paid LDFs based on Appendix A, Page 2
limited (bolded) incurred LDFs based on Appendix A, Page 3
other LDFs are adjusted using Oliver Wyman relativities
reported count factors based on Appendix A, Page 4

City of Chandler
Workers' Compensation
Paid Losses & ALAE - Limited to $75,000
Based on Data as of June 30, 2021

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	247,026	565,212	621,763	661,178	715,176	720,556	722,269	722,205	722,300	725,697	725,697	725,655	725,655	725,875	739,755	749,083	774,870	775,091
7/1/2004	276,397	536,761	577,418	592,457	605,379	609,033	616,357	621,775	621,775	621,775	621,775	621,775	621,775	621,971	621,971	621,971	621,971	
7/1/2005	200,706	505,966	552,607	594,741	603,672	614,644	622,212	629,386	640,201	649,576	649,576	649,576	649,576	649,576	649,576	649,576		
7/1/2006	209,267	464,091	531,181	552,186	552,895	584,800	585,106	578,421	581,840	581,848	582,063	582,071	582,176	587,789	587,801			
7/1/2007	351,283	616,773	702,322	645,614	595,827	595,827	597,997	636,245	658,716	673,524	679,204	686,940	691,745	695,966				
7/1/2008	321,961	608,696	622,878	618,457	611,609	627,188	643,015	643,023	644,726	645,027	674,485	674,560	675,237					
7/1/2009	807,943	1,268,270	1,274,279	1,258,475	1,269,316	1,268,437	1,268,781	1,299,694	1,301,130	1,299,762	1,300,357	1,299,626						
7/1/2010	667,115	932,878	953,600	956,407	966,774	966,782	966,782	966,822	966,822	966,822	966,822							
7/1/2011	656,562	1,042,286	1,107,176	1,140,809	1,152,179	1,153,721	1,157,939	1,158,827	1,159,929	1,160,847								
7/1/2012	308,364	737,253	852,237	861,204	899,282	997,688	1,037,066	1,069,226	1,069,226									
7/1/2013	515,792	1,169,619	1,422,414	1,433,603	1,478,801	1,479,343	1,479,586	1,482,601										
7/1/2014	557,797	927,794	988,164	988,803	990,329	990,329	990,329											
7/1/2015	418,716	903,262	998,672	999,797	1,034,850	1,040,344												
7/1/2016	496,863	992,965	1,205,210	1,264,190	1,264,190													
7/1/2017	603,228	1,112,325	1,098,076	1,098,692														
7/1/2018	517,966	832,096	947,621															
7/1/2019	513,953	927,549																
7/1/2020	589,321																	

Accident Period Beginning	12 to 24	24 to 36	36 to 48	48 to 60	60 to 72	72 to 84	84 to 96	96 to 108	108 to 120	120 to 132	132 to 144	144 to 156	156 to 168	168 to 180	180 to 192	192 to 204	204 to 216	216 to Ult
7/1/2003	2.288	1.100	1.063	1.082	1.008	1.002	1.000	1.000	1.005	1.000	1.000	1.000	1.000	1.019	1.013	1.034	1.000	
7/1/2004	1.942	1.076	1.026	1.022	1.006	1.012	1.009	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
7/1/2005	2.521	1.092	1.076	1.015	1.018	1.012	1.012	1.017	1.015	1.000	1.000	1.000	1.000	1.000	1.000			
7/1/2006	2.218	1.145	1.040	1.001	1.058	1.001	0.989	1.006	1.000	1.000	1.000	1.000	1.010	1.000				
7/1/2007	1.756	1.139	0.919	0.923	1.000	1.004	1.064	1.035	1.022	1.008	1.011	1.007	1.006					
7/1/2008	1.891	1.023	0.993	0.989	1.025	1.025	1.000	1.003	1.000	1.046	1.000	1.001						
7/1/2009	1.570	1.005	0.988	1.009	0.999	1.000	1.024	1.001	0.999	1.000	0.999							
7/1/2010	1.398	1.022	1.003	1.011	1.000	1.000	1.000	1.000	1.000	1.000								
7/1/2011	1.587	1.062	1.030	1.010	1.001	1.004	1.001	1.001	1.001									
7/1/2012	2.391	1.156	1.011	1.044	1.109	1.039	1.031	1.000										
7/1/2013	2.268	1.216	1.008	1.032	1.000	1.000	1.002											
7/1/2014	1.663	1.065	1.001	1.002	1.000	1.000												
7/1/2015	2.157	1.106	1.001	1.035	1.005													
7/1/2016	1.998	1.214	1.049	1.000														
7/1/2017	1.844	0.987	1.001															
7/1/2018	1.606	1.139																
7/1/2019	1.805																	
Average	1.935	1.097	1.014	1.012	1.018	1.008	1.012	1.006	1.005	1.007	1.002	1.001	1.003	1.005	1.004	1.017	1.000	
Wtd Avg	1.844	1.094	1.012	1.014	1.015	1.007	1.011	1.005	1.004	1.006	1.001	1.001	1.003	1.005	1.005	1.019	1.000	
5 Yr Avg	1.882	1.102	1.012	1.022	1.023	1.009	1.012	1.001	1.005	1.011	1.002	1.002						
3 Yr Avg	1.752	1.113	1.017	1.012	1.002	1.013	1.011	1.000	1.000	1.015	1.004	1.003	1.005	1.000				
Prior	1.850	1.120	1.025	1.025	1.020	1.010	1.010	1.008	1.008	1.008	1.002	1.001	1.001	1.001	1.001	1.001	1.000	1.000
																		Tail
Industry	1.798	1.187	1.090	1.054	1.026	1.019	1.014	1.009	1.009	1.008	1.005	1.005	1.004	1.004	1.003	1.002	1.002	1.013
Selected	1.850	1.110	1.020	1.015	1.015	1.013	1.010	1.008	1.008	1.005	1.005	1.003	1.002	1.002	1.002	1.002	1.002	1.013
Ultimate	2.326	1.257	1.133	1.110	1.094	1.078	1.064	1.054	1.045	1.037	1.032	1.027	1.024	1.021	1.019	1.017	1.015	1.013
Pattern	43.0%	36.5%	8.7%	1.8%	1.4%	1.4%	1.2%	0.9%	0.8%	0.8%	0.5%	0.5%	0.3%	0.2%	0.2%	0.2%	0.2%	1.5%

Notes:

industry development factors based on data from the 2019 edition of NCCI Annual Statistical Bulletin

City of Chandler
Workers' Compensation
Incurred Losses & ALAE - Limited to $75,000
Based on Data as of June 30, 2021

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	405,319	615,533	658,303	716,149	753,179	744,414	746,126	745,968	745,968	746,550	746,550	746,507	746,507	757,007	770,294	770,294	786,281	786,281
7/1/2004	433,092	596,068	636,433	655,098	654,707	654,721	654,029	655,980	621,775	621,775	621,775	621,775	621,775	621,971	621,971	621,971	621,971	
7/1/2005	218,697	565,416	613,104	665,312	642,903	643,810	643,968	643,968	648,952	649,576	649,576	649,576	649,576	649,576	649,576	649,576		
7/1/2006	357,568	572,351	609,148	626,706	616,108	615,385	618,033	607,264	607,316	607,316	607,316	607,316	607,316	607,316	607,316			
7/1/2007	591,135	736,617	771,326	696,254	661,761	655,981	699,833	718,703	744,997	732,151	728,026	737,820	737,820	811,227				
7/1/2008	606,357	695,601	654,669	643,402	642,616	665,025	665,025	665,025	665,025	665,343	674,485	674,560	675,237					
7/1/2009	1,209,165	1,384,432	1,317,306	1,278,754	1,278,229	1,275,301	1,280,550	1,306,043	1,306,081	1,305,964	1,306,294	1,305,417						
7/1/2010	846,987	997,056	971,294	962,028	966,774	968,032	966,782	966,822	966,822	966,822	966,822							
7/1/2011	1,113,010	1,158,045	1,151,669	1,164,497	1,158,747	1,163,992	1,163,992	1,163,992	1,164,307	1,164,313								
7/1/2012	549,779	982,837	971,678	888,485	986,927	1,038,675	1,042,245	1,069,226	1,069,226									
7/1/2013	1,110,080	1,536,783	1,478,594	1,480,078	1,491,735	1,486,217	1,479,586	1,483,450										
7/1/2014	1,041,527	1,020,543	1,008,810	997,553	990,329	990,329	990,329											
7/1/2015	718,305	1,067,238	1,056,357	1,060,018	1,090,362	1,090,362												
7/1/2016	919,829	1,249,791	1,257,422	1,264,190	1,264,190													
7/1/2017	1,202,169	1,232,355	1,149,200	1,148,254														
7/1/2018	812,003	1,079,028	1,080,187															
7/1/2019	859,380	1,040,193																
7/1/2020	1,334,418																	

Accident Period Beginning	12 to 24	24 to 36	36 to 48	48 to 60	60 to 72	72 to 84	84 to 96	96 to 108	108 to 120	120 to 132	132 to 144	144 to 156	156 to 168	168 to 180	180 to 192	192 to 204	204 to 216	216 to Ult
7/1/2003	1.519	1.069	1.088	1.052	0.988	1.002	1.000	1.000	1.001	1.000	1.000	1.000	1.014	1.018	1.000	1.021	1.000	
7/1/2004	1.376	1.068	1.029	0.999	1.000	0.999	1.003	0.948	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
7/1/2005	2.585	1.084	1.085	0.966	1.001	1.000	1.000	1.008	1.001	1.000	1.000	1.000	1.000	1.000	1.000			
7/1/2006	1.601	1.064	1.029	0.983	0.999	1.004	0.983	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
7/1/2007	1.246	1.047	0.903	0.950	0.991	1.067	1.027	1.037	0.983	0.994	1.013	1.000	1.099					
7/1/2008	1.147	0.941	0.983	0.999	1.035	1.000	1.000	1.000	1.000	1.014	1.000	1.001						
7/1/2009	1.145	0.952	0.971	1.000	0.998	1.004	1.020	1.000	1.000	1.000	0.999							
7/1/2010	1.177	0.974	0.990	1.005	1.001	0.999	1.000	1.000	1.000	1.000								
7/1/2011	1.040	0.994	1.011	0.995	1.005	1.000	1.000	1.000	1.000									
7/1/2012	1.788	0.989	0.914	1.111	1.052	1.003	1.026	1.000										
7/1/2013	1.384	0.962	1.001	1.008	0.996	0.996	1.003											
7/1/2014	0.980	0.989	0.989	0.993	1.000	1.000												
7/1/2015	1.486	0.990	1.003	1.029	1.000													
7/1/2016	1.359	1.006	1.005	1.000														
7/1/2017	1.025	0.933	0.999															
7/1/2018	1.329	1.001																
7/1/2019	1.210																	
Average	1.376	1.004	1.000	1.006	1.005	1.006	1.006	0.999	0.998	1.001	1.002	1.000	1.023	1.004	1.000	1.010	1.000	
Wtd Avg	1.272	0.993	0.996	1.008	1.005	1.004	1.007	1.000	0.998	1.001	1.002	1.000	1.025	1.005	1.000	1.011	1.000	
5 Yr Avg	1.282	0.984	1.000	1.028	1.011	1.000	1.010	1.000	0.997	1.002	1.003	1.000						
3 Yr Avg	1.188	0.980	1.003	1.007	0.999	1.000	1.009	1.000	1.000	1.005	1.004	1.000	1.033	1.000				
Prior	1.300	1.000	1.000	1.020	1.015	1.005	1.005	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.000	1.000	1.000	1.000
																		Tail
Industry	1.265	1.071	1.031	1.010	1.004	1.004	1.003	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.000	1.000	1.000	1.001
Selected	1.275	1.020	1.010	1.005	1.005	1.003	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.000	1.000	1.000	1.000	1.000
Ultimate	1.340	1.051	1.030	1.020	1.015	1.010	1.007	1.006	1.005	1.004	1.003	1.002	1.001	1.000	1.000	1.000	1.000	1.000
Pattern	74.6%	20.5%	1.9%	1.0%	0.5%	0.5%	0.3%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%

Notes:

industry development factors based on data from the 2019 edition of NCCI Annual Statistical Bulletin

City of Chandler
Workers' Compensation
Reported Claim Counts - Excluding Closed Without Payments
Based on Data as of June 30, 2021

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	143	150	149	149	149	149	149	149	151	149	149	149	149	149	149	149	149	149
7/1/2004	135	141	142	142	142	142	143	143	143	143	143	143	143	143	143	143	143	
7/1/2005	120	147	147	147	147	147	155	147	147	147	147	147	147	147	147	147		
7/1/2006	104	135	135	135	135	139	135	135	135	135	135	135	135	135	135			
7/1/2007	154	159	160	160	167	160	160	160	161	161	161	161	161	161				
7/1/2008	164	165	166	177	165	165	165	165	165	164	165	165	165					
7/1/2009	140	144	147	144	144	144	144	143	142	142	142	142						
7/1/2010	148	161	153	153	153	154	153	153	153	153	153							
7/1/2011	167	161	161	161	161	161	161	161	161	161								
7/1/2012	128	133	134	135	135	135	135	135	135									
7/1/2013	146	154	154	154	154	154	154	154										
7/1/2014	138	140	142	143	143	143	143											
7/1/2015	137	153	153	153	153	153												
7/1/2016	125	131	132	133	133													
7/1/2017	145	150	150	149														
7/1/2018	145	159	158															
7/1/2019	126	147																
7/1/2020	128																	

Accident Period Beginning	12 to 24	24 to 36	36 to 48	48 to 60	60 to 72	72 to 84	84 to 96	96 to 108	108 to 120	120 to 132	132 to 144	144 to 156	156 to 168	168 to 180	180 to 192	192 to 204	204 to 216	216 to Ult
7/1/2003	1.049	0.993	1.000	1.000	1.000	1.000	1.000	1.013	0.987	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
7/1/2004	1.044	1.007	1.000	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		
7/1/2005	1.225	1.000	1.000	1.000	1.000	1.054	0.948	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
7/1/2006	1.298	1.000	1.000	1.000	1.030	0.971	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
7/1/2007	1.032	1.006	1.000	1.044	0.958	1.000	1.000	1.006	1.000	1.000	1.000	1.000	1.000					
7/1/2008	1.006	1.006	1.066	0.932	1.000	1.000	1.000	1.000	0.994	1.006	1.000	1.000						
7/1/2009	1.029	1.021	0.980	1.000	1.000	1.000	0.993	0.993	1.000	1.000	1.000							
7/1/2010	1.088	0.950	1.000	1.000	1.007	0.994	1.000	1.000	1.000	1.000								
7/1/2011	0.964	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000									
7/1/2012	1.039	1.008	1.007	1.000	1.000	1.000	1.000	1.000										
7/1/2013	1.055	1.000	1.000	1.000	1.000	1.000	1.000											
7/1/2014	1.014	1.014	1.007	1.000	1.000	1.000												
7/1/2015	1.117	1.000	1.000	1.000	1.000													
7/1/2016	1.048	1.008	1.008	1.000														
7/1/2017	1.034	1.000	0.993															
7/1/2018	1.097	0.994																
7/1/2019	1.167																	
Average	1.077	1.000	1.004	0.998	1.000	1.002	0.995	1.001	0.998	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Wtd Avg	1.070	1.000	1.004	0.998	0.999	1.002	0.995	1.001	0.998	1.001	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
5 Yr Avg	1.092	1.003	1.002	1.000	1.000	0.999	0.999	0.999	0.999	1.001	1.000	1.000						
3 Yr Avg	1.099	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.002	1.000	1.000	1.000	1.000				
Prior	1.060	1.005	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	1.000	1.000
																		Tail
Selected	1.090	1.003	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	1.000	1.000
Ultimate	1.095	1.005	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Pattern	91.3%	8.2%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

City of Chandler
Workers' Compensation
Paid Losses & ALAE / Ultimate Losses & ALAE - Limited to $75,000
Based on Data as of June 30, 2021

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	247,026	565,212	621,763	661,178	715,176	720,556	722,269	722,205	722,300	725,697	725,697	725,655	725,655	725,875	739,755	749,083	774,870	775,091
7/1/2004	276,397	536,761	577,418	592,457	605,379	609,033	616,357	621,775	621,775	621,775	621,775	621,775	621,775	621,971	621,971	621,971	621,971	
7/1/2005	200,706	505,966	552,607	594,741	603,672	614,644	622,212	629,386	640,201	649,576	649,576	649,576	649,576	649,576	649,576	649,576		
7/1/2006	209,267	464,091	531,181	552,186	552,895	584,800	585,106	578,421	581,840	581,848	582,063	582,071	582,176	587,789	587,801			
7/1/2007	351,283	616,773	702,322	645,614	595,827	595,827	597,997	636,245	658,716	673,524	679,204	686,940	691,745	695,966				
7/1/2008	321,961	608,696	622,878	618,457	611,609	627,188	643,015	643,023	644,726	645,027	674,485	674,560	675,237					
7/1/2009	807,943	1,268,270	1,274,279	1,258,475	1,269,316	1,268,437	1,268,781	1,299,694	1,301,130	1,299,762	1,300,357	1,299,626						
7/1/2010	667,115	932,878	953,600	956,407	966,774	966,782	966,782	966,822	966,822	966,822	966,822							
7/1/2011	656,562	1,042,286	1,107,176	1,140,809	1,152,179	1,153,721	1,157,939	1,158,827	1,159,929	1,160,847								
7/1/2012	308,364	737,253	852,237	861,204	899,282	997,688	1,037,066	1,069,226	1,069,226									
7/1/2013	515,792	1,169,619	1,422,414	1,433,603	1,478,801	1,479,343	1,479,586	1,482,601										
7/1/2014	557,797	927,794	988,164	988,803	990,329	990,329	990,329											
7/1/2015	418,716	903,262	998,672	999,797	1,034,850	1,040,344												
7/1/2016	496,863	992,965	1,205,210	1,264,190	1,264,190													
7/1/2017	603,228	1,112,325	1,098,076	1,098,692														
7/1/2018	517,966	832,096	947,621															
7/1/2019	513,953	927,549																
7/1/2020	589,321																	

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	0.314	0.719	0.791	0.841	0.910	0.916	0.919	0.919	0.919	0.923	0.923	0.923	0.923	0.923	0.941	0.953	0.985	0.986
7/1/2004	0.444	0.863	0.928	0.953	0.973	0.979	0.991	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
7/1/2005	0.309	0.779	0.851	0.916	0.929	0.946	0.958	0.969	0.986	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
7/1/2006	0.344	0.763	0.874	0.908	0.909	0.962	0.962	0.951	0.957	0.957	0.957	0.957	0.958	0.967	0.967			
7/1/2007	0.433	0.760	0.865	0.795	0.734	0.734	0.736	0.784	0.811	0.829	0.836	0.846	0.852	0.857				
7/1/2008	0.477	0.901	0.922	0.916	0.906	0.929	0.952	0.952	0.955	0.955	0.999	0.999	1.000					
7/1/2009	0.617	0.968	0.973	0.961	0.969	0.968	0.969	0.992	0.993	0.992	0.993	0.992						
7/1/2010	0.690	0.965	0.986	0.989	1.000	1.000	1.000	1.000	1.000	1.000	1.000							
7/1/2011	0.561	0.891	0.946	0.975	0.985	0.986	0.990	0.990	0.991	0.992								
7/1/2012	0.288	0.690	0.797	0.805	0.841	0.933	0.970	1.000	1.000									
7/1/2013	0.345	0.783	0.953	0.960	0.990	0.991	0.991	0.993										
7/1/2014	0.563	0.937	0.998	0.998	1.000	1.000	1.000											
7/1/2015	0.384	0.828	0.916	0.917	0.949	0.954												
7/1/2016	0.393	0.785	0.953	1.000	1.000													
7/1/2017	0.504	0.928	0.917	0.917														
7/1/2018	0.464	0.745	0.848															
7/1/2019	0.450	0.812																
7/1/2020	0.356																	

City of Chandler
Workers' Compensation
Incurred Losses & ALAE / Ultimate Losses & ALAE - Limited to $75,000
Based on Data as of June 30, 2021

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	405,319	615,533	658,303	716,149	753,179	744,414	746,126	745,968	745,968	746,550	746,550	746,507	746,507	757,007	770,294	770,294	786,281	786,281
7/1/2004	433,092	596,068	636,433	655,098	654,707	654,721	654,029	655,980	621,775	621,775	621,775	621,775	621,775	621,971	621,971	621,971	621,971	
7/1/2005	218,697	565,416	613,104	665,312	642,903	643,810	643,968	643,968	648,952	649,576	649,576	649,576	649,576	649,576	649,576	649,576		
7/1/2006	357,568	572,351	609,148	626,706	616,108	615,385	618,033	607,264	607,316	607,316	607,316	607,316	607,316	607,316	607,316			
7/1/2007	591,135	736,617	771,326	696,254	661,761	655,981	699,833	718,703	744,997	732,151	728,026	737,820	737,820	811,227				
7/1/2008	606,357	695,601	654,669	643,402	642,616	665,025	665,025	665,025	665,025	665,343	674,485	674,560	675,237					
7/1/2009	1,209,165	1,384,432	1,317,306	1,278,754	1,278,229	1,275,301	1,280,550	1,306,043	1,306,081	1,305,964	1,306,294	1,305,417						
7/1/2010	846,987	997,056	971,294	962,028	966,774	968,032	966,782	966,822	966,822	966,822	966,822							
7/1/2011	1,113,010	1,158,045	1,151,669	1,164,497	1,158,747	1,163,992	1,163,992	1,163,992	1,164,307	1,164,313								
7/1/2012	549,779	982,837	971,678	888,485	986,927	1,038,675	1,042,245	1,069,226	1,069,226									
7/1/2013	1,110,080	1,536,783	1,478,594	1,480,078	1,491,735	1,486,217	1,479,586	1,483,450										
7/1/2014	1,041,527	1,020,543	1,008,810	997,553	990,329	990,329	990,329											
7/1/2015	718,305	1,067,238	1,056,357	1,060,018	1,090,362	1,090,362												
7/1/2016	919,829	1,249,791	1,257,422	1,264,190	1,264,190													
7/1/2017	1,202,169	1,232,355	1,149,200	1,148,254														
7/1/2018	812,003	1,079,028	1,080,187															
7/1/2019	859,380	1,040,193																
7/1/2020	1,334,418																	

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	0.515	0.783	0.837	0.911	0.958	0.947	0.949	0.949	0.949	0.949	0.949	0.949	0.949	0.963	0.980	0.980	1.000	1.000
7/1/2004	0.696	0.958	1.023	1.053	1.053	1.053	1.052	1.055	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
7/1/2005	0.337	0.870	0.944	1.024	0.990	0.991	0.991	0.991	0.999	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
7/1/2006	0.588	0.941	1.002	1.031	1.013	1.012	1.017	0.999	0.999	0.999	0.999	0.999	0.999	0.999	0.999			
7/1/2007	0.728	0.907	0.950	0.857	0.815	0.808	0.862	0.885	0.917	0.902	0.897	0.909	0.909	0.999				
7/1/2008	0.898	1.030	0.970	0.953	0.952	0.985	0.985	0.985	0.985	0.985	0.999	0.999	1.000					
7/1/2009	0.923	1.057	1.006	0.976	0.976	0.974	0.978	0.997	0.997	0.997	0.997	0.997						
7/1/2010	0.876	1.031	1.005	0.995	1.000	1.001	1.000	1.000	1.000	1.000	1.000							
7/1/2011	0.951	0.990	0.984	0.995	0.990	0.995	0.995	0.995	0.995	0.995								
7/1/2012	0.514	0.919	0.909	0.831	0.923	0.971	0.975	1.000	1.000									
7/1/2013	0.744	1.029	0.990	0.991	0.999	0.995	0.991	0.994										
7/1/2014	1.052	1.031	1.019	1.007	1.000	1.000	1.000											
7/1/2015	0.659	0.979	0.969	0.972	1.000	1.000												
7/1/2016	0.728	0.989	0.995	1.000	1.000													
7/1/2017	1.003	1.029	0.959	0.958														
7/1/2018	0.727	0.966	0.967															
7/1/2019	0.753	0.911																
7/1/2020	0.807																	

City of Chandler
Workers' Compensation
Rate of Paid Losses & ALAE to Exposure ($1,000 Payroll) - Limited to $75,000
Based on Data as of June 30, 2021

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	247,026	565,212	621,763	661,178	715,176	720,556	722,269	722,205	722,300	725,697	725,697	725,655	725,655	725,875	739,755	749,083	774,870	775,091
7/1/2004	276,397	536,761	577,418	592,457	605,379	609,033	616,357	621,775	621,775	621,775	621,775	621,775	621,775	621,971	621,971	621,971	621,971	
7/1/2005	200,706	505,966	552,607	594,741	603,672	614,644	622,212	629,386	640,201	649,576	649,576	649,576	649,576	649,576	649,576	649,576		
7/1/2006	209,267	464,091	531,181	552,186	552,895	584,800	585,106	578,421	581,840	581,848	582,063	582,071	582,176	587,789	587,801			
7/1/2007	351,283	616,773	702,322	645,614	595,827	595,827	597,997	636,245	658,716	673,524	679,204	686,940	691,745	695,966				
7/1/2008	321,961	608,696	622,878	618,457	611,609	627,188	643,015	643,023	644,726	645,027	674,485	674,560	675,237					
7/1/2009	807,943	1,268,270	1,274,279	1,258,475	1,269,316	1,268,437	1,268,781	1,299,694	1,301,130	1,299,762	1,300,357	1,299,626						
7/1/2010	667,115	932,878	953,600	956,407	966,774	966,782	966,782	966,822	966,822	966,822	966,822							
7/1/2011	656,562	1,042,286	1,107,176	1,140,809	1,152,179	1,153,721	1,157,939	1,158,827	1,159,929	1,160,847								
7/1/2012	308,364	737,253	852,237	861,204	899,282	997,688	1,037,066	1,069,226	1,069,226									
7/1/2013	515,792	1,169,619	1,422,414	1,433,603	1,478,801	1,479,343	1,479,586	1,482,601										
7/1/2014	557,797	927,794	988,164	988,803	990,329	990,329	990,329											
7/1/2015	418,716	903,262	998,672	999,797	1,034,850	1,040,344												
7/1/2016	496,863	992,965	1,205,210	1,264,190	1,264,190													
7/1/2017	603,228	1,112,325	1,098,076	1,098,692														
7/1/2018	517,966	832,096	947,621															
7/1/2019	513,953	927,549																
7/1/2020	589,321																	

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	2.99	6.84	7.52	8.00	8.65	8.71	8.74	8.73	8.74	8.78	8.78	8.78	8.78	8.78	8.95	9.06	9.37	9.37
7/1/2004	3.26	6.34	6.82	7.00	7.15	7.19	7.28	7.34	7.34	7.34	7.34	7.34	7.34	7.35	7.35	7.35	7.35	
7/1/2005	2.23	5.61	6.13	6.59	6.69	6.81	6.90	6.98	7.10	7.20	7.20	7.20	7.20	7.20	7.20	7.20		
7/1/2006	2.03	4.51	5.16	5.37	5.37	5.68	5.69	5.62	5.66	5.66	5.66	5.66	5.66	5.71	5.71			
7/1/2007	3.14	5.52	6.29	5.78	5.33	5.33	5.35	5.70	5.90	6.03	6.08	6.15	6.19	6.23				
7/1/2008	2.67	5.04	5.16	5.13	5.07	5.20	5.33	5.33	5.34	5.35	5.59	5.59	5.60					
7/1/2009	6.74	10.59	10.64	10.50	10.60	10.59	10.59	10.85	10.86	10.85	10.85	10.85						
7/1/2010	5.86	8.19	8.38	8.40	8.49	8.49	8.49	8.49	8.49	8.49	8.49							
7/1/2011	5.95	9.44	10.03	10.33	10.44	10.45	10.49	10.50	10.51	10.51								
7/1/2012	2.59	6.19	7.16	7.23	7.55	8.38	8.71	8.98	8.98									
7/1/2013	4.47	10.14	12.33	12.43	12.82	12.83	12.83	12.85										
7/1/2014	4.67	7.76	8.27	8.27	8.29	8.29	8.29											
7/1/2015	3.28	7.08	7.83	7.84	8.12	8.16												
7/1/2016	3.87	7.73	9.38	9.84	9.84													
7/1/2017	4.52	8.33	8.23	8.23														
7/1/2018	3.82	6.14	6.99															
7/1/2019	3.76	6.78																
7/1/2020	4.21																	

City of Chandler
Workers' Compensation
Rate of Incurred Losses & ALAE to Exposure ($1,000 Payroll) - Limited to $75,000
Based on Data as of June 30, 2021

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	405,319	615,533	658,303	716,149	753,179	744,414	746,126	745,968	745,968	746,550	746,550	746,507	746,507	757,007	770,294	770,294	786,281	786,281
7/1/2004	433,092	596,068	636,433	655,098	654,707	654,721	654,029	655,980	621,775	621,775	621,775	621,775	621,775	621,971	621,971	621,971	621,971	
7/1/2005	218,697	565,416	613,104	665,312	642,903	643,810	643,968	643,968	648,952	649,576	649,576	649,576	649,576	649,576	649,576	649,576		
7/1/2006	357,568	572,351	609,148	626,706	616,108	615,385	618,033	607,264	607,316	607,316	607,316	607,316	607,316	607,316	607,316			
7/1/2007	591,135	736,617	771,326	696,254	661,761	655,981	699,833	718,703	744,997	732,151	728,026	737,820	737,820	811,227				
7/1/2008	606,357	695,601	654,669	643,402	642,616	665,025	665,025	665,025	665,025	665,343	674,485	674,560	675,237					
7/1/2009	1,209,165	1,384,432	1,317,306	1,278,754	1,278,229	1,275,301	1,280,550	1,306,043	1,306,081	1,305,964	1,306,294	1,305,417						
7/1/2010	846,987	997,056	971,294	962,028	966,774	968,032	966,782	966,822	966,822	966,822	966,822							
7/1/2011	1,113,010	1,158,045	1,151,669	1,164,497	1,158,747	1,163,992	1,163,992	1,163,992	1,164,307	1,164,313								
7/1/2012	549,779	982,837	971,678	888,485	986,927	1,038,675	1,042,245	1,069,226	1,069,226									
7/1/2013	1,110,080	1,536,783	1,478,594	1,480,078	1,491,735	1,486,217	1,479,586	1,483,450										
7/1/2014	1,041,527	1,020,543	1,008,810	997,553	990,329	990,329	990,329											
7/1/2015	718,305	1,067,238	1,056,357	1,060,018	1,090,362	1,090,362												
7/1/2016	919,829	1,249,791	1,257,422	1,264,190	1,264,190													
7/1/2017	1,202,169	1,232,355	1,149,200	1,148,254														
7/1/2018	812,003	1,079,028	1,080,187															
7/1/2019	859,380	1,040,193																
7/1/2020	1,334,418																	

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	4.90	7.44	7.96	8.66	9.11	9.00	9.02	9.02	9.02	9.03	9.03	9.03	9.03	9.16	9.32	9.32	9.51	9.51
7/1/2004	5.11	7.04	7.52	7.74	7.73	7.73	7.72	7.75	7.34	7.34	7.34	7.34	7.34	7.35	7.35	7.35	7.35	
7/1/2005	2.42	6.27	6.80	7.38	7.13	7.14	7.14	7.14	7.19	7.20	7.20	7.20	7.20	7.20	7.20	7.20		
7/1/2006	3.48	5.56	5.92	6.09	5.99	5.98	6.01	5.90	5.90	5.90	5.90	5.90	5.90	5.90	5.90			
7/1/2007	5.29	6.59	6.90	6.23	5.92	5.87	6.26	6.43	6.67	6.55	6.52	6.60	6.60	7.26				
7/1/2008	5.03	5.76	5.43	5.33	5.33	5.51	5.51	5.51	5.51	5.51	5.59	5.59	5.60					
7/1/2009	10.09	11.56	11.00	10.67	10.67	10.65	10.69	10.90	10.90	10.90	10.90	10.90						
7/1/2010	7.44	8.76	8.53	8.45	8.49	8.50	8.49	8.49	8.49	8.49	8.49							
7/1/2011	10.08	10.49	10.43	10.55	10.49	10.54	10.54	10.54	10.54	10.55								
7/1/2012	4.62	8.25	8.16	7.46	8.29	8.72	8.75	8.98	8.98									
7/1/2013	9.62	13.32	12.82	12.83	12.93	12.88	12.83	12.86										
7/1/2014	8.71	8.54	8.44	8.35	8.29	8.29	8.29											
7/1/2015	5.63	8.37	8.28	8.31	8.55	8.55												
7/1/2016	7.16	9.73	9.79	9.84	9.84													
7/1/2017	9.01	9.23	8.61	8.60														
7/1/2018	5.99	7.96	7.97															
7/1/2019	6.28	7.60																
7/1/2020	9.53																	

City of Chandler
Workers' Compensation
Closed Claim Counts / Ultimate Claim Counts - Excluding Closed Without Payments
Based on Data as of June 30, 2021

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	92	130	146	145	145	146	147	148	148	148	148	148	148	148	148	148	148	148
7/1/2004	76	138	139	139	140	140	141	141	143	143	143	143	143	143	143	143	143	
7/1/2005	117	144	144	145	146	146	146	146	145	145	145	145	145	145	145	146		
7/1/2006	93	124	129	132	133	132	133	133	133	133	134	134	134	134	134			
7/1/2007	106	149	153	154	153	157	155	155	156	158	159	159	159	158				
7/1/2008	116	155	159	158	162	161	161	161	161	161	163	163	163					
7/1/2009	103	126	126	139	138	140	139	138	139	138	139	139						
7/1/2010	101	132	149	151	151	151	151	151	151	151	152							
7/1/2011	93	142	152	153	155	156	156	156	157	157								
7/1/2012	71	108	119	129	129	129	130	131	131									
7/1/2013	62	112	139	145	147	148	149	149										
7/1/2014	62	122	132	140	141	141	141											
7/1/2015	63	139	148	147	148	149												
7/1/2016	56	108	123	126	128													
7/1/2017	95	129	141	144														
7/1/2018	94	137	144															
7/1/2019	79	124																
7/1/2020	73																	

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	0.617	0.872	0.980	0.973	0.973	0.980	0.987	0.993	0.993	0.993	0.993	0.993	0.993	0.993	0.993	0.993	0.993	0.993
7/1/2004	0.531	0.965	0.972	0.972	0.979	0.979	0.986	0.986	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
7/1/2005	0.796	0.980	0.980	0.986	0.993	0.993	0.993	0.993	0.986	0.986	0.986	0.986	0.986	0.986	0.986	0.993		
7/1/2006	0.689	0.919	0.956	0.978	0.985	0.978	0.985	0.985	0.985	0.985	0.993	0.993	0.993	0.993	0.993			
7/1/2007	0.658	0.925	0.950	0.957	0.950	0.975	0.963	0.963	0.969	0.981	0.988	0.988	0.988	0.981				
7/1/2008	0.703	0.939	0.964	0.958	0.982	0.976	0.976	0.976	0.976	0.976	0.988	0.988	0.988					
7/1/2009	0.725	0.887	0.887	0.979	0.972	0.986	0.979	0.972	0.979	0.972	0.979	0.979						
7/1/2010	0.660	0.863	0.974	0.987	0.987	0.987	0.987	0.987	0.987	0.987	0.993							
7/1/2011	0.578	0.882	0.944	0.950	0.963	0.969	0.969	0.969	0.975	0.975								
7/1/2012	0.526	0.800	0.881	0.956	0.956	0.956	0.963	0.970	0.970									
7/1/2013	0.403	0.727	0.903	0.942	0.955	0.961	0.968	0.968										
7/1/2014	0.434	0.853	0.923	0.979	0.986	0.986	0.986											
7/1/2015	0.412	0.908	0.967	0.961	0.967	0.974												
7/1/2016	0.421	0.812	0.925	0.947	0.962													
7/1/2017	0.638	0.866	0.946	0.966														
7/1/2018	0.595	0.867	0.911															
7/1/2019	0.534	0.838																
7/1/2020	0.507																	

City of Chandler
Workers' Compensation
Reported Claim Counts / Ultimate Claim Counts - Excluding Closed Without Payments
Based on Data as of June 30, 2021

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	143	150	149	149	149	149	149	149	151	149	149	149	149	149	149	149	149	149
7/1/2004	135	141	142	142	142	142	143	143	143	143	143	143	143	143	143	143	143	
7/1/2005	120	147	147	147	147	147	155	147	147	147	147	147	147	147	147	147		
7/1/2006	104	135	135	135	135	139	135	135	135	135	135	135	135	135	135			
7/1/2007	154	159	160	160	167	160	160	160	161	161	161	161	161	161				
7/1/2008	164	165	166	177	165	165	165	165	165	164	165	165	165					
7/1/2009	140	144	147	144	144	144	144	143	142	142	142	142						
7/1/2010	148	161	153	153	153	154	153	153	153	153	153							
7/1/2011	167	161	161	161	161	161	161	161	161	161								
7/1/2012	128	133	134	135	135	135	135	135	135									
7/1/2013	146	154	154	154	154	154	154	154										
7/1/2014	138	140	142	143	143	143	143											
7/1/2015	137	153	153	153	153	153												
7/1/2016	125	131	132	133	133													
7/1/2017	145	150	150	149														
7/1/2018	145	159	158															
7/1/2019	126	147																
7/1/2020	128																	

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	0.960	1.007	1.000	1.000	1.000	1.000	1.000	1.000	1.013	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
7/1/2004	0.944	0.986	0.993	0.993	0.993	0.993	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
7/1/2005	0.816	1.000	1.000	1.000	1.000	1.000	1.054	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
7/1/2006	0.770	1.000	1.000	1.000	1.000	1.030	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
7/1/2007	0.957	0.988	0.994	0.994	1.037	0.994	0.994	0.994	1.000	1.000	1.000	1.000	1.000	1.000				
7/1/2008	0.994	1.000	1.006	1.073	1.000	1.000	1.000	1.000	1.000	0.994	1.000	1.000	1.000					
7/1/2009	0.986	1.014	1.035	1.014	1.014	1.014	1.014	1.007	1.000	1.000	1.000	1.000						
7/1/2010	0.967	1.052	1.000	1.000	1.000	1.007	1.000	1.000	1.000	1.000	1.000							
7/1/2011	1.037	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000								
7/1/2012	0.948	0.985	0.993	1.000	1.000	1.000	1.000	1.000	1.000									
7/1/2013	0.948	1.000	1.000	1.000	1.000	1.000	1.000	1.000										
7/1/2014	0.965	0.979	0.993	1.000	1.000	1.000	1.000											
7/1/2015	0.895	1.000	1.000	1.000	1.000	1.000												
7/1/2016	0.940	0.985	0.992	1.000	1.000													
7/1/2017	0.973	1.007	1.007	1.000														
7/1/2018	0.918	1.006	1.000															
7/1/2019	0.851	0.993																
7/1/2020	0.889																	

City of Chandler
Workers' Compensation
Rate of Reported Count Frequency to Exposure ($1M Payroll) - Excluding Closed Without Payments
Based on Data as of June 30, 2021

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	143	150	149	149	149	149	149	149	151	149	149	149	149	149	149	149	149	149
7/1/2004	135	141	142	142	142	142	143	143	143	143	143	143	143	143	143	143	143	
7/1/2005	120	147	147	147	147	147	155	147	147	147	147	147	147	147	147	147		
7/1/2006	104	135	135	135	135	139	135	135	135	135	135	135	135	135	135			
7/1/2007	154	159	160	160	167	160	160	160	161	161	161	161	161	161				
7/1/2008	164	165	166	177	165	165	165	165	165	164	165	165	165					
7/1/2009	140	144	147	144	144	144	144	143	142	142	142	142						
7/1/2010	148	161	153	153	153	154	153	153	153	153	153							
7/1/2011	167	161	161	161	161	161	161	161	161	161								
7/1/2012	128	133	134	135	135	135	135	135	135									
7/1/2013	146	154	154	154	154	154	154	154										
7/1/2014	138	140	142	143	143	143	143											
7/1/2015	137	153	153	153	153	153												
7/1/2016	125	131	132	133	133													
7/1/2017	145	150	150	149														
7/1/2018	145	159	158															
7/1/2019	126	147																
7/1/2020	128																	

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	1.729	1.814	1.802	1.802	1.802	1.802	1.802	1.802	1.826	1.802	1.802	1.802	1.802	1.802	1.802	1.802	1.802	1.802
7/1/2004	1.594	1.665	1.677	1.677	1.677	1.677	1.689	1.689	1.689	1.689	1.689	1.689	1.689	1.689	1.689	1.689	1.689	
7/1/2005	1.330	1.630	1.630	1.630	1.630	1.630	1.718	1.630	1.630	1.630	1.630	1.630	1.630	1.630	1.630	1.630		
7/1/2006	1.011	1.312	1.312	1.312	1.312	1.351	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312	1.312			
7/1/2007	1.379	1.423	1.432	1.432	1.495	1.432	1.432	1.432	1.441	1.441	1.441	1.441	1.441	1.441				
7/1/2008	1.359	1.367	1.376	1.467	1.367	1.367	1.367	1.367	1.367	1.359	1.367	1.367	1.367					
7/1/2009	1.169	1.202	1.227	1.202	1.202	1.202	1.202	1.194	1.185	1.185	1.185	1.185						
7/1/2010	1.300	1.414	1.344	1.344	1.344	1.353	1.344	1.344	1.344	1.344	1.344							
7/1/2011	1.512	1.458	1.458	1.458	1.458	1.458	1.458	1.458	1.458	1.458								
7/1/2012	1.075	1.117	1.125	1.134	1.134	1.134	1.134	1.134	1.134									
7/1/2013	1.266	1.335	1.335	1.335	1.335	1.335	1.335	1.335										
7/1/2014	1.155	1.171	1.188	1.196	1.196	1.196	1.196											
7/1/2015	1.074	1.200	1.200	1.200	1.200	1.200												
7/1/2016	0.973	1.020	1.028	1.035	1.035													
7/1/2017	1.086	1.124	1.124	1.116														
7/1/2018	1.070	1.173	1.165															
7/1/2019	0.921	1.075																
7/1/2020	0.914																	

City of Chandler
Workers' Compensation
Paid Losses & ALAE / Incurred Losses & ALAE - Limited to $75,000
Based on Data as of June 30, 2021

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	0.609	0.918	0.944	0.923	0.950	0.968	0.968	0.968	0.968	0.972	0.972	0.972	0.972	0.959	0.960	0.972	0.985	0.986
7/1/2004	0.638	0.901	0.907	0.904	0.925	0.930	0.942	0.948	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
7/1/2005	0.918	0.895	0.901	0.894	0.939	0.955	0.966	0.977	0.987	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
7/1/2006	0.585	0.811	0.872	0.881	0.897	0.950	0.947	0.953	0.958	0.958	0.958	0.958	0.959	0.968	0.968			
7/1/2007	0.594	0.837	0.911	0.927	0.900	0.908	0.854	0.885	0.884	0.920	0.933	0.931	0.938	0.858				
7/1/2008	0.531	0.875	0.951	0.961	0.952	0.943	0.967	0.967	0.969	0.969	1.000	1.000	1.000					
7/1/2009	0.668	0.916	0.967	0.984	0.993	0.995	0.991	0.995	0.996	0.995	0.995	0.996						
7/1/2010	0.788	0.936	0.982	0.994	1.000	0.999	1.000	1.000	1.000	1.000	1.000							
7/1/2011	0.590	0.900	0.961	0.980	0.994	0.991	0.995	0.996	0.996	0.997								
7/1/2012	0.561	0.750	0.877	0.969	0.911	0.961	0.995	1.000	1.000									
7/1/2013	0.465	0.761	0.962	0.969	0.991	0.995	1.000	0.999										
7/1/2014	0.536	0.909	0.980	0.991	1.000	1.000	1.000											
7/1/2015	0.583	0.846	0.945	0.943	0.949	0.954												
7/1/2016	0.540	0.795	0.958	1.000	1.000													
7/1/2017	0.502	0.903	0.956	0.957														
7/1/2018	0.638	0.771	0.877															
7/1/2019	0.598	0.892																
7/1/2020	0.442																	

City of Chandler
Workers' Compensation
Closed Claim Counts / Reported Claim Counts - Excluding Closed Without Payments
Based on Data as of June 30, 2021

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	0.643	0.867	0.980	0.973	0.973	0.980	0.987	0.993	0.980	0.993	0.993	0.993	0.993	0.993	0.993	0.993	0.993	0.993
7/1/2004	0.563	0.979	0.979	0.979	0.986	0.986	0.986	0.986	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
7/1/2005	0.975	0.980	0.980	0.986	0.993	0.993	0.942	0.993	0.986	0.986	0.986	0.986	0.986	0.986	0.986	0.993		
7/1/2006	0.894	0.919	0.956	0.978	0.985	0.950	0.985	0.985	0.985	0.985	0.993	0.993	0.993	0.993	0.993			
7/1/2007	0.688	0.937	0.956	0.963	0.916	0.981	0.969	0.969	0.969	0.981	0.988	0.988	0.988	0.981				
7/1/2008	0.707	0.939	0.958	0.893	0.982	0.976	0.976	0.976	0.976	0.982	0.988	0.988	0.988					
7/1/2009	0.736	0.875	0.857	0.965	0.958	0.972	0.965	0.965	0.979	0.972	0.979	0.979						
7/1/2010	0.682	0.820	0.974	0.987	0.987	0.981	0.987	0.987	0.987	0.987	0.993							
7/1/2011	0.557	0.882	0.944	0.950	0.963	0.969	0.969	0.969	0.975	0.975								
7/1/2012	0.555	0.812	0.888	0.956	0.956	0.956	0.963	0.970	0.970									
7/1/2013	0.425	0.727	0.903	0.942	0.955	0.961	0.968	0.968										
7/1/2014	0.449	0.871	0.930	0.979	0.986	0.986	0.986											
7/1/2015	0.460	0.908	0.967	0.961	0.967	0.974												
7/1/2016	0.448	0.824	0.932	0.947	0.962													
7/1/2017	0.655	0.860	0.940	0.966														
7/1/2018	0.648	0.862	0.911															
7/1/2019	0.627	0.844																
7/1/2020	0.570																	

City of Chandler
Workers' Compensation
Average Paid Losses & ALAE - Limited to $75,000
Based on Data as of June 30, 2021

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	2,685	4,348	4,259	4,560	4,932	4,935	4,913	4,880	4,880	4,903	4,903	4,903	4,903	4,905	4,998	5,061	5,236	5,237
7/1/2004	3,637	3,890	4,154	4,262	4,324	4,350	4,371	4,410	4,348	4,348	4,348	4,348	4,348	4,349	4,349	4,349	4,349	
7/1/2005	1,715	3,514	3,838	4,102	4,135	4,210	4,262	4,311	4,415	4,480	4,480	4,480	4,480	4,480	4,480	4,449		
7/1/2006	2,250	3,743	4,118	4,183	4,157	4,430	4,399	4,349	4,375	4,375	4,344	4,344	4,345	4,386	4,387			
7/1/2007	3,314	4,139	4,590	4,192	3,894	3,795	3,858	4,105	4,223	4,263	4,272	4,320	4,351	4,405				
7/1/2008	2,776	3,927	3,917	3,914	3,775	3,896	3,994	3,994	4,005	4,006	4,138	4,138	4,143					
7/1/2009	7,844	10,066	10,113	9,054	9,198	9,060	9,128	9,418	9,361	9,419	9,355	9,350						
7/1/2010	6,605	7,067	6,400	6,334	6,402	6,403	6,403	6,403	6,403	6,403	6,361							
7/1/2011	7,060	7,340	7,284	7,456	7,433	7,396	7,423	7,428	7,388	7,394								
7/1/2012	4,343	6,826	7,162	6,676	6,971	7,734	7,977	8,162	8,162									
7/1/2013	8,319	10,443	10,233	9,887	10,060	9,996	9,930	9,950										
7/1/2014	8,997	7,605	7,486	7,063	7,024	7,024	7,024											
7/1/2015	6,646	6,498	6,748	6,801	6,992	6,982												
7/1/2016	8,873	9,194	9,798	10,033	9,876													
7/1/2017	6,350	8,623	7,788	7,630														
7/1/2018	5,510	6,074	6,581															
7/1/2019	6,506	7,480																
7/1/2020	8,073																	

City of Chandler
Workers' Compensation
Average Incurred Losses & ALAE - Limited to $75,000 & Excluding Closed Without Payments
Based on Data as of June 30, 2021

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	2,834	4,104	4,418	4,806	5,055	4,996	5,008	5,006	4,940	5,010	5,010	5,010	5,010	5,081	5,170	5,170	5,277	5,277
7/1/2004	3,208	4,227	4,482	4,613	4,611	4,611	4,574	4,587	4,348	4,348	4,348	4,348	4,348	4,349	4,349	4,349	4,349	
7/1/2005	1,822	3,846	4,171	4,526	4,373	4,380	4,155	4,381	4,415	4,419	4,419	4,419	4,419	4,419	4,419	4,419		
7/1/2006	3,438	4,240	4,512	4,642	4,564	4,427	4,578	4,498	4,499	4,499	4,499	4,499	4,499	4,499	4,499			
7/1/2007	3,839	4,633	4,821	4,352	3,963	4,100	4,374	4,492	4,627	4,548	4,522	4,583	4,583	5,039				
7/1/2008	3,697	4,216	3,944	3,635	3,895	4,030	4,030	4,030	4,030	4,057	4,088	4,088	4,092					
7/1/2009	8,637	9,614	8,961	8,880	8,877	8,856	8,893	9,133	9,198	9,197	9,199	9,193						
7/1/2010	5,723	6,193	6,348	6,288	6,319	6,286	6,319	6,319	6,319	6,319	6,319							
7/1/2011	6,665	7,193	7,153	7,233	7,197	7,230	7,230	7,230	7,232	7,232								
7/1/2012	4,295	7,390	7,251	6,581	7,311	7,694	7,720	7,920	7,920									
7/1/2013	7,603	9,979	9,601	9,611	9,687	9,651	9,608	9,633										
7/1/2014	7,547	7,290	7,104	6,976	6,925	6,925	6,925											
7/1/2015	5,243	6,975	6,904	6,928	7,127	7,127												
7/1/2016	7,359	9,540	9,526	9,505	9,505													
7/1/2017	8,291	8,216	7,661	7,706														
7/1/2018	5,600	6,786	6,837															
7/1/2019	6,820	7,076																
7/1/2020	10,425																	

City of Chandler
Workers' Compensation
Average Open - Limited to $75,000
Based on Data as of June 30, 2021

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	3,104	2,516	12,180	13,743	9,501	7,953	11,929	23,763	7,889	20,852	20,852	20,852	20,852	31,133	30,539	21,211	11,412	11,190
7/1/2004	2,656	19,769	19,672	20,880	24,664	22,844	18,836	17,103										
7/1/2005	5,997	19,817	20,166	35,285	39,231	29,166	2,417	14,581	4,376	0	0	0	0	0	0	0		
7/1/2006	13,482	9,842	12,994	24,840	31,607	4,369	16,464	14,422	12,738	12,734	25,254	25,246	25,140	19,527	19,515			
7/1/2007	4,997	11,984	9,858	8,440	4,710	20,051	20,367	16,492	17,256	19,542	24,411	25,440	23,037	38,420				
7/1/2008	5,925	8,691	4,542	1,313	10,336	9,459	5,502	5,500	5,075	6,772	0	0	0					
7/1/2009	10,844	6,453	2,049	4,056	1,486	1,716	2,354	1,270	1,650	1,551	1,979	1,931						
7/1/2010	3,827	2,213	4,424	2,811	0	417	0	0	0	0	0							
7/1/2011	6,168	6,093	4,944	2,961	1,095	2,054	1,211	1,033	1,094	867								
7/1/2012	4,235	9,823	7,963	4,547	14,607	6,831	1,036	0	0									
7/1/2013	7,075	8,742	3,745	5,164	1,848	1,146	0	170										
7/1/2014	6,365	5,153	2,065	2,917	0	0	0											
7/1/2015	4,049	11,713	11,537	10,037	11,102	12,504												
7/1/2016	6,130	11,166	5,801	0	0													
7/1/2017	11,979	5,716	5,680	9,912														
7/1/2018	5,765	11,224	9,469															
7/1/2019	7,350	4,898																
7/1/2020	13,547																	

City of Chandler
Workers' Compensation
Average Unpaid Losses & ALAE - Limited to $75,000 & Excluding Closed Without Payments
Based on Data as of June 30, 2021

Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	9,461	11,635	54,839	31,276	17,776	21,908	32,006	64,076	63,981	60,584	60,584	60,627	60,627	60,407	46,527	37,199	11,412	11,190
7/1/2004	5,158	17,042	11,138	7,378	5,531	4,313	2,807	98										
7/1/2005	14,962	47,870	32,323	27,417	45,904	34,932	27,363	20,189	4,687	0	0	0	0	0	0	0		
7/1/2006	9,494	13,083	12,803	18,605	27,553	7,733	11,447	14,790	13,080	13,076	25,937	25,929	25,824	20,211	20,199			
7/1/2007	8,377	16,269	13,710	23,769	27,022	54,043	35,667	29,293	30,657	46,159	66,398	62,530	60,127	38,678				
7/1/2008	7,210	6,654	8,726	8,111	21,209	12,012	8,055	8,053	7,628	7,552	376	338	0					
7/1/2009	12,873	2,608	2,233	17,175	10,171	20,782	13,740	2,577	2,957	2,560	3,214	3,458						
7/1/2010	5,764	1,616	3,306	5,207	24	20	20	0	0	0	0							
7/1/2011	7,551	6,722	6,980	3,649	2,970	3,256	2,412	2,235	2,518	2,288								
7/1/2012	11,888	12,295	13,562	34,670	28,324	11,923	6,432	0	0									
7/1/2013	10,622	7,700	4,706	6,600	2,028	2,276	2,683	2,080										
7/1/2014	5,340	2,978	197	509	0	0	0											
7/1/2015	7,463	13,364	18,338	15,094	11,102	12,504												
7/1/2016	9,965	10,849	5,898	0	0													
7/1/2017	11,014	4,284	12,491	19,862														
7/1/2018	9,360	13,567	12,098															
7/1/2019	9,102	8,935																
7/1/2020	14,995																	

City of Chandler
Workers' Compensation
IBNR / Case Reserve - Limited to $75,000
Based on Data as of June 30, 2021

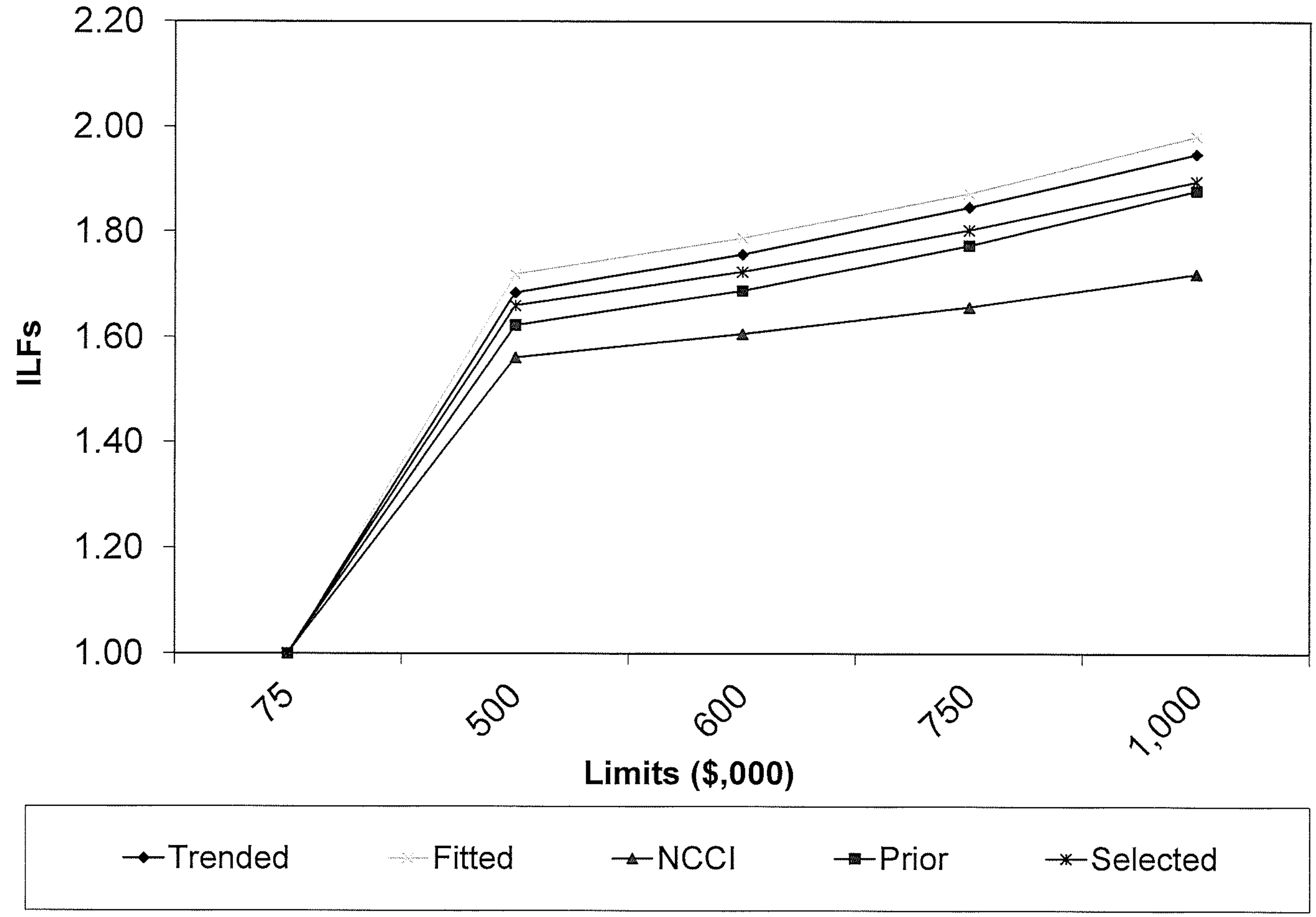
Accident Period Beginning	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
7/1/2003	2.41	3.39	3.50	1.28	0.87	1.75	1.68	1.70	1.70	1.91	1.91	1.91	1.91	0.94	0.52	0.75	0.00	0.00
7/1/2004	1.21	0.44	-0.25	-0.53	-0.66	-0.72	-0.85	-0.99										
7/1/2005	23.95	1.42	0.60	-0.22	0.17	0.20	0.26	0.38	0.07									
7/1/2006	1.69	0.33	-0.01	-0.25	-0.13	-0.24	-0.30	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04			
7/1/2007	0.92	0.63	0.59	2.29	2.28	2.59	1.10	1.13	0.78	1.36	1.72	1.46	1.61	0.01				
7/1/2008	0.24	-0.23	0.65	1.28	1.05	0.27	0.46	0.46	0.50	0.49								
7/1/2009	0.25	-0.64	-0.17	1.54	3.56	5.05	2.50	0.62	0.79	0.65	0.62	0.79						
7/1/2010	0.67	-0.47	-0.25	0.85		-0.97												
7/1/2011	0.12	0.10	0.41	0.23	1.71	0.58	0.99	1.16	1.30	1.64								
7/1/2012	2.15	0.35	0.82	6.63	0.94	0.75	5.21											
7/1/2013	0.64	-0.12	0.26	0.28	0.10	0.99		11.24										
7/1/2014	-0.11	-0.33	-0.90	-0.83														
7/1/2015	1.24	0.14	0.59	0.50	0.00	0.00												
7/1/2016	0.81	0.06	0.13															
7/1/2017	-0.01	-0.29	0.95	1.00														
7/1/2018	1.04	0.15	0.28															
7/1/2019	0.82	0.90																
7/1/2020	0.43																	

City of Chandler
Workers' Compensation
Increased Limit Factors - Losses & ALAE
Based on Data as of June 30, 2021

Limit	(1) Trended Incurred Losses	(2) Fitted	(3) NCCI	(4) Prior	(5) Selected
75,000	1.000	1.000	1.000	1.000	**1.000**
500,000	1.684	1.719	1.562	1.622	**1.659**
600,000	1.757	1.788	1.606	1.688	**1.724**
750,000	1.846	1.873	1.657	1.774	**1.803**
1,000,000	1.948	1.982	1.720	1.878	**1.896**
1,250,000	2.028	2.066	1.754	1.956	**1.965**
2,250,000	2.122	2.289	1.864	2.056	**2.079**
3,000,000	2.122	2.398	1.911	2.092	**2.114**

Notes:
(1) assumed a 2.5% annual severity trend
(2) fitted using a logarithmic distribution
(3) NCCI = National Council on Compensation Insurance
(4) from previous Oliver Wyman study
(5) selected

City of Chandler
Workers' Compensation
Increased Limit Factors - Losses & ALAE
Based on Data as of June 30, 2021



City of Chandler
Workers' Compensation
Data Summary
Based on Data as of June 30, 2021

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
		Exposures	Paid Losses & ALAE				Incurred Losses & ALAE				Claim Counts		
Policy Period	Self-Insured Retention (SIR) *	($1,000 Payroll)	Limited Paid to 75,000	Paid from Limit to SIR	Paid Excess of SIR	Unlimited Paid	Limited Incurred to 75,000	Incurred from Limit to SIR	Incurred Excess of SIR	Unlimited Incurred	Reported (ex. CWOP)	Closed With Payment	Closed Without Payment
1/1/2003 to 6/30/2003	500,000	38,782	478,631	592,475	30,981	1,102,087	478,631	607,311	259,016	1,344,958	63	61	10
7/1/2003 to 6/30/2004	500,000	82,686	775,091	42,947	0	818,038	786,281	46,975	0	833,257	149	148	11
7/1/2004 to 6/30/2005	500,000	84,675	621,971	29,762	0	651,732	621,971	29,762	0	651,732	143	143	7
7/1/2005 to 6/30/2006	500,000	90,201	649,576	331,232	0	980,808	649,576	375,446	0	1,025,022	147	146	12
7/1/2006 to 6/30/2007	500,000	102,877	587,801	11,852	0	599,653	607,316	11,852	0	619,168	135	134	7
7/1/2007 to 6/30/2008	500,000	111,710	695,966	31,602	0	727,568	811,227	288,704	0	1,099,931	161	158	6
7/1/2008 to 6/30/2009	500,000	120,668	675,237	485,208	0	1,160,444	675,237	622,433	0	1,297,670	165	163	15
7/1/2009 to 6/30/2010	500,000	119,800	1,299,626	181,103	0	1,480,728	1,305,417	447,411	0	1,752,829	142	139	5
7/1/2010 to 6/30/2011	500,000	113,843	966,822	489,739	570,657	2,027,218	966,822	489,739	1,253,417	2,709,979	153	152	10
7/1/2011 to 6/30/2012	500,000	110,414	1,160,847	719,808	0	1,880,655	1,164,313	1,229,872	347,758	2,741,943	161	157	12
7/1/2012 to 6/30/2013	600,000	119,088	1,069,226	1,027,121	0	2,096,347	1,069,226	1,263,175	698,791	3,031,191	135	131	19
7/1/2013 to 6/30/2014	600,000	115,348	1,482,601	873,342	0	2,355,943	1,483,450	1,167,024	370,014	3,020,488	154	149	8
7/1/2014 to 6/30/2015	600,000	119,528	990,329	402,871	0	1,393,200	990,329	1,091,893	334,213	2,416,436	143	141	9
7/1/2015 to 6/30/2016	600k / 1M	127,517	1,040,344	1,489,702	0	2,530,046	1,090,362	2,447,550	1,284,333	4,822,246	153	149	9
7/1/2016 to 6/30/2017	600k / 1M	128,452	1,264,190	364,741	0	1,628,931	1,264,190	886,853	0	2,151,043	133	128	9
7/1/2017 to 6/30/2018	600k / 1M	133,497	1,098,692	507,431	0	1,606,123	1,148,254	1,569,961	386,506	3,104,720	149	144	16
7/1/2018 to 6/30/2019	600k / 1.25M	135,570	947,621	28,706	0	976,327	1,080,187	473,822	0	1,554,009	158	144	8
7/1/2019 to 6/30/2020	600k / 1.25M	136,800	927,549	120,686	0	1,048,235	1,040,193	308,892	0	1,349,085	147	124	14
7/1/2020 to 6/30/2021	750k / 2.25M	140,084	589,321	83,588	0	672,909	1,334,418	1,251,956	0	2,586,374	128	73	6
TOTALS		2,131,539	17,321,440	7,813,915	601,637	25,736,992	18,567,401	14,610,632	4,934,048	38,112,080	2,719	2,584	193

Notes:
(1) through (12) from City of Chandler
** Where two SIR's are displayed, the first is for non public safety employees and the second is for public safety employees.*

City of Chandler
Workers' Compensation
Large Loss Listing (≥ $75,000)
Based on Data as of June 30, 2021

Claim Number	Accident Date	Claim Status	Self-Insured Retention (SIR)	(1) Limited Paid to 75,000	(2) Paid from Limit to SIR	(3) Paid Excess of SIR	(4) Unlimited Paid	(5) Unlimited Paid Change	(6) Limited Incurred to 75,000	(7) Incurred from Limit to SIR	(8) Incurred Excess of SIR	(9) Unlimited Incurred	(10) Unlimited Incurred Change
CN-03-0500003	1/3/2003	Closed	500,000	75,000	3,602	0	78,602	0	75,000	3,602	0	78,602	0
CN-03-0500013	2/12/2003	Open	500,000	75,000	425,000	30,981	530,981	1,761	75,000	425,000	259,016	759,016	222,984
CN-03-0500045	5/8/2003	Open	500,000	75,000	163,873	0	238,873	407	75,000	178,709	0	253,709	0
1/1/2003 to 6/30/2003 ; 3 claims ; 2 open				*225,000*	*592,475*	*30,981*	*848,456*	*2,168*	*225,000*	*607,311*	*259,016*	*1,091,327*	*222,984*
CN-04-0500041	10/2/2003	Closed	500,000	75,000	4,813	0	79,813	0	75,000	4,813	0	79,813	0
CN-04-0500099	3/8/2004	Open	500,000	63,810	0	0	63,810	221	75,000	4,028	0	79,028	0
CN-04-0500125	4/28/2004	Closed	500,000	75,000	38,134	0	113,134	0	75,000	38,134	0	113,134	0
7/1/2003 to 6/30/2004 ; 3 claims ; 1 open				*213,810*	*42,947*	*0*	*256,757*	*221*	*225,000*	*46,975*	*0*	*271,975*	*0*
CN-05-0500010	7/28/2004	Closed	500,000	75,000	29,762	0	104,762	0	75,000	29,762	0	104,762	0
7/1/2004 to 6/30/2005 ; 1 claim ; 0 open				*75,000*	*29,762*	*0*	*104,762*	*0*	*75,000*	*29,762*	*0*	*104,762*	*0*
CN-06-0500060	11/16/2005	Closed	500,000	75,000	85,341	0	160,341	1,320	75,000	85,341	0	160,341	(18,968)
CN-06-0500138	5/23/2006	Open	500,000	75,000	245,891	0	320,891	1,348	75,000	290,105	0	365,105	0
7/1/2005 to 6/30/2006 ; 2 claims ; 1 open				*150,000*	*331,232*	*0*	*481,232*	*2,668*	*150,000*	*375,446*	*0*	*525,446*	*(18,968)*
CN-07-0500083	2/22/2007	Closed	500,000	75,000	11,852	0	86,852	0	75,000	11,852	0	86,852	0
7/1/2006 to 6/30/2007 ; 1 claim ; 0 open				*75,000*	*11,852*	*0*	*86,852*	*0*	*75,000*	*11,852*	*0*	*86,852*	*0*
CN-08-0500045	9/7/2007	Open	500,000	75,000	7,594	0	82,594	6,197	75,000	213,920	0	288,920	0
CN-08-0500047	9/13/2007	Open	500,000	5,813	0	0	5,813	4,221	75,000	50,775	0	125,775	124,183
CN-08-0500153	5/16/2008	Closed	500,000	75,000	24,009	0	99,009	0	75,000	24,009	0	99,009	0
7/1/2007 to 6/30/2008 ; 3 claims ; 2 open				*155,813*	*31,602*	*0*	*187,416*	*10,417*	*225,000*	*288,704*	*0*	*513,704*	*124,183*
CN-09-0500034	9/3/2008	Closed	500,000	75,000	44,596	0	119,596	0	75,000	44,596	0	119,596	0
CN-09-0500085	12/18/2008	Open	500,000	75,000	340,308	0	415,308	4,112	75,000	397,998	0	472,998	0
CN-09-0500107	2/17/2009	Open	500,000	75,000	100,304	0	175,304	538	75,000	179,839	0	254,839	0
7/1/2008 to 6/30/2009 ; 3 claims ; 2 open				*225,000*	*485,208*	*0*	*710,208*	*4,650*	*225,000*	*622,433*	*0*	*847,433*	*0*
CN-10-0500009	7/17/2009	Open	500,000	75,000	26,870	0	101,870	3,703	75,000	178,998	0	253,998	0
CN-10-0500033	9/4/2009	Closed	500,000	75,000	7,866	0	82,866	0	75,000	7,866	0	82,866	0
CN-10-0500067	12/5/2009	Closed	500,000	75,000	35,293	0	110,293	0	75,000	35,293	0	110,293	0
CN-10-0500085	2/8/2010	Closed	500,000	75,000	18,413	0	93,413	0	75,000	18,413	0	93,413	0
CN-10-0500103	3/8/2010	Open	500,000	75,000	57,955	0	132,955	4,878	75,000	172,136	0	247,136	0
CN-10-0500104	3/11/2010	Closed	500,000	75,000	34,705	0	109,705	0	75,000	34,705	0	109,705	0
7/1/2009 to 6/30/2010 ; 6 claims ; 2 open				*450,000*	*181,103*	*0*	*631,103*	*8,581*	*450,000*	*447,411*	*0*	*897,411*	*0*
WC-001	7/28/2010	Open	500,000	75,000	425,000	570,657	1,070,657	33,035	75,000	425,000	1,253,417	1,753,417	(0)
CN-11-0500036	8/22/2010	Closed	500,000	75,000	37,715	0	112,715	0	75,000	37,715	0	112,715	0
CN-11-0500057	10/2/2010	Closed	500,000	75,000	1,945	0	76,945	0	75,000	1,945	0	76,945	0
CN-11-0500103	2/11/2011	Closed	500,000	75,000	25,079	0	100,079	128	75,000	25,079	0	100,079	(20,734)
7/1/2010 to 6/30/2011 ; 4 claims ; 1 open				*300,000*	*489,739*	*570,657*	*1,360,396*	*33,163*	*300,000*	*489,739*	*1,253,417*	*2,043,157*	*(20,734)*

City of Chandler
Workers' Compensation
Large Loss Listing (≥ $75,000)
Based on Data as of June 30, 2021

Claim Number	Accident Date	Claim Status	Self-Insured Retention (SIR)	(1) Limited Paid to 75,000	(2) Paid from Limit to SIR	(3) Paid Excess of SIR	(4) Unlimited Paid	(5) Unlimited Paid Change	(6) Limited Incurred to 75,000	(7) Incurred from Limit to SIR	(8) Incurred Excess of SIR	(9) Unlimited Incurred	(10) Unlimited Incurred Change
CN-12-0500036	9/9/2011	Closed	500,000	75,000	246,800	0	321,800	0	75,000	246,800	0	321,800	0
CN-12-0500073	11/13/2011	Open	500,000	75,000	267,574	0	342,574	44,513	75,000	324,889	0	399,889	76,603
CN-10-000002	3/23/2012	Open	500,000	75,000	135,869	0	210,869	19,815	75,000	425,000	347,758	847,758	0
CN-12-0500139	4/19/2012	Open	500,000	75,000	69,565	0	144,565	12,997	75,000	233,184	0	308,184	0
7/1/2011 to 6/30/2012 ; 4 claims ; 3 open				*300,000*	*719,808*	*0*	*1,019,808*	*77,326*	*300,000*	*1,229,872*	*347,758*	*1,877,630*	*76,603*
CN-13-005122	9/30/2012	Open	600,000	75,000	10,571	0	85,571	0	75,000	65,501	0	140,501	0
CN-13-005159	1/16/2013	Closed	600,000	75,000	65,458	0	140,458	0	75,000	65,458	0	140,458	0
CN-13-005205	3/19/2013	Open	600,000	75,000	132,415	0	207,415	33,384	75,000	254,972	0	329,972	120,415
CN-13-005252	5/2/2013	Open	600,000	75,000	490,410	0	565,410	20,934	75,000	525,000	698,791	1,298,791	0
CN-13-005314	5/8/2013	Closed	600,000	75,000	170,745	0	245,745	0	75,000	170,745	0	245,745	0
CN-13-005281	5/20/2013	Open	600,000	75,000	2,161	0	77,161	0	75,000	26,137	0	101,137	0
CN-13-005273	5/22/2013	Closed	600,000	75,000	155,360	0	230,360	0	75,000	155,360	0	230,360	0
7/1/2012 to 6/30/2013 ; 7 claims ; 4 open				*525,000*	*1,027,121*	*0*	*1,552,121*	*54,318*	*525,000*	*1,263,175*	*698,791*	*2,486,965*	*120,415*
CN-14-005049	8/20/2013	Closed	600,000	75,000	467	0	75,467	0	75,000	467	0	75,467	0
CN-14-005093	10/17/2013	Open	600,000	75,000	183,575	0	258,575	183	75,000	197,469	0	272,469	0
CN-14-005197	2/19/2014	Open	600,000	75,000	69,738	0	144,738	3,915	75,000	71,837	0	146,837	0
CN-14-005202	2/28/2014	Closed	600,000	75,000	38,249	0	113,249	0	75,000	38,249	0	113,249	(11,015)
CN-14-005319	5/12/2014	Open	600,000	75,000	128,530	0	203,530	15,156	75,000	334,002	0	409,002	22,391
CN-14-005344	6/13/2014	Open	600,000	75,000	452,783	0	527,783	19,157	75,000	525,000	370,014	970,014	0
7/1/2013 to 6/30/2014 ; 6 claims ; 4 open				*450,000*	*873,342*	*0*	*1,323,342*	*38,411*	*450,000*	*1,167,024*	*370,014*	*1,987,038*	*11,375*
CN-15-005102	10/1/2014	Closed	600,000	75,000	41,893	0	116,893	0	75,000	41,893	0	116,893	0
CN-15-005139	10/28/2014	Open	600,000	75,000	195,646	0	270,646	34,057	75,000	525,000	161,640	761,640	0
CN-15-005142	10/31/2014	Open	600,000	75,000	165,332	0	240,332	34,056	75,000	525,000	172,573	772,573	0
7/1/2014 to 6/30/2015 ; 3 claims ; 2 open				*225,000*	*402,871*	*0*	*627,871*	*68,113*	*225,000*	*1,091,893*	*334,213*	*1,651,106*	*0*
CN-16-005088	10/12/2015	Open	1,000,000	75,000	152,933	0	227,933	16,144	75,000	559,550	0	634,550	0
CN-16-005145	10/30/2015	Open	1,000,000	24,982	0	0	24,982	5,494	75,000	20,280	0	95,280	0
CN-16-005314	4/23/2016	Open	1,000,000	75,000	644,747	0	719,747	86,297	75,000	925,000	638,203	1,638,203	0
CN-16-005324	5/5/2016	Closed	1,000,000	75,000	17,720	0	92,720	0	75,000	17,720	0	92,720	(4,529)
CN-16-005347	5/18/2016	Open	1,000,000	75,000	674,302	0	749,302	28,014	75,000	925,000	646,131	1,646,131	2,867
7/1/2015 to 6/30/2016 ; 5 claims ; 4 open				*324,982*	*1,489,702*	*0*	*1,814,684*	*135,949*	*375,000*	*2,447,550*	*1,284,333*	*4,106,884*	*(1,662)*
CN-17-005049	8/16/2016	Open	1,000,000	75,000	19,743	0	94,743	3,399	75,000	43,014	0	118,014	0
CN-17-005102	9/29/2016	Open	1,000,000	75,000	31,553	0	106,553	0	75,000	44,183	0	119,183	0
CN-17-005110	10/14/2016	Closed	600,000	75,000	1,270	0	76,270	0	75,000	1,270	0	76,270	(2,545)
CN-17-005137	11/9/2016	Open	1,000,000	75,000	71,800	0	146,800	6,161	75,000	143,358	0	218,358	7,500
CN-17-005202	12/29/2016	Closed	1,000,000	75,000	20,852	0	95,852	0	75,000	20,852	0	95,852	0
CN-17-005440	4/3/2017	Open	1,000,000	75,000	119,323	0	194,323	24	75,000	155,272	0	230,272	0
CN-17-005633	4/20/2017	Open	1,000,000	75,000	80,289	0	155,289	39,943	75,000	458,992	0	533,992	384,248
CN-17-005508	5/10/2017	Closed	1,000,000	75,000	19,912	0	94,912	215	75,000	19,912	0	94,912	(31,363)
7/1/2016 to 6/30/2017 ; 8 claims ; 5 open				*600,000*	*364,741*	*0*	*964,741*	*49,741*	*600,000*	*886,853*	*0*	*1,486,853*	*357,841*
CN-18-005172	9/28/2017	Open	1,000,000	75,000	21,574	0	96,574	204	75,000	24,345	0	99,345	0
CN-18-005210	10/26/2017	Closed	1,000,000	75,000	2,131	0	77,131	0	75,000	2,131	0	77,131	(11,678)
CN-18-005237	11/9/2017	Closed	1,000,000	75,000	7,283	0	82,283	0	75,000	7,283	0	82,283	0
CN-18-005238	11/14/2017	Closed	1,000,000	75,000	40,763	0	115,763	0	75,000	40,763	0	115,763	(15,484)
CN-18-005344	12/8/2017	Open	1,000,000	34,252	0	0	34,252	51	75,000	18,086	0	93,086	0
CN-18-005439	3/6/2018	Open	1,000,000	75,000	108,359	0	183,359	52,370	75,000	552,354	0	627,354	435,173
CN-18-005455	3/6/2018	Open	1,000,000	75,000	327,321	0	402,321	37,009	75,000	925,000	386,506	1,386,506	0
7/1/2017 to 6/30/2018 ; 7 claims ; 4 open				*484,252*	*507,431*	*0*	*991,683*	*89,634*	*525,000*	*1,569,961*	*386,506*	*2,481,466*	*408,011*

City of Chandler
Workers' Compensation
Large Loss Listing (≥ $75,000)
Based on Data as of June 30, 2021

Claim Number	Accident Date	Claim Status	Self-Insured Retention (SIR)	(1) Limited Paid to 75,000	(2) Paid from Limit to SIR	(3) Paid Excess of SIR	(4) Unlimited Paid	(5) Unlimited Paid Change	(6) Limited Incurred to 75,000	(7) Incurred from Limit to SIR	(8) Incurred Excess of SIR	(9) Unlimited Incurred	(10) Unlimited Incurred Change
CN-19-005032	7/20/2018	Open	600,000	75,000	18,652	0	93,652	309	75,000	26,367	0	101,367	0
CN-19-005106	9/4/2018	Closed	1,250,000	75,000	10,054	0	85,054	571	75,000	10,054	0	85,054	571
CN-19-005526	5/2/2019	Open	1,250,000	54,845	0	0	54,845	40,027	75,000	21,766	0	96,766	73,022
CN-19-005522	5/29/2019	Open	1,250,000	37,888	0	0	37,888	14,590	75,000	407,627	0	482,627	0
CN-19-005523	6/21/2019	Open	600,000	35,315	0	0	35,315	2,010	75,000	8,008	0	83,008	0
7/1/2018 to 6/30/2019 ; 5 claims ; 4 open				*278,048*	*28,706*	*0*	*306,754*	*57,507*	*375,000*	*473,822*	*0*	*848,822*	*73,592*
CN-20-005053	9/5/2019	Open	1,250,000	75,000	101,272	0	176,272	106,324	75,000	173,593	0	248,593	76,582
CN-20-005093	9/25/2019	Open	1,250,000	75,000	2,199	0	77,199	35,856	75,000	73,953	0	148,953	84,514
CN-20-005089	10/10/2019	Open	1,250,000	67,704	0	0	67,704	23,791	75,000	8,017	0	83,017	21,964
CN-20-005167	1/27/2020	Open	1,250,000	75,000	17,214	0	92,214	53,773	75,000	32,155	0	107,155	36,756
CN-20-005223	1/27/2020	Open	1,250,000	60,335	0	0	60,335	51,523	75,000	8,395	0	83,395	59,391
CN-20-005313	6/25/2020	Open	1,250,000	73,669	0	0	73,669	73,669	75,000	12,779	0	87,779	87,779
7/1/2019 to 6/30/2020 ; 6 claim ; 6 open				*426,708*	*120,686*	*0*	*547,394*	*344,937*	*450,000*	*308,892*	*0*	*758,892*	*366,986*
CN-21-005129	12/7/2020	Open	2,250,000	75,000	83,588	0	158,588	158,588	75,000	109,857	0	184,857	184,857
CN-21-005148	12/27/2020	Open	2,250,000	23,802	0	0	23,802	23,802	75,000	1,031,036	0	1,106,036	1,106,036
CN-21-005153	12/29/2020	Open	2,250,000	12,140	0	0	12,140	12,140	75,000	70,605	0	145,605	145,605
CN-21-005168	2/11/2021	Open	2,250,000	15,989	0	0	15,989	15,989	75,000	1,603	0	76,603	76,603
CN-21-005190	3/11/2021	Open	2,250,000	58,669	0	0	58,669	58,669	75,000	32,351	0	107,351	107,351
CN-21-005251	5/8/2021	Open	2,250,000	123	0	0	123	123	75,000	999	0	75,999	75,999
CN-21-005276	6/16/2021	Open	2,250,000	247	0	0	247	247	75,000	5,504	0	80,504	80,504
7/1/2020 to 6/30/2021 ; 7 claim ; 7 open				*185,970*	*83,588*	*0*	*269,558*	*269,558*	*525,000*	*1,251,956*	*0*	*1,776,956*	*1,776,956*
TOTALS ; 84 claims ; 54 open				**5,669,584**	**7,813,915**	**601,637**	**14,085,137**	**1,247,364**	**6,300,000**	**14,610,632**	**4,934,048**	**25,844,680**	**3,497,581**

Notes:
(1) through (10) from City of Chandler

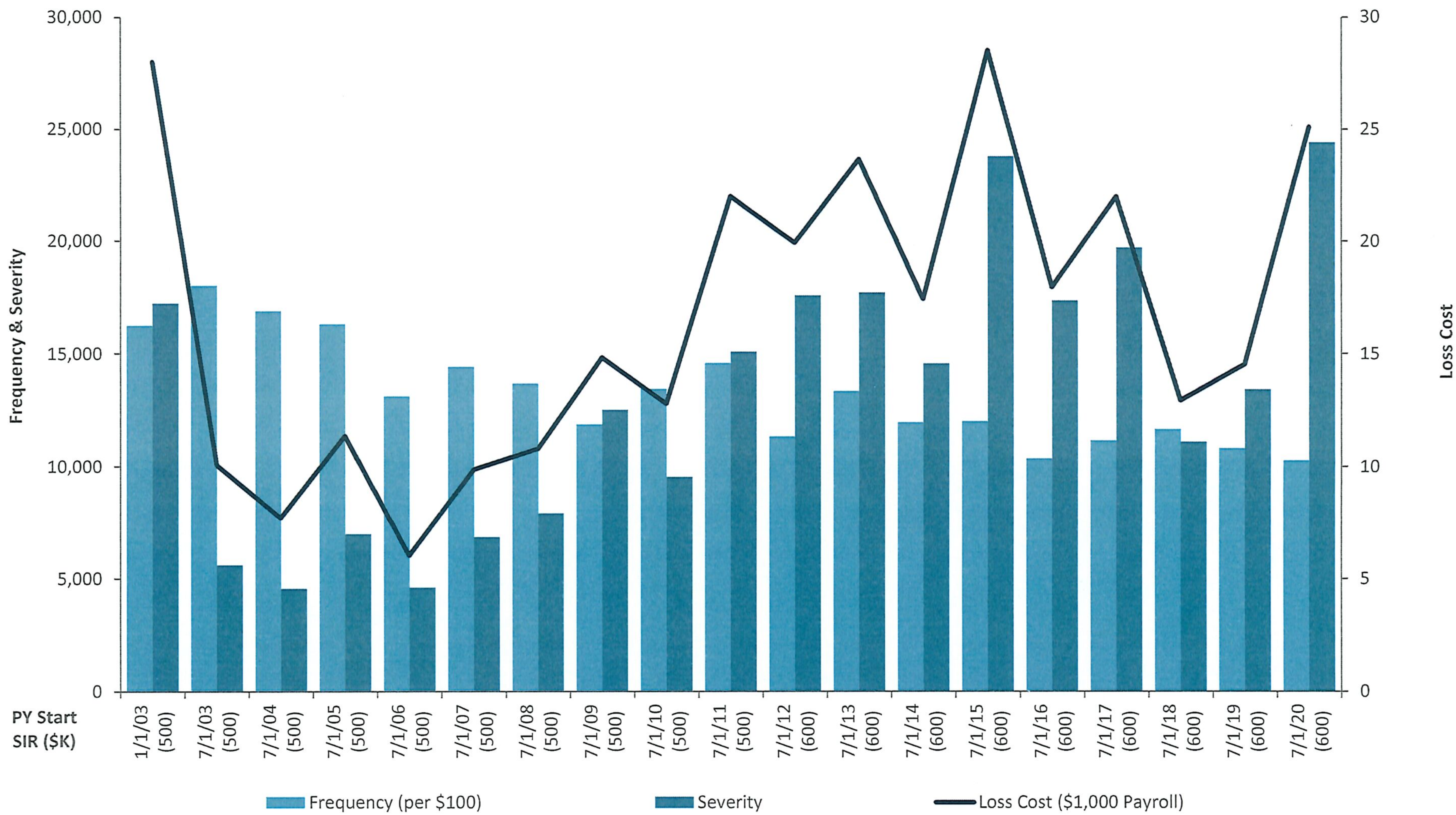
City of Chandler
Workers' Compensation
Losses & ALAE Reconciliation
Based on Data as of June 30, 2021

		Paid	Incurred
(1)	Loss Run 1 - Unlimited	25,736,573	38,111,661
(2)	Manual Adjustment	419	419
(3)	Amounts Excess of SIR	601,637	4,934,048
(4)	OW Analysis - Retained	25,135,355	33,178,032
(5)	Difference - Retained	0	0

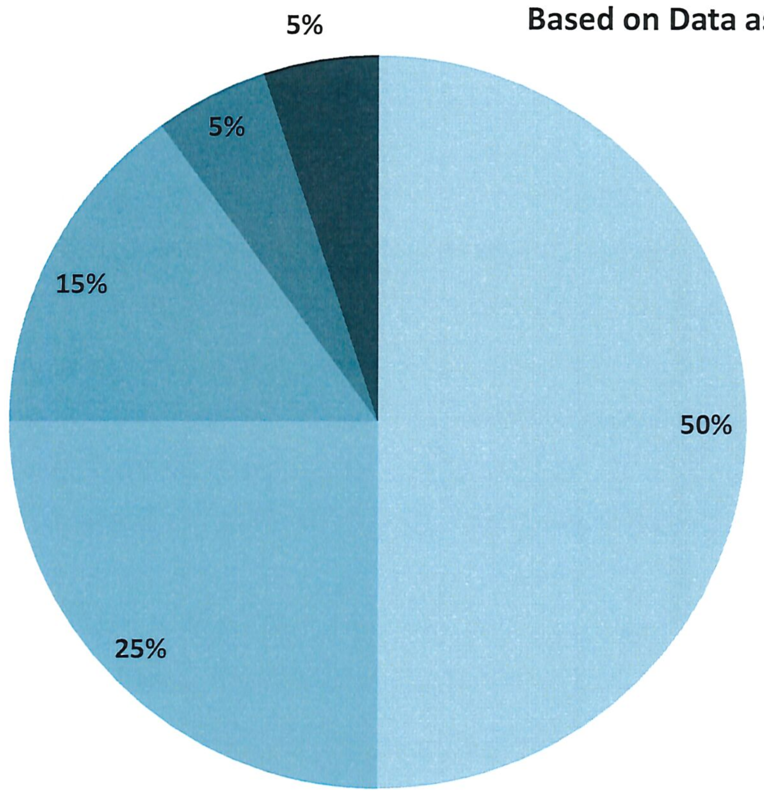
Notes:

(1) from City of Chandler; paid and incurred losses provided on a net of recoveries basis
(2) from City of Chandler; adjusted for negative incurred losses
(3) from City of Chandler
(4) from Appendix A, Page 1
(5) = (1) + (2) - (3) - (4)

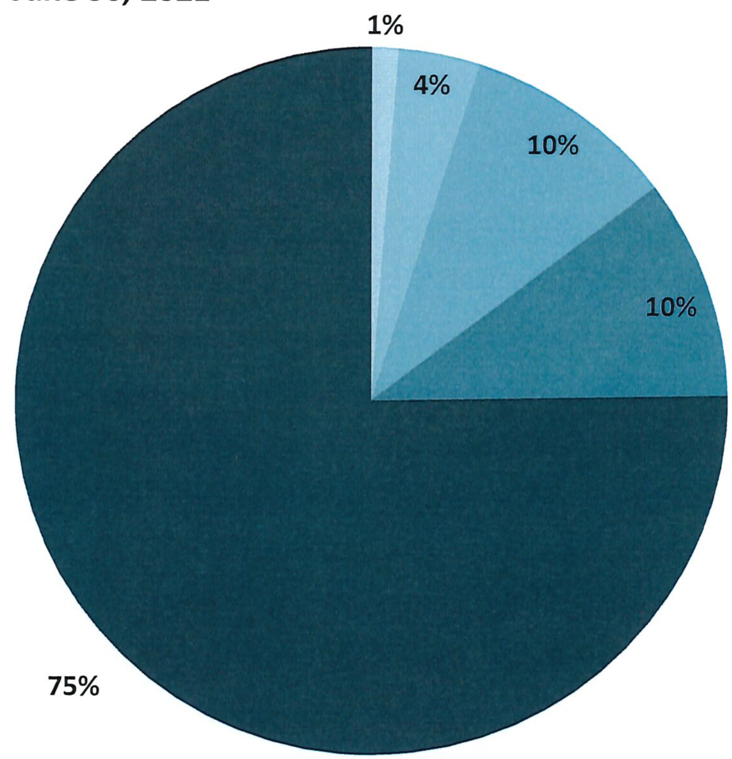
City of Chandler
Workers' Compensation
Ultimate Frequency, Severity & Loss Cost @ SIR
Based on Data as of June 30, 2021



City of Chandler
Workers' Compensation
Layer Distribution
Based on Data as of June 30, 2021



Reported Count Distribution



Unlimited Incurred Dollar Distribution

< 925 | 925 - 4,104 | 4,104 - 19,304 | 19,304 - 41,522 | > 41,522

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Los Angeles, CA 90071