



Bickmore **Actuarial**

Actuarial Review of the Self-Insured Workers' Compensation Program

*Outstanding Liabilities as of June 30, 2019 and June 30, 2020
Forecast for Program Years 2019-20 and 2020-21*

Presented to
City of Merced

September 9, 2019





Monday, September 9, 2019

Ms. Rosa M. Kindred-Winzer
Insurance Coordinator
City of Merced
678 W. 18th Street
Merced, CA 95340

Re: Actuarial Review of the Self-Insured Workers' Compensation Program

Dear Ms. Kindred-Winzer:

As you requested, we have completed our review of the City of Merced's self-insured workers' compensation program. Assuming an SIR of \$350,000 per occurrence, we estimate the ultimate cost of claims and expenses for claims incurred during the 2019-20 and 2020-21 program years to be \$2,703,000 and \$2,875,000, respectively. These amounts include allocated loss adjustment expenses (ALAE), unallocated loss adjustment expenses (ULAE), and a discount for anticipated investment income. ALAE is the direct cost associated with the defense of individual claims (e.g. legal fees, investigation fees, court charges). ULAE is the cost to administer all claims to final settlement, which may be years into the future (e.g. claims adjusters' salaries, taxes). The discount for investment income is calculated based on the likely payout pattern of the City's claims, assuming a 2.5% return on investments per year. For budgeting purposes, the expected costs of 2019-20 and 2020-21 claims translate to rates of \$7.170 and \$7.260 per \$100 of payroll, respectively.

In addition, we estimate the program's liability for outstanding claims to be \$9,866,000 and \$10,420,000 as of June 30, 2019 and June 30, 2020, respectively, again including ALAE and ULAE, and discounted for anticipated investment income.

The \$9,866,000 estimate is the minimum liability to be booked by the City at June 30, 2019 for its workers' compensation program, in accordance with Governmental Accounting Standards Board (GASB) Statement #10. GASB #10 requires the City to accrue a liability on its financial statements for the ultimate cost of claims and expenses associated with all reported and unreported claims, including ALAE and ULAE. GASB #10 does not prohibit the discounting of losses to recognize investment income.

Our conclusions regarding the City's liability for unpaid loss and loss adjustment expenses (LAE) at June 30, 2019 are summarized in the table below.

City of Merced
Self-Insured Workers' Compensation Program
Estimated Liability for Unpaid Loss and LAE
at June 30, 2019

	Expected	Marginally Acceptable 70% CL	Recommended Range			Conservative 90% CL
			Low 75% CL	Target 80% CL	High 85% CL	
Loss and ALAE	\$10,621,000	\$11,619,000	\$12,023,000	\$12,501,000	\$13,074,000	\$13,839,000
ULAE	628,000	687,000	711,000	739,000	773,000	818,000
Investment Income Offset	<u>(1,383,000)</u>	<u>(1,513,000)</u>	<u>(1,566,000)</u>	<u>(1,628,000)</u>	<u>(1,702,000)</u>	<u>(1,802,000)</u>
Discounted Loss and LAE	\$9,866,000	\$10,793,000	\$11,168,000	\$11,612,000	\$12,145,000	\$12,855,000

Our conclusions regarding the City's liability for unpaid loss and loss adjustment expenses (LAE) at June 30, 2020 are summarized in the table below.

City of Merced
Self-Insured Workers' Compensation Program
Estimated Liability for Unpaid Loss and LAE
at June 30, 2020

	Expected	Marginally Acceptable 70% CL	Recommended Range			Conservative 90% CL
			Low 75% CL	Target 80% CL	High 85% CL	
Loss and ALAE	\$11,253,000	\$12,311,000	\$12,738,000	\$13,245,000	\$13,852,000	\$14,663,000
ULAE	634,000	694,000	718,000	746,000	780,000	826,000
Investment Income Offset	<u>(1,467,000)</u>	<u>(1,606,000)</u>	<u>(1,661,000)</u>	<u>(1,727,000)</u>	<u>(1,805,000)</u>	<u>(1,912,000)</u>
Discounted Loss and LAE	\$10,420,000	\$11,399,000	\$11,795,000	\$12,264,000	\$12,827,000	\$13,577,000

GASB #10 does not address an actual asset requirement for the program, but only speaks to the liability to be recorded on the City's financial statements.

Because actuarial estimates of claims costs are subject to some uncertainty, we recommend that an amount in addition to the discounted expected loss costs be set aside as a risk margin for contingencies. Generally, the amount should be sufficient to fund assets to the 75% to 85% confidence level for primary programs. We consider funding assets to the 70% confidence level to be marginally acceptable and funding assets to the 90% confidence level to be conservative.

The table below shows our funding recommendations for the City of Merced for the 2019-20 fiscal year.

City of Merced
Self-Insured Workers' Compensation Program
Loss and LAE Funding Guidelines for 2019-20
Self-Insured Retention (SIR) of \$350,000

	Expected	Marginally Acceptable 70% CL	Recommended Range			Conservative 90% CL
			Low 75% CL	Target 80% CL	High 85% CL	
Loss and ALAE	\$2,866,000	\$3,302,000	\$3,488,000	\$3,703,000	\$3,969,000	\$4,325,000
ULAE	214,000	247,000	260,000	276,000	296,000	323,000
Investment Income Offset	<u>(377,000)</u>	<u>(435,000)</u>	<u>(458,000)</u>	<u>(487,000)</u>	<u>(521,000)</u>	<u>(569,000)</u>
Discounted Loss and LAE	\$2,703,000	\$3,114,000	\$3,290,000	\$3,492,000	\$3,744,000	\$4,079,000
Rate per \$100 of 2019-20 Payroll	\$7.170	\$8.260	\$8.727	\$9.263	\$9.931	\$10.820

The funding recommendations shown in the table above do not include any recognition of the existing funding margin (surplus or deficit) at June 30, 2019. They are for losses and loss adjustment expenses only, and do not include a provision for loss control, overhead, excess insurance premiums, and other expenses associated with the program.

The table below shows our funding recommendations for the City of Merced for the 2020-21 fiscal year.

City of Merced Self-Insured Workers' Compensation Program Loss and LAE Funding Guidelines for 2020-21 Self-Insured Retention (SIR) of \$350,000						
	Expected	Marginally Acceptable 70% CL	Recommended Range			Conservative 90% CL
			Low 75% CL	Target 80% CL	High 85% CL	
Loss and ALAE	\$3,046,000	\$3,509,000	\$3,707,000	\$3,935,000	\$4,219,000	\$4,596,000
ULAE	230,000	265,000	280,000	297,000	319,000	347,000
Investment Income Offset	<u>(401,000)</u>	<u>(462,000)</u>	<u>(488,000)</u>	<u>(517,000)</u>	<u>(556,000)</u>	<u>(605,000)</u>
Discounted Loss and LAE	\$2,875,000	\$3,312,000	\$3,499,000	\$3,715,000	\$3,982,000	\$4,338,000
Rate per \$100 of 2020-21 Payroll	\$7.260	\$8.364	\$8.836	\$9.381	\$10.056	\$10.955

The funding recommendations shown in the table above do not include any recognition of the existing funding margin (surplus or deficit) at June 30, 2020. They are for losses and loss adjustment expenses only, and do not include a provision for loss control, overhead, excess insurance premiums, and other expenses associated with the program.


The loss projections in this report reflect the estimated impact of benefit legislation contained in AB749, AB227, SB228, SB899, SB863, and recent WCAB court decisions based upon information provided by the WCIRB. The ultimate impact on loss costs of legislated benefit adjustments are generally difficult to forecast in advance because the changes typically take place over a period of several years following enactment. Furthermore, actuarially derived benefit level evaluations often underestimate actual future cost levels. The shortfalls result from a variety of circumstances, including: increases in utilization levels, unanticipated changes in administrative procedures, and cost shifting among benefit categories. Thus, actual cost increases could differ, perhaps substantially, from the WCIRB's estimates.

The report that follows outlines the scope of our study, its background, and our conclusions, recommendations, and assumptions. Judgments regarding the appropriateness of our conclusions and recommendations should be made only after studying the report in its entirety, including the graphs, attachments, exhibits and appendices. Our report has been developed for the City's internal use. It is not intended for general circulation.

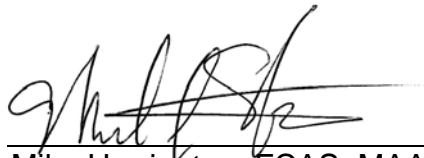
We appreciate the opportunity to be of service to the City of Merced in preparing this report. Please feel free to call Greg Beaulieu at (916) 290-4632, Mike Harrington at (916) 244-1162, or Eric Small at (916) 244-1165 or with any questions you may have concerning this report.

Sincerely,

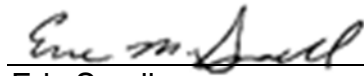
Bickmore Actuarial



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I. BACKGROUND

The City of Merced began its self-insured workers' compensation program in 1971. Its current self-insured retention is \$350,000, and excess coverage is provided by the Local Agency Workers' Compensation Excess Joint Powers Authority (LAWCX). Claims administration services are provided by TriStar Risk Management. Additional background on the program is given in Appendix WC-K.

The purpose of this review is to provide a guide to the City to determine reasonable funding levels for its self-insurance program according to the funding policy the City has adopted and to comply with Governmental Accounting Standards Board Statements #10 and #30. The specific objectives of the study are to estimate the City's liability for outstanding claims as of June 30, 2019 and June 30, 2020, project ultimate loss costs for 2019-20 and 2020-21, and provide funding guidelines to meet these liabilities and future costs.

II. CONCLUSIONS AND RECOMMENDATIONS

A. LIABILITY FOR OUTSTANDING CLAIMS

Graphs 1a and 1b on the following pages summarize our assessment of the City's funding position as of June 30, 2019 and June 30, 2020. The dark-colored bars indicate our estimates of the program's liability for outstanding claims before recognition of the investment income that can be earned on the assets held before the claim payments come due.

Our best estimate of the full value of the City's liability for outstanding claims within its self-insured retention (SIR) is \$11,249,000 as of June 30, 2019, and \$11,887,000 as of June 30, 2020. These amounts include losses, allocated loss adjustment expenses (ALAE), and unallocated loss adjustment expenses (ULAE). ALAE is the direct cost associated with the defense of individual claims (e.g. legal fees, investigation fees, court charges). ULAE is the cost to administer claims to final settlement, which may be years in the future (e.g. claims adjusters' salaries, taxes).

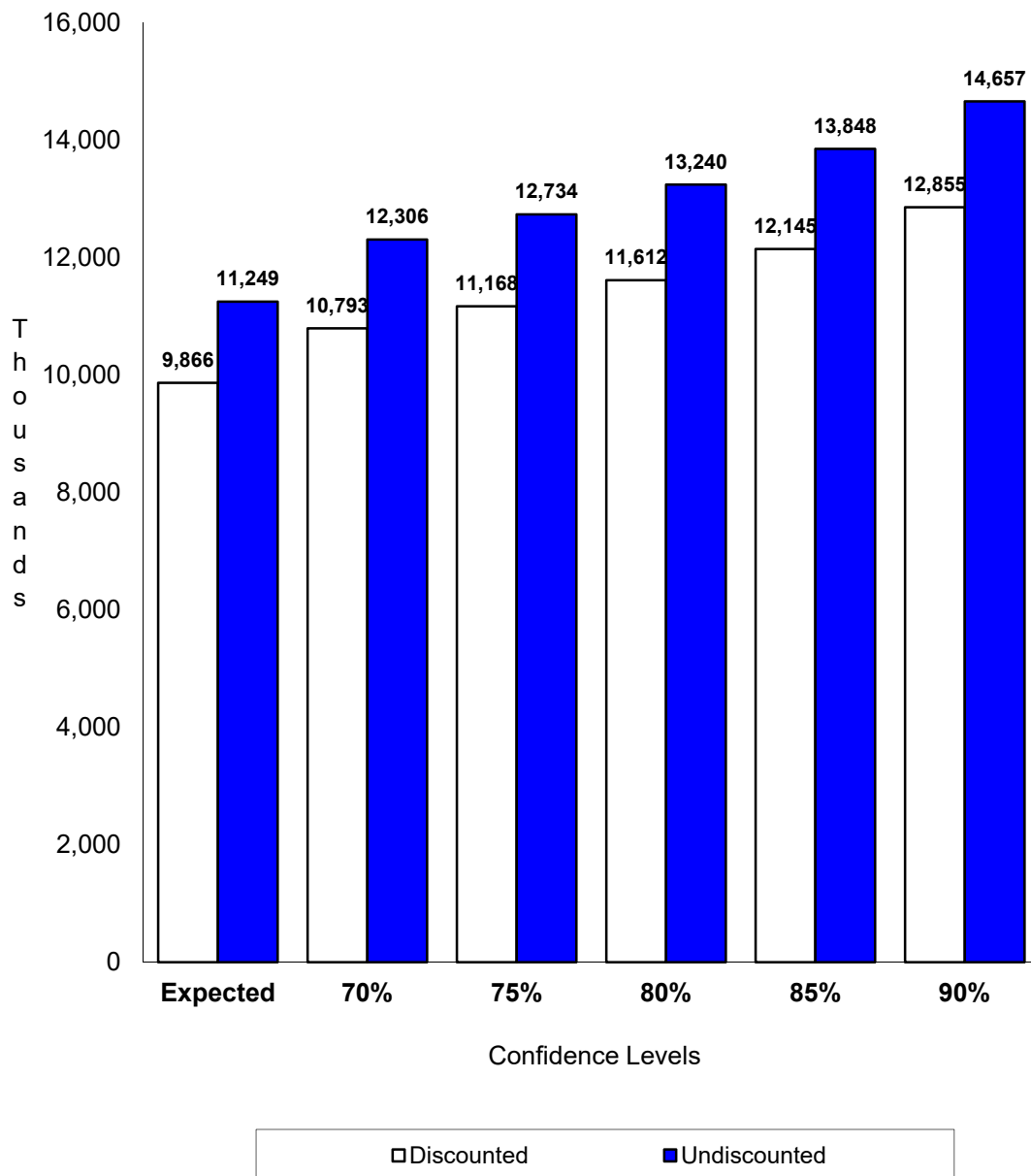
There is some measure of uncertainty associated with our best estimate because of the random nature of much of the process that determines ultimate claims costs. For this reason, we generally recommend that a program such as this include some funding margin for the possibility that actual loss costs will be greater than the best estimate. We generally measure the amount of this margin by thinking in terms of the probability distribution of actual possible results around our best estimate. As the margin grows, the probability that the corresponding funding amount will be sufficient to meet actual claim liabilities increases. We typically refer to this probability as the "confidence level" of funding. Graphs 1a and 1b show the liabilities for outstanding claims at several confidence levels that are typically of interest to risk managers in formulating funding policies for self-insurance programs.

The City can earn investment income on the assets it holds until claims payments come due. Assuming a long-term average annual return on investments of 2.5%, we estimate the impact of investment income earnings to be about 12.3% if the program is funded within the range indicated in the graphs, resulting in a discounted liability for outstanding claims of \$9,866,000 as of June 30, 2019, and \$10,420,000 as of June 30, 2020.

Investment income earnings will be less than this when the program does not maintain sufficient funding, and more when there is excess funding. Thus, thinking in terms of liabilities discounted for investment income can actually mask funding deficiencies and redundancies that might otherwise be obvious. However, the discounted liabilities do represent legitimate funding targets. The light-colored bars on Graphs 1a and 1b show our estimates of the City's discounted liability for outstanding claims.

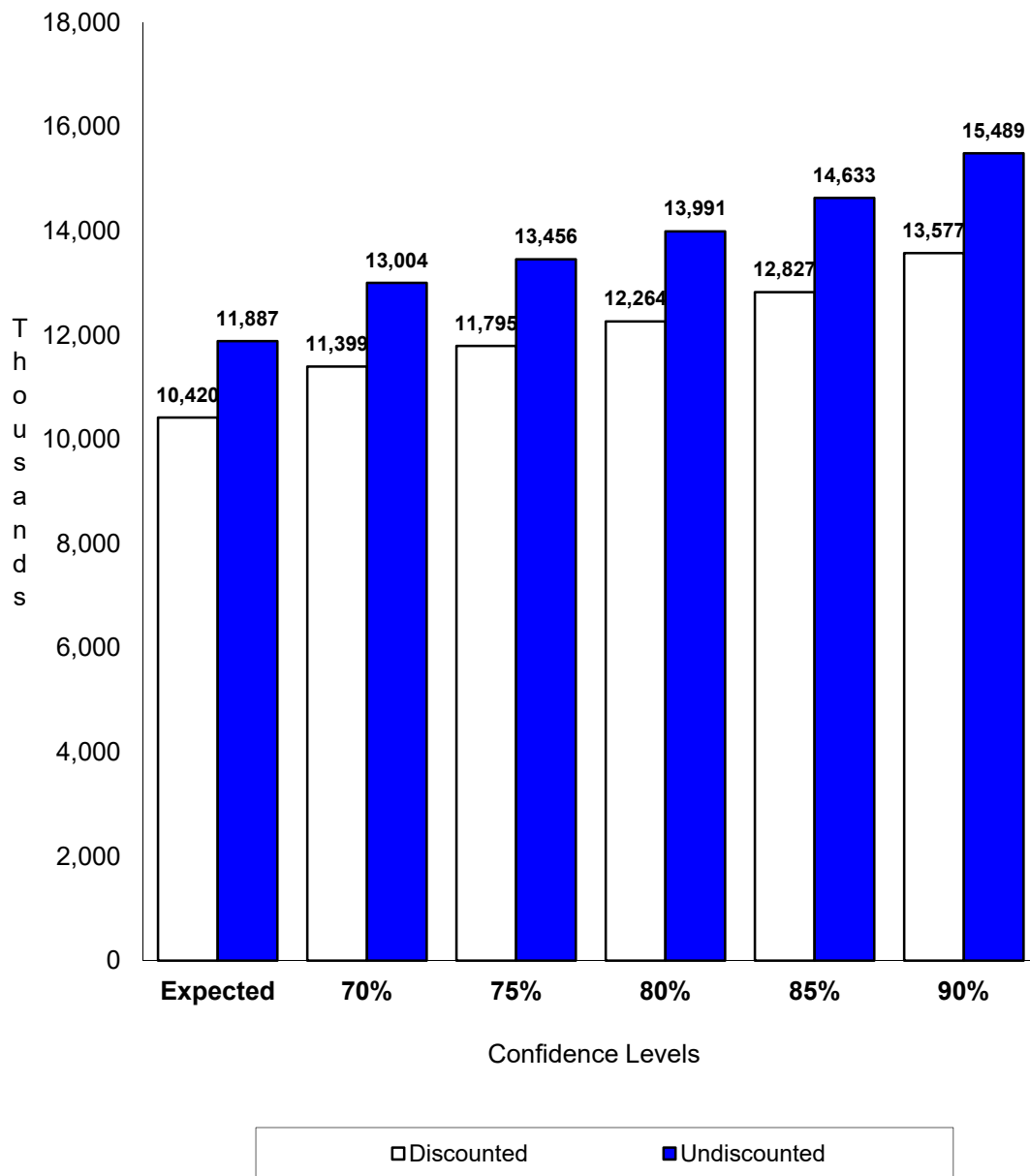
Graph 1a

City of Merced
Workers' Compensation
at June 30, 2019



Graph 1b

City of Merced
Workers' Compensation
at June 30, 2020



The table below displays a breakdown of the program's outstanding loss and LAE liabilities into case reserves and incurred but not reported (IBNR) reserves at June 30, 2019, before recognition of investment income.

City of Merced
Self-Insured Workers' Compensation Program
Estimated Liability for Unpaid Loss and LAE at June 30, 2019

Year	Case Reserves	IBNR Reserves	Total Outstanding
Prior	\$127,271	\$10,206	\$137,477
1999-00	20,652	1,269	21,921
2000-01	0	0	0
2001-02	0	0	0
2002-03	20,035	7,438	27,473
2003-04	75,937	17,163	93,100
2004-05	9,268	12,217	21,485
2005-06	74,353	11,326	85,679
2006-07	0	16,091	16,091
2007-08	3	0	3
2008-09	122,064	97,547	219,611
2009-10	47,454	111,330	158,784
2010-11	0	0	0
2011-12	218,779	139,290	358,069
2012-13	138,086	330,318	468,404
2013-14	401,517	317,887	719,404
2014-15	522,672	473,489	996,161
2015-16	395,953	738,785	1,134,738
2016-17	424,020	889,583	1,313,603
2017-18	1,334,735	907,323	2,242,058
2018-19	691,830	1,914,981	2,606,811
Loss and ALAE	\$4,624,629	\$5,996,243	\$10,620,872
ULAE		628,149	628,149
Total	\$4,624,629	\$6,624,392	\$11,249,021

The table below displays a breakdown of the program's outstanding loss and LAE liabilities into case reserves and incurred but not reported (IBNR) reserves at June 30, 2020, before recognition of investment income.

City of Merced
Self-Insured Workers' Compensation Program
Estimated Liability for Unpaid Loss and LAE at June 30, 2020

Year	Case Reserves	IBNR Reserves	Total Outstanding
Prior	\$106,787	\$10,206	\$116,993
1999-00	15,514	269	15,783
2000-01	0	0	0
2001-02	0	0	0
2002-03	19,233	5,438	24,671
2003-04	72,627	11,163	83,790
2004-05	10,162	9,217	19,379
2005-06	68,614	8,326	76,940
2006-07	2,455	12,091	14,546
2007-08	3	0	3
2008-09	113,248	81,547	194,795
2009-10	51,623	90,330	141,953
2010-11	0	0	0
2011-12	198,304	114,290	312,594
2012-13	135,320	270,318	405,638
2013-14	358,678	262,887	621,565
2014-15	462,217	392,489	854,706
2015-16	390,410	520,785	911,195
2016-17	463,707	626,583	1,090,290
2017-18	1,117,998	626,323	1,744,321
2018-19	781,938	1,253,981	2,035,919
2019-20	575,998	2,012,000	2,587,998
Loss and ALAE	\$4,944,836	\$6,308,243	\$11,253,079
ULAE		634,155	634,155
Total	\$4,944,836	\$6,942,398	\$11,887,234

B. PROGRAM FUNDING: GOALS AND OBJECTIVES

As self-insurance programs have proliferated among public entities, it has become apparent that there is a large measure of inconsistency in the way in which these programs recognize and account for their claims costs. This is the result of the fact that there have been several different sources of guidance available, none of which has been completely relevant to public entity self-insurance programs.

According to the Governmental Accounting Standards Board (GASB), the most relevant source of guidance on the subject is Financial Accounting Standards Board Statement #60. A liability for unpaid claim costs, including all loss adjustment expenses, should be accrued at the time the self-insured events occur. This liability should include an allowance for incurred but not reported claims. It may be discounted for investment income at an appropriate rate of return, provided the discounting is disclosed. The regulations detailing the way in which this must be done are outlined in GASB's statements #10 and #30. These regulations are required to be applied by the City.

GASB #10 and #30 do not address asset requirements. They do, however, allow a range of amounts to be recognized for accounting purposes; specifically, GASB #10 and #30 allow recognition of a risk margin for unexpectedly adverse loss experience. Thus, for accounting purposes, it is possible to formulate a funding policy from a range of alternatives. The uncertainty in any estimate of the program's liability for outstanding claims should be taken into consideration in determining funding policy, but it may be offset by recognizing anticipated investment income earnings. This usually means developing a funding program based on discounted claims costs with some risk margin for unexpected adverse loss experience.

The amount of the risk margin should be a question of long-term funding policy. We recommend that the risk margin be determined by thinking in terms of the probability that a given level of assets will prove to be adequate. For example, a reasonable goal might be to maintain assets at the 85% confidence level.

A key factor to consider in determining funding policy is the degree to which stability is required in the level of contributions to the program from year to year. If you elect to maintain assets at a low confidence level, the chances are much greater that future events will prove that additional contributions should have been made for old claims. The additional contributions for old claims may be required at the same time that costs are increasing dramatically on new claims. The burden of funding for increases on past years as well as on current years, may well be prohibitive.

We generally recommend maintaining program assets at the 80% confidence level, after recognition of investment income, with a recommended range of the 75% to 85% confidence levels. We tend to think of the 70% confidence level as marginally acceptable and of the 90% confidence level as conservative. We recommend the 75% to 85% confidence level range because the probabilities are reasonably high that resulting assets will be sufficient to meet claim liabilities, yet the required risk margins are not so large that they will cause most self-insured entities to experience undue financial hardship. In addition, within this range, anticipated investment income generally offsets the required risk margin for the most part, which means that assets are likely sufficient on an undiscounted basis.

We also strongly believe, however, that the confidence level to which any future year is funded should be evaluated in light of the relative certainty of the assumptions underlying the actuarial analysis, the City's other budgetary constraints, and the relative level of risk it is believed appropriate to assume. This means formulating both short and long-term funding goals, which may be the same in some years, but different in others.

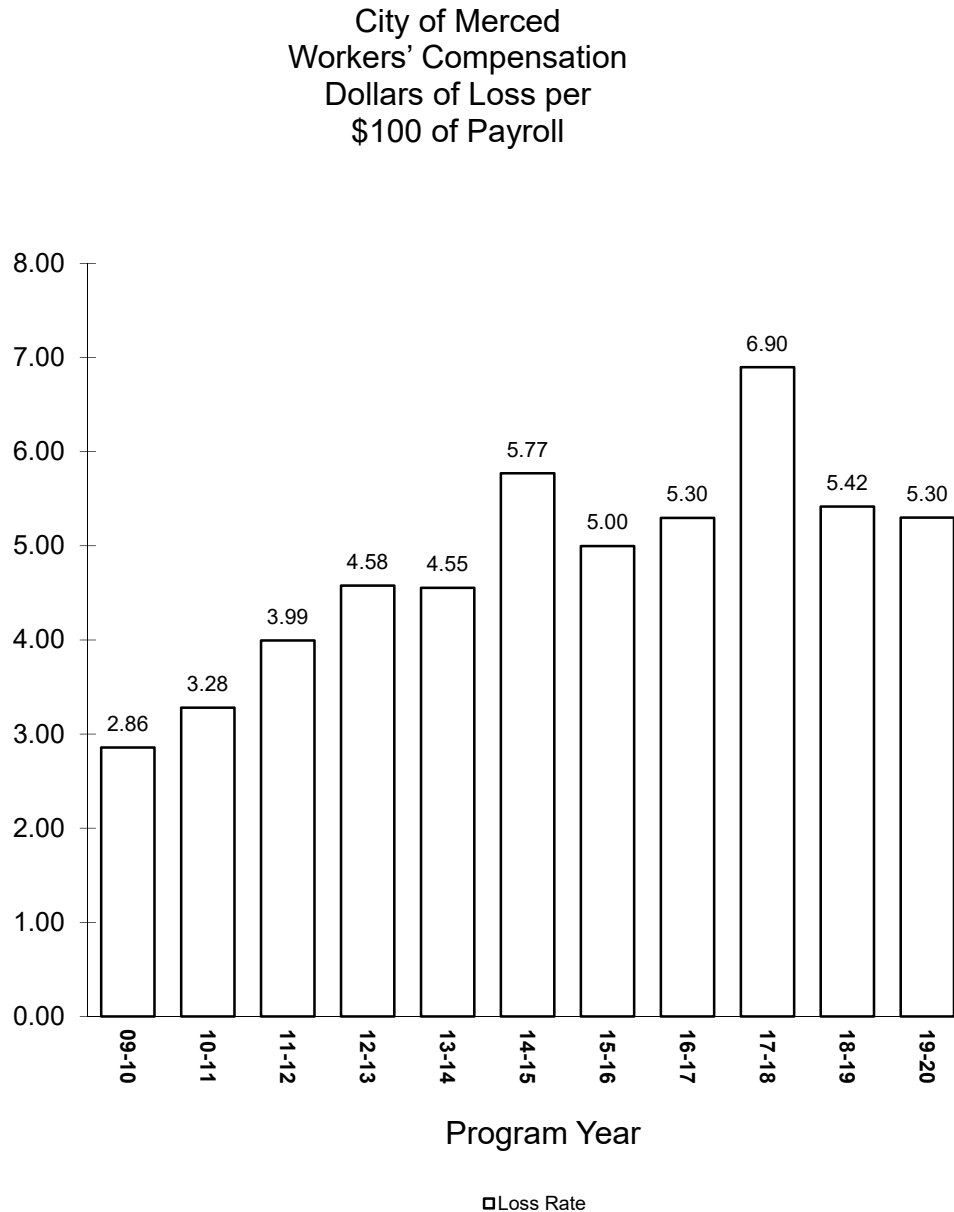
In general, we recommend funding each year's claims costs in that year. When surpluses or deficits have developed on outstanding liabilities and funding adjustments are necessary, they should be clearly identified as such so that the habit of funding each year's claims costs that year is maintained. We also recommend that you reduce a surplus more slowly than you would accumulate funding to reduce a deficit.

C. HISTORICAL TRENDS IN THE SELF-INSURANCE PROGRAM

Loss Rate

The City's loss rate (limited to \$100,000 per occurrence) had increased between 2009-10 and 2011-15. It has been relatively stable since then, with the exception of 2017-18. Our projected loss rate for 2019-20 is \$5.30 per \$100 of payroll, reflecting the relative stability of the most recent five years. See Graph 2 below.

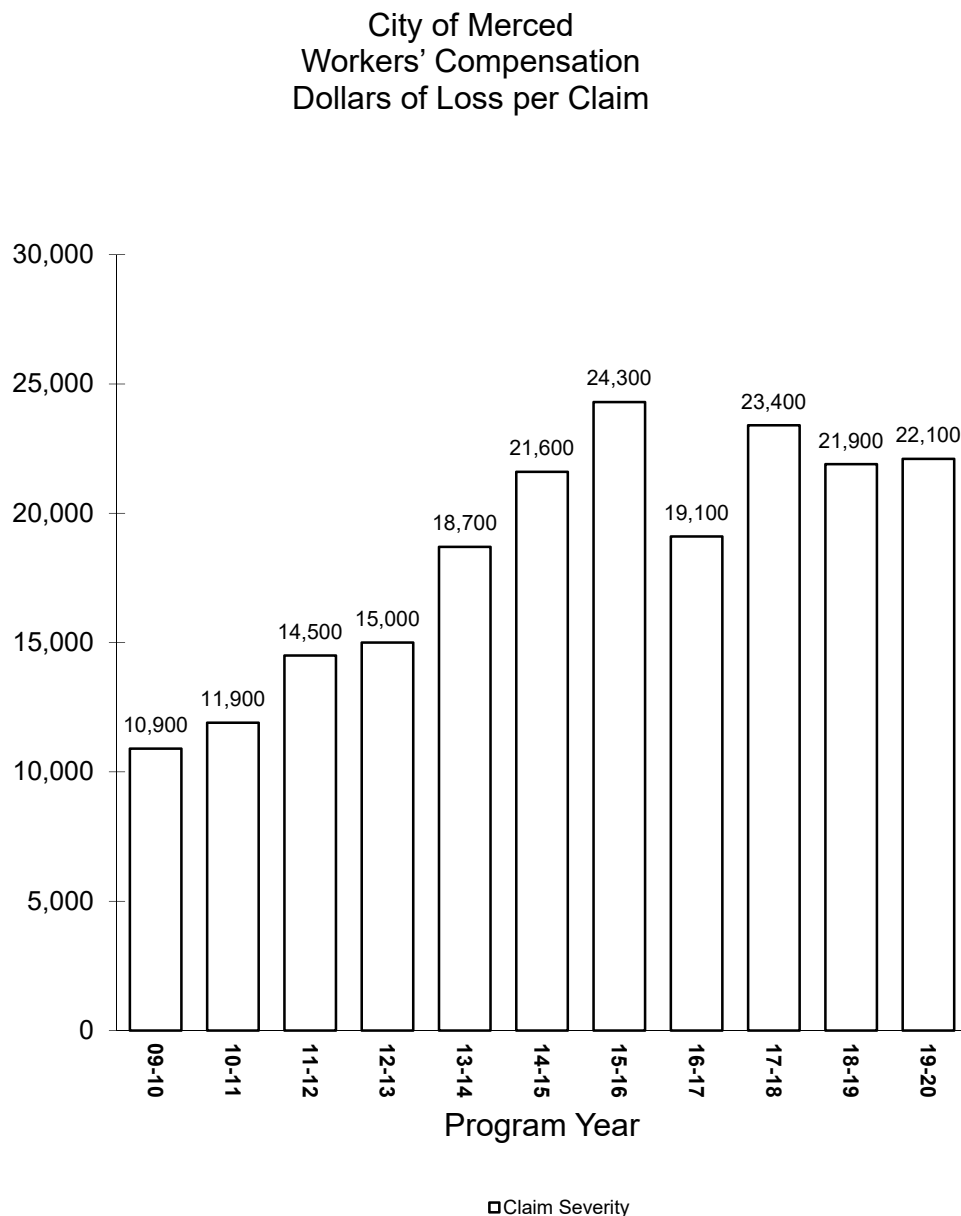
Graph 2



Severity

The City's average claims cost (limited to \$100,000 per occurrence) had also increased during from 2009-10 through 2015-16, but has been relatively stable since then. Our projection of \$22,100 for 2019-20 is based on an average of the most recent 5 years. See Graph 3 below.

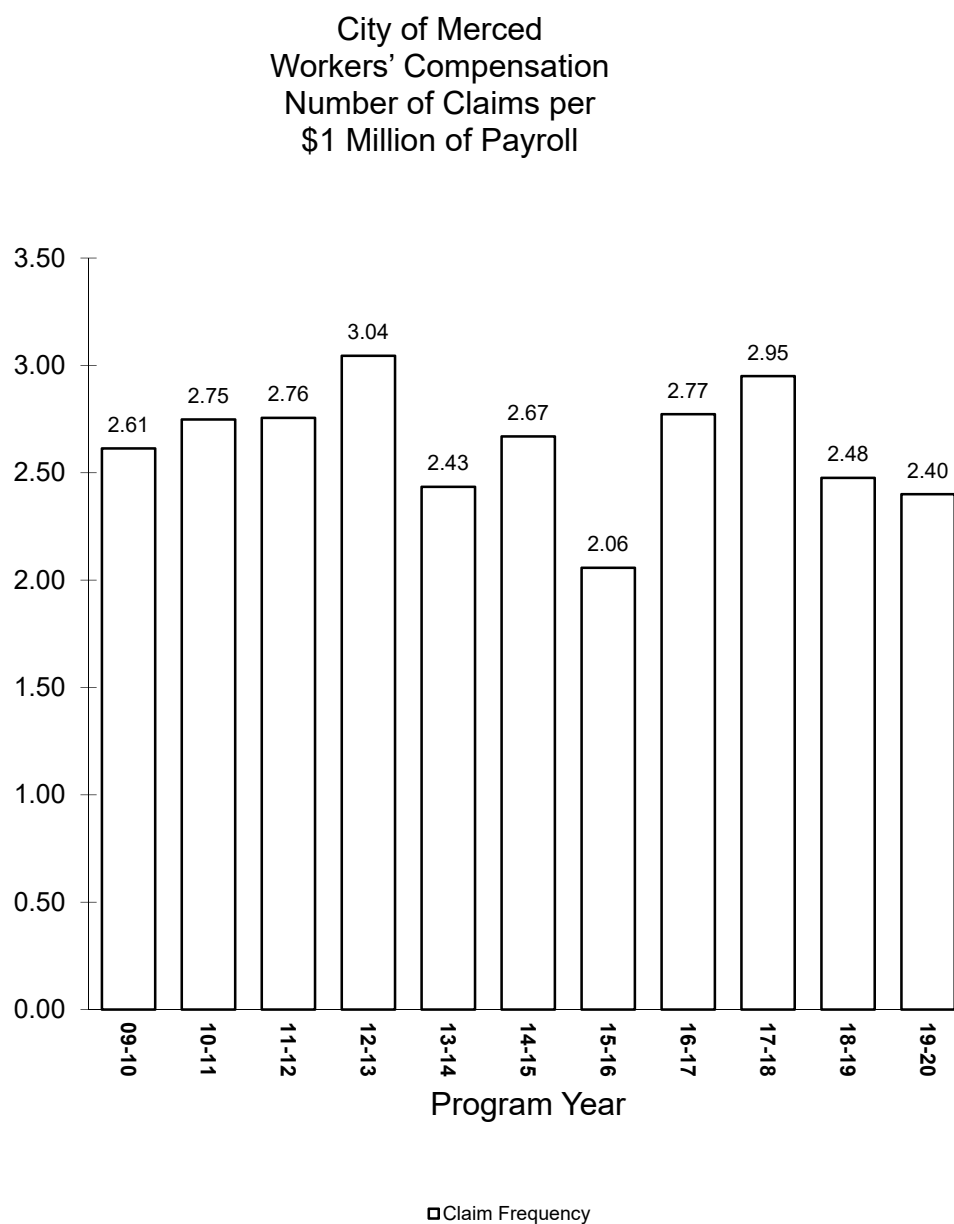
Graph 3



Frequency

The City's claims frequency has varied during the past ten years, ranging from a high of 3.04 claims per \$1 million of payroll during the 2012-13 program year to a low of 2.06 claims per \$1 million of payroll during the 2015-16 program year but has been trending downward during the most recent six years. Our projected claims frequency for 2019-20 is 2.40 per \$1 million of payroll based on the average of the most recent six years and the apparent downward trend. See Graph 4 below.

Graph 4



D. DATA PROVIDED FOR THE ANALYSIS

Overall, the data utilized in preparing this report appears to be accurate.

Comments and issues regarding the data are as follows:

- We have assumed that the program's self-insured retention will remain at \$350,000 per occurrence for 2019-20 and 2020-21 (See Appendix WC-K).
- We received loss data evaluated as of June 30, 2015, June 30, 2016, June 30, 2017, June 30, 2018, and June 30, 2019 (See Appendix WC-L).
- We have assumed that the City's payroll for 2019-20 and 2020-21 will be \$37.7 million and \$39.6 million, respectively, based upon information provided by the City (See Appendix WC-M).

The data provided for the analysis appears to be reasonable for use in this actuarial valuation of liabilities and projection of loss costs.

III. ASSUMPTIONS AND LIMITATIONS

Any quantitative analysis is developed within a very specific framework of assumptions about conditions in the outside world, and actuarial analysis is no exception. We believe that it is important to review the assumptions we have made in developing the estimates presented in this report. By doing so, we hope you will gain additional perspective on the nature of the uncertainties involved in maintaining a self-insurance program. Our assumptions, and some observations about them, are as follows:

- Our analysis is based on loss experience, exposure data, and other general and specific information provided to us by the City. While we have not independently audited or verified this information, we have reviewed it for reasonableness and internal consistency.
- We have also made use of loss statistics that have been developed from the information gathered and compiled from other California public entities with self-insured workers' compensation programs.
- We have assumed that the future development of incurred and paid losses can be reasonably predicted on the basis of development of such losses in the recent past.
- We have assumed that there is a continuing relationship between past and future loss costs.
- It is not possible to predict future claim costs precisely. Most of the costs of workers' compensation claims arise from a small number of incidents involving serious injury. A relatively small number of such claims could generate enough loss dollars to significantly reduce, or even deplete, the self-insurance fund.
- We cannot predict and have not attempted to predict the impact of future law changes and court rulings on claims costs. This is one major reason why we believe our funding recommendations are reasonable now, but should not be extrapolated into the future.
- The changes in cost levels associated with benefit increases and administrative changes typically take place over a period of several years following their enactment, and these changes are very difficult to forecast in advance. We have based our benefit level factors on those produced by the Workers' Compensation Insurance Rating Bureau of California (WCIRB). See Appendix WC-E for a display of the benefit level cost indices by fiscal year.
- We have assumed that the loss rate trend associated with claim costs increases at 0.5% per year. We have assumed that claim severity increases at 2.5% per year, and that claim frequency decreases at 2.0% per year.

- We have assumed that historical payroll and other inflation-sensitive exposure measures increase 2.5% annually due to inflation.
- At the City's instruction, we have assumed that assets held for investment will generate an average annual return of 2.5% over the duration of payment of the loss liabilities. It should be noted that actual future investment returns may vary significantly from this assumption, depending upon the prevailing investment market conditions.
- The claims costs we have estimated include indemnity and medical payments, and all loss adjustment expenses. We have not included estimates for excess insurance contributions and other expenses associated with the program.
- Our funding recommendations do not include provisions for catastrophic events not in the City's history, such as earthquakes, flooding, mass civil disorder, or mass occupational disease.
- Our estimates assume that all excess insurance is valid and collectible. Further, our funding recommendations do not include a provision for losses greater than the City's excess coverage.

IV. GLOSSARY OF ACTUARIAL TERMS

Accident Year - Year during which the accidents that generate a group of claims occurs, regardless of when the claims are reported, payments are made, or reserves are established.

Allocated Loss Adjustment Expenses (ALAE) - Expense incurred in settling claims that can be directly attributed to specific individual claims (e.g., legal fees, investigative fees, court charges, etc.)

Benefit Level Factor - Factor used to adjust historical losses to the current level of workers' compensation benefits.

Case Reserve - The amount left to be paid on a claim, as estimated by the claims administrator.

Claim Count Development Factor - A factor that is applied to the number of claims reported in a particular accident period in order to estimate the number of claims that will ultimately be reported.

Claim Frequency - Number of claims per \$1 million of payroll.

Confidence Level - An estimated probability that a given level of funding will be adequate to pay actual claims costs. For example, the 85% confidence level refers to an estimate for which there is an 85% chance that the amount will be sufficient to pay loss costs.

Discount Factor - A factor to adjust estimated loss costs to reflect anticipated investment income from assets held prior to actual claim payout.

Expected Losses - The best estimate of the full, ultimate value of loss costs.

Incurred but not Reported (IBNR) Losses - Losses for which the accident has occurred but the claim has not yet been reported. This is the ultimate value of losses, less any amount that has been set up as reported losses by the claims adjuster. It includes both amounts for claims incurred but not yet received by the administrator and loss development on already reported claims.

Loss Development Factor - A factor applied to losses for a particular accident period to reflect the fact that reported and paid losses do not reflect final values until all claims are settled (see Section IV).

Loss Rate - Ultimate losses per \$100 of payroll.

Non-Claims Related Expenses – Program expenses not directly associated with claims settlement and administration, such as excess insurance, safety program expenses, and general overhead. These exclude expenses associated with loss settlements (Indemnity/Medical, BI/PD), legal expenses associated with individual claims (ALAE), and claims administration (ULAE).

Outstanding Losses - Losses that have been incurred but not paid. This is the ultimate value of losses less any amount that has been paid.

Paid Losses - Losses actually paid on all reported claims.

Program Losses - Losses, including ALAE, limited to the SIR for each occurrence.

Reported Losses - The total expected value of losses as estimated by the claims administrator. This is the sum of paid losses and case reserves.

Self-Insured Retention (SIR) - The level at which an excess insurance policy is triggered to begin payments on a claim. Financially, this is similar to an insurance deductible.

Severity - Average claim cost.

Ultimate Losses - The value of claim costs at the time when all claims have been settled. This amount must be estimated until all claims are actually settled.

Unallocated Loss Adjustment Expenses (ULAE) – Claim settlement expenses that cannot be directly attributed to individual claims (e.g., claims adjusters' salaries, taxes, etc.)

City of Merced - Workers' Compensation

Funding Guidelines for Outstanding Liabilities at
June 30, 2019

(A) Estimated Ultimate Losses Incurred through 6/30/19: (From Appendix WC - G)	\$41,344,000
(B) Estimated Paid Losses through 6/30/19: (From Appendix WC - G)	30,723,000
(C) Estimated Liability for Claims Outstanding at 6/30/19: (From Appendix WC - G)	<u>\$10,621,000</u>
(D) Estimated Liability for Outstanding Claims Administration Fees at 6/30/19: (From Appendix WC - F)	628,000
(E) Total Outstanding Liability for Claims at 6/30/19: ((C) + (D))	<u>\$11,249,000</u>
(F) Reserve Discount Factor (Based on a Discount Rate of 2.50%.): (Appendix WC - I, Page 1, (G))	0.877
(G) Discounted Outstanding Liability for Claims at 6/30/19: ((E) x (F))	<u>\$9,866,000</u>

	Marginally Acceptable		Recommended		Conservative
Confidence Level of Adequacy:	70%	75%	80%	85%	90%
(H) Confidence Level Factor: (From Appendix WC - J)	1.094	1.132	1.177	1.231	1.303
(I) Margin for Adverse Experience: ((G) x [(H) - 1])	927,000	1,302,000	1,746,000	2,279,000	2,989,000
(J) Total Required Assets at 6/30/19: ((G) + (I))	<u>\$10,793,000</u>	<u>\$11,168,000</u>	<u>\$11,612,000</u>	<u>\$12,145,000</u>	<u>\$12,855,000</u>

City of Merced - Workers' Compensation

Funding Guidelines for Outstanding Liabilities at
June 30, 2020

(A) Estimated Ultimate Losses Incurred through 6/30/20: (From Appendix WC - G)	\$44,210,000
(B) Estimated Paid Losses through 6/30/20: (From Appendix WC - G)	32,957,000
(C) Estimated Liability for Claims Outstanding at 6/30/20: (From Appendix WC - G)	<u>\$11,253,000</u>
(D) Estimated Liability for Outstanding Claims Administration Fees at 6/30/20: (From Appendix WC - F)	634,000
(E) Total Outstanding Liability for Claims at 6/30/20: ((C) + (D))	<u>\$11,887,000</u>
(F) Reserve Discount Factor (Based on a Discount Rate of 2.50%): (Appendix WC - I, Page 1, (H))	0.877
(G) Discounted Outstanding Liability for Claims at 6/30/20: ((E) x (F))	<u>\$10,420,000</u>

	Marginally Acceptable		Recommended		Conservative
Confidence Level of Adequacy:	70%	75%	80%	85%	90%
(H) Confidence Level Factor: (From Appendix WC - J)	1.094	1.132	1.177	1.231	1.303
(I) Margin for Adverse Experience: ((G) x [(H) - 1])	979,000	1,375,000	1,844,000	2,407,000	3,157,000
(J) Total Required Assets at 6/30/20: ((G) + (I))	<u>\$11,399,000</u>	<u>\$11,795,000</u>	<u>\$12,264,000</u>	<u>\$12,827,000</u>	<u>\$13,577,000</u>

City of Merced - Workers' Compensation

Funding Options for Program Year 2019-2020 (SIR = \$350,000)

	Dollar Amount	Payroll Rate			
(A) Estimated Ultimate Losses Incurred in Accident Year 2019-2020: (From Appendix WC - G)	\$2,866,000	\$7.602			
(B) Estimated Claims Administration Fees Incurred in Accident Year 2019-2020: (From Exhibit WC - 5, Page 1, (L))	214,000	0.568			
(C) Total Claims Costs Incurred in Accident Year 2019-2020: ((A) + (B))	\$3,080,000	\$8.170			
(D) Loss Discount Factor (Based on a Discount Rate of 2.50%.): (Appendix WC - I, Page 2, (G))	0.878				
(E) Discounted Total Claims Costs Incurred in Accident Year 2019-2020: ((C) x (D))	\$2,703,000	\$7.170			
	Marginally Acceptable	Recommended	Conservative		
	70%	75%	80%	85%	90%
(F) Confidence Level Factor: (From Appendix WC - J)	1.152	1.217	1.292	1.385	1.509
(G) Margin for Adverse Experience: ((E) x [(F) - 1])	411,000	587,000	789,000	1,041,000	1,376,000
(H) Recommended Funding in 2019-2020 for Claims Costs and Other Expenses: ((E) + (G))	\$3,114,000	\$3,290,000	\$3,492,000	\$3,744,000	\$4,079,000
(I) Rate per \$100 of Payroll: ((H) / \$377,000)	\$8.260	\$8.727	\$9.263	\$9.931	\$10.820

Payroll rates are per hundred dollars of 2019-2020 payroll of \$37,700,000.

City of Merced - Workers' Compensation

Funding Options for Program Year 2020-2021 (SIR = \$350,000)

	Dollar Amount	Payroll Rate			
(A) Estimated Ultimate Losses Incurred in Accident Year 2020-2021: (From Appendix WC - G)	\$3,046,000	\$7.692			
(B) Estimated Claims Administration Fees Incurred in Accident Year 2020-2021: (From Exhibit WC - 5, Page 1, (L))	230,000	0.581			
(C) Total Claims Costs Incurred in Accident Year 2020-2021: ((A) + (B))	\$3,276,000	\$8.273			
(D) Loss Discount Factor (Based on a Discount Rate of 2.50%.): (Appendix WC - I, Page 2, (G))	0.878				
(E) Discounted Total Claims Costs Incurred in Accident Year 2020-2021: ((C) x (D))	\$2,875,000	\$7.260			
	Marginally Acceptable	Recommended	Conservative		
	70%	75%	80%	85%	90%
(F) Confidence Level Factor: (From Appendix WC - J)	1.152	1.217	1.292	1.385	1.509
(G) Margin for Adverse Experience: ((E) x [(F) - 1])	437,000	624,000	840,000	1,107,000	1,463,000
(H) Recommended Funding in 2020-2021 for Claims Costs and Other Expenses: ((E) + (G))	\$3,312,000	\$3,499,000	\$3,715,000	\$3,982,000	\$4,338,000
(I) Rate per \$100 of Payroll: ((H) / \$396,000)	\$8.364	\$8.836	\$9.381	\$10.056	\$10.955

Payroll rates are per hundred dollars of 2020-2021 payroll of \$39,600,000.

City of Merced - Workers' Compensation

IBNR as of 6/30/20 at Expected Claims Level

Accident Year	Estimated Ultimate (A)	Reported as of 6/30/19 (B)	Estimated IBNR as of 6/30/19 (C)	Estimated Percent of IBNR Reported Between 7/1/19 and 6/30/20 (D)	Estimated IBNR Reported (E)	Estimated IBNR as of 6/30/20 (F)
Prior	\$10,052,000	\$10,041,794	\$10,206	0.0%	\$0	\$10,206
1999-2000	733,000	731,731	1,269	50.0%	1,000	269
2000-2001	264,628	264,628	0	49.9%	0	0
2001-2002	474,375	474,375	0	33.2%	0	0
2002-2003	899,000	891,562	7,438	24.9%	2,000	5,438
2003-2004	1,454,000	1,436,837	17,163	33.1%	6,000	11,163
2004-2005	806,000	793,783	12,217	24.7%	3,000	9,217
2005-2006	572,000	560,674	11,326	23.4%	3,000	8,326
2006-2007	613,000	596,909	16,091	21.8%	4,000	12,091
2007-2008	612,981	612,981	0	17.7%	0	0
2008-2009	1,711,000	1,613,453	97,547	16.9%	16,000	81,547
2009-2010	1,258,000	1,146,670	111,330	19.2%	21,000	90,330
2010-2011	1,443,877	1,443,877	0	34.2%	0	0
2011-2012	1,539,000	1,399,710	139,290	18.2%	25,000	114,290
2012-2013	2,055,000	1,724,682	330,318	18.1%	60,000	270,318
2013-2014	2,329,000	2,011,113	317,887	17.2%	55,000	262,887
2014-2015	3,035,000	2,561,511	473,489	17.2%	81,000	392,489
2015-2016	2,849,000	2,110,215	738,785	29.5%	218,000	520,785
2016-2017	2,586,000	1,696,417	889,583	29.6%	263,000	626,583
2017-2018	3,278,000	2,370,677	907,323	31.0%	281,000	626,323
2018-2019	2,779,000	864,019	1,914,981	34.5%	661,000	1,253,981
2019-2020	2,866,000			29.8%	854,000	2,012,000
Totals	\$44,209,861	\$35,347,618	\$5,996,243		\$2,554,000	\$6,308,243

Notes:

- (A) From Exhibit WC - 4, Page 1.
- (B) Provided by the City. These losses exclude amounts incurred above the City's SIR for each year.
- (C) (A) - (B).
- (D) Percentage of incurred but not reported (IBNR) expected to be reported between 7/1/19 and 6/30/20. The percentage is based on the development pattern selected in Appendix WC - A.
- (E) ((A) - (B)) x (D).
- (F) (A) - (B) - (E).

This exhibit shows the calculation of the amount of incurred but not reported losses we expect as of 6/30/20. This amount is dependent on both the strength of the case reserves and the average frequency and severity of the losses incurred.

City of Merced - Workers' Compensation

Estimated Ultimate Program Losses

Accident Year	Reported Loss Development Method (A)	Paid Loss Development Method (B)	Exposure Method Based on Reported Losses (C)	Exposure Method Based on Paid Losses (D)	Frequency-Severity Method (E)	Selected Estimate of Ultimate Losses (F)	Selected Estimate of Ultimate Losses Limited to Aggregate (G)
Prior	\$10,051,836	\$10,301,189			\$10,168,765	\$10,052,000	\$10,052,000
1999-2000	733,194	750,188	733,293	751,699	781,150	733,000	733,000
2000-2001	265,687	281,564	265,898	283,671	317,196	264,628	264,628
2001-2002	477,221	509,004	476,724	501,000	391,510	474,375	474,375
2002-2003	898,694	942,992	897,749	930,307	773,550	899,000	899,000
2003-2004	1,454,079	1,486,103	1,452,152	1,468,105	1,276,212	1,454,000	1,454,000
2004-2005	806,484	865,320	808,028	867,316	890,274	806,000	806,000
2005-2006	572,448	542,734	571,895	541,890	534,365	572,000	572,000
2006-2007	613,026	674,507	610,801	658,354	534,138	613,000	613,000
2007-2008	633,209	703,086	636,798	708,248	744,344	612,981	612,981
2008-2009	1,677,991	1,743,434	1,666,081	1,692,207	1,385,030	1,711,000	1,711,000
2009-2010	1,204,004	1,311,365	1,205,846	1,298,936	1,233,090	1,258,000	1,258,000
2010-2011	1,556,499	1,816,397	1,549,210	1,743,784	1,463,098	1,443,877	1,443,877
2011-2012	1,535,482	1,543,477	1,550,243	1,582,922	1,710,420	1,539,000	1,539,000
2012-2013	1,933,369	2,176,810	1,928,721	2,098,582	1,889,220	2,055,000	2,055,000
2013-2014	2,312,780	2,345,181	2,258,575	2,207,311	1,903,872	2,329,000	2,329,000
2014-2015	3,040,514	3,213,210	2,949,670	2,935,536	2,365,443	3,035,000	3,035,000
2015-2016	2,717,957	3,147,385	2,673,334	2,858,097	1,951,950	2,849,000	2,849,000
2016-2017	2,485,251	2,818,359	2,503,037	2,669,350	2,785,230	2,586,000	2,586,000
2017-2018	4,388,123	3,509,771	3,613,977	2,941,434	3,285,126	3,278,000	3,278,000
2018-2019	2,901,376	1,766,831	2,841,386	2,715,725	3,008,289	2,779,000	2,779,000
Totals						\$41,343,861	\$41,343,861
		Projected Losses for the Year 2019-2020 (H)				\$2,866,000	\$2,866,000
		Projected Losses for the Year 2020-2021 (I)				3,046,000	3,046,000

Notes:

- (A) From Appendix WC - A, Page 1, Column (G).
- (B) From Appendix WC - B, Page 1, Column (G).
- (C) From Appendix WC - C, Page 1, Column (G).
- (D) From Appendix WC - C, Page 2, Column (G).
- (E) From Appendix WC - D, Page 1, Column (C).
- (F) Selected averages of (A), (B), (C), (D), and (E).
- (G) (F) limited to applicable aggregate.
- (H) From Exhibit WC - 5, Page 1, Line (K).
From Exhibit WC - 5, Page 1, Line (K).

This exhibit summarizes the results of the actuarial methods we have applied to estimate ultimate losses for each year. It is important to apply a number of estimation methods because each one relies on specific assumptions about the claims process that tend to hold generally true, but that may be violated in specific situations. Thus, the more estimation methods that can be applied, the better.

City of Merced - Workers' Compensation

Estimated Ultimate Limited Losses Capped at \$100,000 per Claim

Accident Year	Reported Loss Development Method (A)	Paid Loss Development Method (B)	Exposure Method Based on Reported Losses (C)	Exposure Method Based on Paid Losses (D)	Frequency-Severity Method (E)	Selected Ultimate Limited Losses (F)
Prior	\$8,911,384	\$8,916,479			\$8,912,128	\$8,912,000
1999-2000	654,428	644,549	654,428	644,910	655,010	655,000
2000-2001	264,628	270,185	264,628	270,187	264,654	264,628
2001-2002	324,991	333,116	324,991	332,790	325,010	324,991
2002-2003	638,137	636,027	638,137	635,994	639,000	639,000
2003-2004	1,048,176	1,046,171	1,048,176	1,046,386	1,048,992	1,049,000
2004-2005	728,200	756,600	728,200	755,870	728,189	728,200
2005-2006	434,905	454,476	434,905	453,606	434,915	434,905
2006-2007	432,610	455,106	432,610	453,807	432,630	432,610
2007-2008	599,767	635,750	599,767	633,965	600,007	600,000
2008-2009	1,110,213	1,136,301	1,110,213	1,134,186	1,111,034	1,111,000
2009-2010	983,255	1,037,777	983,257	1,033,801	983,970	984,000
2010-2011	1,089,585	1,188,441	1,089,584	1,179,735	1,086,358	1,086,326
2011-2012	1,260,804	1,175,927	1,260,851	1,184,244	1,260,978	1,261,000
2012-2013	1,346,382	1,419,424	1,347,014	1,415,728	1,383,036	1,383,000
2013-2014	1,408,560	1,357,989	1,408,589	1,362,326	1,384,022	1,384,000
2014-2015	1,759,220	1,743,442	1,759,298	1,749,486	1,707,642	1,751,000
2015-2016	1,516,635	1,641,400	1,537,665	1,686,004	1,399,450	1,579,000
2016-2017	1,710,183	1,652,194	1,725,802	1,712,668	1,983,240	1,719,000
2017-2018	2,843,572	2,511,123	2,565,342	2,157,431	2,322,293	2,361,000
2018-2019	2,077,853	1,252,158	2,017,183	1,877,064	2,112,237	1,947,000
Totals						\$30,606,660
			Projected Losses for the Year 2019-2020 (G)			\$1,998,000
			Projected Losses for the Year 2020-2021 (H)			2,109,000

Notes:

- (A) From Appendix WC - A, Page 1, Column (D).
- (B) From Appendix WC - B, Page 1, Column (D).
- (C) Based on results in Appendix WC - C, Page 1.
- (D) Based on results in Appendix WC - C, Page 2.
- (E) Based on results in Appendix WC - D, Page 1.
- (F) Selected averages of (A), (B), (C), (D), and (E).
- (G) From Exhibit WC - 5, Page 1, Line (K) / Line (G).
- (H) From Exhibit WC - 5, Page 1, Line (K) / Line (G).

This exhibit summarizes the results of the actuarial methods we have applied to estimate limited losses for each year. These results are used to select a limited loss rate for future years.

City of Merced - Workers' Compensation

Selection of Projected Limited Loss Rate
and Projection of Program Losses and ULAE

Accident Year	Ultimate Limited Losses (A)	Trend Factor (B)	Trended Limited Losses (C)	Trended Payroll (\$00) (D)	Trended Limited Loss Rate (E)
1999-2000	655,000	0.883	578,365	294,776	1.962
2000-2001	264,628	0.828	219,112	299,134	0.732
2001-2002	324,991	0.829	269,418	297,297	0.906
2002-2003	639,000	0.868	554,652	316,328	1.753
2003-2004	1,049,000	1.068	1,120,332	310,523	3.608
2004-2005	728,200	1.371	998,362	316,731	3.152
2005-2006	434,905	1.482	644,529	369,511	1.744
2006-2007	432,610	1.400	605,654	444,146	1.364
2007-2008	600,000	1.298	778,800	477,725	1.630
2008-2009	1,111,000	1.209	1,343,199	476,255	2.820
2009-2010	984,000	1.106	1,088,304	440,771	2.469
2010-2011	1,086,326	1.053	1,143,901	413,616	2.766
2011-2012	1,261,000	1.048	1,321,528	384,837	3.434
2012-2013	1,383,000	1.061	1,467,363	359,241	4.085
2013-2014	1,384,000	1.067	1,476,728	352,575	4.188
2014-2015	1,751,000	1.046	1,831,546	343,499	5.332
2015-2016	1,579,000	1.045	1,650,055	348,817	4.730
2016-2017	1,719,000	1.042	1,791,198	349,621	5.123
2017-2018	2,361,000	1.017	2,401,137	359,801	6.674
2018-2019	1,947,000	1.006	1,958,682	368,445	5.316
Totals	\$21,694,660		\$23,242,865	7,323,649	\$3.174
13/14-17/18	8,794,000		9,150,664	1,754,313	5.216
14/15-18/19	9,357,000		9,632,618	1,770,183	5.442
(F) Selected Limited Rate: Prior:					\$5.300 N/A
Program Year:		2019-2020	2020-2021		
(G) Factor to SIR:		1.434	1.444		
(H) Trend Factor:		1.000	1.005		
(I) Program Rate:		\$7.602	\$7.691		
(J) Trended Payroll (\$00):		377,000	396,000		
(K) Projected Program Losses:		2,866,000	3,046,000		
(L) Projected ULAE:		214,000	230,000		
(M) Projected Loss and ULAE:		\$3,080,000	\$3,276,000		

Notes appear on the next page.

City of Merced - Workers' Compensation

Selection of Projected Limited Loss Rate
and Projection of Program Losses and ULAE

Notes:

- (A) From Exhibit WC - 4, Page 2, Column (F).
For purposes of projecting future losses, losses are capped at \$100,000 per occurrence.
- (B) From Appendix WC - E, Page 1, Column (B).
- (C) $(A) \times (B)$.
- (D) From Appendix WC - M, Column (C).
- (E) $(C) / (D)$.
- (F) Selected based on (E).
- (G) Based on a Weibull distribution, a mathematical model of claim sizes.
- (H) From Appendix WC - E.
- (I) $(F) \times (G) \times (H)$.
- (J) From Appendix WC - M, Column (C).
- (K) $(I) \times (J)$.
- (L) Based on an estimated claim closing pattern and the City's historical claims administration expenses.
- (M) $(K) + (L)$.

This exhibit shows the calculation of future loss costs based on the past loss rates. The projections will be accurate only to the extent that what has happened in the past is representative of what will happen in the future.

City of Merced - Workers' Compensation

Reported Loss Development

Accident Year (A)	Limited Reported Losses as of 6/30/19 (B)	Reported Loss Development Factor (C)	Ultimate Limited Losses (D)	Program Reported Losses of 6/30/19 (E)	Reported Loss Development Factor (F)	Ultimate Program Losses (G)
Prior	\$8,911,384	1.000	\$8,911,384	\$10,041,794	1.001	\$10,051,836
1999-2000	654,428	1.000	654,428	731,731	1.002	733,194
2000-2001	264,628	1.000	264,628	264,628	1.004	265,687
2001-2002	324,991	1.000	324,991	474,375	1.006	477,221
2002-2003	638,137	1.000	638,137	891,562	1.008	898,694
2003-2004	1,048,176	1.000	1,048,176	1,436,837	1.012	1,454,079
2004-2005	728,200	1.000	728,200	793,783	1.016	806,484
2005-2006	434,905	1.000	434,905	560,674	1.021	572,448
2006-2007	432,610	1.000	432,610	596,909	1.027	613,026
2007-2008	599,767	1.000	599,767	612,981	1.033	633,209
2008-2009	1,110,213	1.000	1,110,213	1,613,453	1.040	1,677,991
2009-2010	982,273	1.001	983,255	1,146,670	1.050	1,204,004
2010-2011	1,086,326	1.003	1,089,585	1,443,877	1.078	1,556,499
2011-2012	1,253,284	1.006	1,260,804	1,399,710	1.097	1,535,482
2012-2013	1,330,417	1.012	1,346,382	1,724,682	1.121	1,933,369
2013-2014	1,382,296	1.019	1,408,560	2,011,113	1.150	2,312,780
2014-2015	1,709,640	1.029	1,759,220	2,561,511	1.187	3,040,514
2015-2016	1,404,292	1.080	1,516,635	2,110,215	1.288	2,717,957
2016-2017	1,439,548	1.188	1,710,183	1,696,417	1.465	2,485,251
2017-2018	1,994,090	1.426	2,843,572	2,370,677	1.851	4,388,123
2018-2019	832,473	2.496	2,077,853	864,019	3.358	2,901,376
Totals	\$28,562,078		\$31,143,488	\$35,347,618		\$42,259,224

Notes:

- (A) Years are 7/1 to 6/30.
- (B) Provided by the City. These losses exclude amounts over \$100,000 per occurrence.
- (C) From Appendix WC - A, Page 2.
- (D) (B) x (C). These estimated losses exclude amounts over \$100,000 per occurrence.
- (E) Losses capped at the City's SIR. Amounts are provided by the City.
- (F) Derived from factors on Appendix WC - A, Page 4.
- (G) (E) x (F).

This method tends to understate ultimate losses for the most recent several years because the large losses for those years generally have not yet emerged at the time of our review.

This exhibit shows the calculation of estimated ultimate losses for each year based on paid losses and case reserves as reported by the claims administrator. These losses tend to "develop" or change from period to period as more information becomes available about the cases. This development tends to follow quantifiable patterns over time.

City of Merced - Workers' Compensation
Reported Loss Development

Limited Losses Reported as of:

Accident Year	12 Months	24 Months	36 Months	48 Months	60 Months	72 Months	84 Months	96 Months	108 Months	120 Months
1998-1999										
1999-2000										
2000-2001										
2001-2002										
2002-2003										
2003-2004										
2004-2005										
2005-2006										446,443
2006-2007									449,000	432,610
2007-2008								608,193	606,671	616,832
2008-2009							1,122,846	1,224,622	1,123,554	1,113,721
2009-2010						1,031,851	1,022,703	1,019,360	998,994	982,273
2010-2011					1,152,905	1,151,581	1,121,509	1,093,806	1,086,326	
2011-2012				1,199,124	1,220,893	1,275,267	1,246,322	1,253,284		
2012-2013			1,319,502	1,463,164	1,456,704	1,374,844	1,330,417			
2013-2014		1,188,312	1,128,949	1,169,605	1,314,796	1,382,296				
2014-2015	861,894	1,329,769	1,621,654	1,631,683	1,709,640					
2015-2016	552,494	1,159,582	1,387,458	1,404,292						
2016-2017	854,015	1,483,534	1,439,548							
2017-2018	1,215,467	1,994,090								
2018-2019	832,473									

Reported Loss Development Factors:

	12-24 Months	24-36 Months	36-48 Months	48-60 Months	60-72 Months	72-84 Months	84-96 Months	96-108 Months	108-120 Months	120-132 Months
1998-1999										
1999-2000										
2000-2001										
2001-2002										
2002-2003										
2003-2004										
2004-2005										
2005-2006										0.974
2006-2007									0.963	1.000
2007-2008								0.997	1.017	0.992
2008-2009							1.091	0.917	0.991	0.997
2009-2010						0.991	0.997	0.980	0.983	
2010-2011					0.999	0.974	0.975	0.993		
2011-2012				1.018	1.045	0.977	1.006			
2012-2013			1.109	0.996	0.944	0.968				
2013-2014		0.950	1.036	1.124	1.051					
2014-2015	1.543	1.220	1.006	1.048						
2015-2016	2.099	1.197	1.012							
2016-2017	1.737	0.970								
2017-2018	1.641									

	12-24 Months	24-36 Months	36-48 Months	48-60 Months	60-72 Months	72-84 Months	84-96 Months	96-108 Months	108-120 Months	120-132 Months
Average	1.755	1.084	1.041	1.047	1.010	0.978	1.017	0.972	0.989	0.991
Dollar-Weighted										
Averages										
3-yr	1.769	1.120	1.016	1.051	1.010	0.973	0.993	0.961	0.994	0.996
4-yr	1.713	1.081	1.039	1.044	1.008	0.977	1.017	0.967	0.990	0.992
Comparative										
Factors	1.470	1.120	1.025	1.015	1.010	1.010	1.009	1.008	1.007	1.006
Prior	1.470	1.120	1.025	1.015	1.010	1.010	1.009	1.008	1.007	1.006
Selected	1.750	1.200	1.100	1.050	1.010	1.007	1.006	1.003	1.002	1.001
Cumulated	2.496	1.426	1.188	1.080	1.029	1.019	1.012	1.006	1.003	1.001

City of Merced - Workers' Compensation
Reported Loss Development

Accident Year	<u>Limited Losses Reported as of:</u>										
	132 Months	144 Months	156 Months	168 Months	180 Months	192 Months	204 Months	216 Months	228 Months	240 Months	252 Months
1998-1999							494,966	494,966	494,966	494,966	494,966
1999-2000						630,157	630,157	652,020	654,428	654,428	
2000-2001					270,246	266,839	266,839	264,628	264,628		
2001-2002				324,991	324,991	324,991	324,991	324,991			
2002-2003			613,497	613,497	613,497	638,137	638,137				
2003-2004		1,089,884	1,104,968	1,072,526	1,047,959	1,048,176					
2004-2005	728,200	728,200	728,200	728,200	728,200						
2005-2006	434,905	434,905	434,905	434,905							
2006-2007	432,610	432,610	432,610								
2007-2008	611,736	599,767									
2008-2009	1,110,213										
2009-2010											
2010-2011											
2011-2012											
2012-2013											
2013-2014											
2014-2015											
2015-2016											
2016-2017											
2017-2018											
2018-2019											

Reported Loss Development Factors:

	132-144 Months	144-156 Months	156-168 Months	168-180 Months	180-192 Months	192-204 Months	204-216 Months	216-228 Months	228-240 Months	240-252 Months	252-Ult. Months
1998-1999							1.000	1.000	1.000	1.000	
1999-2000						1.000	1.035	1.004	1.000		
2000-2001					0.987	1.000	0.992	1.000			
2001-2002				1.000	1.000	1.000	1.000				
2002-2003			1.000	1.000	1.040	1.000					
2003-2004		1.014	0.971	0.977	1.000						
2004-2005	1.000	1.000	1.000	1.000							
2005-2006	1.000	1.000	1.000								
2006-2007	1.000	1.000									
2007-2008	0.980										
2008-2009											
2009-2010											
2010-2011											
2011-2012											
2012-2013											
2013-2014											
2014-2015											
2015-2016											
2016-2017											
2017-2018											
Average	0.995	1.004	0.993	0.994	1.007	1.000	1.007	1.001	1.000	1.000	
Dollar-Weighted											
Averages											
3-yr	0.992	1.000	0.986	0.990	1.013	1.000	1.016	1.002			
4-yr	0.995	1.006	0.989	0.991	1.010	1.000	1.011				
Comparative											
Factors	1.005	1.005	1.004	1.003	1.003	1.003	1.003	1.002	1.002	1.002	1.006
Prior	1.005	1.005	1.004	1.003	1.003	1.003	1.003	1.002	1.002	1.002	1.006
Selected	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Cumulated	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

City of Merced - Workers' Compensation
Reported between \$100,000 and \$500,000 Loss Development

Losses Reported as of:

Accident Year	12 Months	24 Months	36 Months	48 Months	60 Months	72 Months	84 Months	96 Months	108 Months	120 Months
1998-1999										
1999-2000										
2000-2001										
2001-2002										
2002-2003										
2003-2004										
2004-2005										
2005-2006										74,233
2006-2007									265,867	211,590
2007-2008								13,213	13,213	13,213
2008-2009							633,893	609,188	609,661	382,330
2009-2010						252,644	204,073	178,487	180,038	164,396
2010-2011					387,844	357,551	357,551	357,551	357,551	
2011-2012				156,740	181,761	179,392	159,901	146,426		
2012-2013			260,772	433,694	437,835	403,913	394,265			
2013-2014		413,598	476,380	505,976	604,001	628,817				
2014-2015	78,460	190,193	517,205	927,472	864,591					
2015-2016		387,080	631,287	705,923						
2016-2017		304,950	268,269							
2017-2018	223,490	376,586								
2018-2019	31,546									

Reported Loss Development Factors:

	12-24 Months	24-36 Months	36-48 Months	48-60 Months	60-72 Months	72-84 Months	84-96 Months	96-108 Months	108-120 Months	120-132 Months
1998-1999										
1999-2000										
2000-2001										
2001-2002										
2002-2003										
2003-2004										
2004-2005										
2005-2006										1.087
2006-2007									0.796	0.889
2007-2008								1.000	1.000	1.000
2008-2009							0.961	1.001	0.627	1.515
2009-2010						0.808	0.875	1.009	0.913	
2010-2011					0.922	1.000	1.000	1.000		
2011-2012				1.160	0.987	0.891	0.916			
2012-2013			1.663	1.010	0.923	0.976				
2013-2014		1.152	1.062	1.194	1.041					
2014-2015	2.424	2.719	1.793	0.932						
2015-2016		1.631	1.118							
2016-2017		0.880								
2017-2018	1.685									

	12-24 Months	24-36 Months	36-48 Months	48-60 Months	60-72 Months	72-84 Months	84-96 Months	96-108 Months	108-120 Months	120-132 Months
Average	2.055	1.596	1.409	1.074	0.968	0.919	0.938	1.003	0.834	1.123
Dollar-Weighted										
Averages										
3-yr		1.606	1.317	1.021	0.991	0.969	0.946	1.002	0.697	1.286
4-yr		1.461	1.365	1.032	0.974	0.935	0.953	1.002	0.722	1.264
Comparative										
Factors	2.750	1.900	1.380	1.270	1.130	1.100	1.080	1.070	1.055	1.050
Prior	2.750	1.900	1.380	1.270	1.130	1.100	1.080	1.070	1.055	1.050
Selected	2.750	1.900	1.380	1.270	1.130	1.100	1.080	1.070	1.055	1.050
Cumulated	18.101	6.582	3.464	2.510	1.976	1.749	1.590	1.472	1.376	1.304

City of Merced - Workers' Compensation
Reported between \$100,000 and \$500,000 Loss Development

Accident Year	<u>Losses Reported as of:</u>										
	132 Months	144 Months	156 Months	168 Months	180 Months	192 Months	204 Months	216 Months	228 Months	240 Months	252 Months
1998-1999							262,229	316,188	262,232	151,847	151,557
1999-2000						77,304	77,304	77,304	77,304	77,304	
2000-2001											
2001-2002				149,385	149,385	149,385	149,385	149,385			
2002-2003			253,425	253,425	253,425	253,425	253,425				
2003-2004		602,878	601,018	510,041	434,822	404,567					
2004-2005	76,538	107,577	110,340	70,933	65,583						
2005-2006	80,725	98,168		125,769							
2006-2007	188,102	175,037	174,732								
2007-2008	13,213	13,213									
2008-2009	579,337										
2009-2010											
2010-2011											
2011-2012											
2012-2013											
2013-2014											
2014-2015											
2015-2016											
2016-2017											
2017-2018											
2018-2019											

Reported Loss Development Factors:

	132-144 Months	144-156 Months	156-168 Months	168-180 Months	180-192 Months	192-204 Months	204-216 Months	216-228 Months	228-240 Months	240-252 Months	252-Ult. Months
1998-1999											
1999-2000						1.000	1.000	1.000	1.000	0.998	
2000-2001											
2001-2002				1.000	1.000	1.000	1.000				
2002-2003			1.000	1.000	1.000	1.000					
2003-2004		0.997	0.849	0.853	0.930						
2004-2005	1.406	1.026	0.643	0.925							
2005-2006	1.216	1.178	1.087								
2006-2007	0.931	0.998									
2007-2008	1.000										
2008-2009											
2009-2010											
2010-2011											
2011-2012											
2012-2013											
2013-2014											
2014-2015											
2015-2016											
2016-2017											
2017-2018											

	132-144 Months	144-156 Months	156-168 Months	168-180 Months	180-192 Months	192-204 Months	204-216 Months	216-228 Months	228-240 Months	240-252 Months	252-Ult. Months
Average	1.138	1.050	0.895	0.945	0.977	1.000	1.069	0.915	0.790	0.998	
Dollar-Weighted											
Averages											
3-yr	1.016	1.052	0.855	0.903	0.964						
4-yr	1.099	1.018	0.889	0.918							
Comparative											
Factors	1.040	1.029	1.030	1.026	1.024	1.020	1.015	1.011	1.008	1.005	1.010
Prior	1.040	1.029	1.030	1.026	1.024	1.020	1.015	1.011	1.008	1.005	1.010
Selected	1.040	1.029	1.030	1.026	1.024	1.020	1.015	1.011	1.008	1.005	1.010
Cumulated	1.242	1.194	1.160	1.126	1.097	1.071	1.050	1.034	1.023	1.015	1.010

City of Merced - Workers' Compensation

Paid Loss Development

Accident Year (A)	Limited Paid Losses as of 6/30/19 (B)	Paid Loss Development Factor (C)	Ultimate Limited Losses (D)	Program Paid Losses of 6/30/19 (E)	Paid Loss Development Factor (F)	Ultimate Program Losses (G)
Prior	\$8,802,052	1.013	\$8,916,479	\$9,914,523	1.039	\$10,301,189
1999-2000	633,775	1.017	644,549	711,079	1.055	750,188
2000-2001	264,628	1.021	270,185	264,628	1.064	281,564
2001-2002	324,991	1.025	333,116	474,375	1.073	509,004
2002-2003	618,102	1.029	636,027	871,527	1.082	942,992
2003-2004	1,011,771	1.034	1,046,171	1,360,900	1.092	1,486,103
2004-2005	728,200	1.039	756,600	784,515	1.103	865,320
2005-2006	434,905	1.045	454,476	486,321	1.116	542,734
2006-2007	432,610	1.052	455,106	596,909	1.130	674,507
2007-2008	599,764	1.060	635,750	612,978	1.147	703,086
2008-2009	1,061,964	1.070	1,136,301	1,491,389	1.169	1,743,434
2009-2010	960,016	1.081	1,037,777	1,099,216	1.193	1,311,365
2010-2011	1,086,326	1.094	1,188,441	1,443,877	1.258	1,816,397
2011-2012	1,059,394	1.110	1,175,927	1,180,931	1.307	1,543,477
2012-2013	1,253,908	1.132	1,419,424	1,586,596	1.372	2,176,810
2013-2014	1,161,667	1.169	1,357,989	1,609,596	1.457	2,345,181
2014-2015	1,426,712	1.222	1,743,442	2,038,839	1.576	3,213,210
2015-2016	1,188,559	1.381	1,641,400	1,714,262	1.836	3,147,385
2016-2017	1,022,397	1.616	1,652,194	1,272,397	2.215	2,818,359
2017-2018	1,035,942	2.424	2,511,123	1,035,942	3.388	3,509,771
2018-2019	172,189	7.272	1,252,158	172,189	10.261	1,766,831
Totals	\$25,279,872		\$30,264,635	\$30,722,989		\$42,448,907

Notes:

- (A) Years are 7/1 to 6/30.
- (B) Provided by the City. These losses exclude amounts over \$100,000 per occurrence.
- (C) From Appendix WC - B, Page 2.
- (D) (B) x (C). These estimated losses exclude amounts over \$100,000 per occurrence.
- (E) Losses capped at the City's SIR. Amounts are provided by the City.
- (F) Derived from factors on Appendix WC - B, Page 4.
- (G) (E) x (F).

This method tends to understate ultimate losses for the most recent several years because the large losses for those years generally have not yet emerged at the time of our review.

This exhibit shows the calculation of estimated ultimate losses for each year based on paid losses as reported by the claims administrator. These losses tend to "develop" or change from period to period as more information becomes available about the cases. This development tends to follow quantifiable patterns over time.

City of Merced - Workers' Compensation
Paid Loss Development

Accident Year	<u>Limited Losses Paid as of:</u>									
	12 Months	24 Months	36 Months	48 Months	60 Months	72 Months	84 Months	96 Months	108 Months	120 Months
1998-1999										
1999-2000										
2000-2001										
2001-2002										
2002-2003										
2003-2004										
2004-2005										
2005-2006										434,905
2006-2007									432,610	432,610
2007-2008								586,172	586,213	598,959
2008-2009							964,144	1,003,992	1,039,805	1,048,706
2009-2010						924,918	947,079	955,604	958,019	960,016
2010-2011					1,077,562	1,080,275	1,086,326	1,086,326	1,086,326	
2011-2012				926,768	962,189	990,132	1,022,993	1,059,394		
2012-2013			848,402	963,958	1,166,569	1,180,930	1,253,908			
2013-2014		638,124	833,568	899,084	1,057,987	1,161,667				
2014-2015	314,265	774,211	1,122,656	1,298,504	1,426,712					
2015-2016	198,363	587,360	937,417	1,188,559						
2016-2017	145,821	666,260	1,022,397							
2017-2018	355,581	1,035,942								
2018-2019	172,189									

Paid Loss Development Factors:

	12-24 Months	24-36 Months	36-48 Months	48-60 Months	60-72 Months	72-84 Months	84-96 Months	96-108 Months	108-120 Months	120-132 Months
1998-1999										
1999-2000										
2000-2001										
2001-2002										
2002-2003										
2003-2004										
2004-2005										
2005-2006										1.000
2006-2007									1.000	1.000
2007-2008								1.000	1.022	1.000
2008-2009							1.041	1.036	1.009	1.013
2009-2010						1.024	1.009	1.003	1.002	
2010-2011					1.003	1.006	1.000	1.000		
2011-2012				1.038	1.029	1.033	1.036			
2012-2013			1.136	1.210	1.012	1.062				
2013-2014		1.306	1.079	1.177	1.098					
2014-2015	2.464	1.450	1.157	1.099						
2015-2016	2.961	1.596	1.268							
2016-2017	4.569	1.535								
2017-2018	2.913									

	12-24 Months	24-36 Months	36-48 Months	48-60 Months	60-72 Months	72-84 Months	84-96 Months	96-108 Months	108-120 Months	120-132 Months
Average	3.227	1.472	1.160	1.131	1.036	1.031	1.022	1.010	1.008	1.003
Dollar-Weighted										
Averages										
3-yr	3.272	1.520	1.170	1.155	1.046	1.034	1.015	1.013	1.009	1.006
4-yr	3.021	1.469	1.162	1.128	1.035	1.032	1.021	1.011	1.008	1.005
Comparative										
Factors	2.500	1.400	1.170	1.090	1.050	1.033	1.020	1.015	1.012	1.010
Prior	2.500	1.400	1.170	1.090	1.050	1.033	1.020	1.015	1.012	1.010
Selected	3.000	1.500	1.170	1.130	1.045	1.033	1.020	1.015	1.012	1.010
Cumulated	7.272	2.424	1.616	1.381	1.222	1.169	1.132	1.110	1.094	1.081

City of Merced - Workers' Compensation
Paid Loss Development

Accident Year	<u>Limited Losses Paid as of:</u>										
	132 Months	144 Months	156 Months	168 Months	180 Months	192 Months	204 Months	216 Months	228 Months	240 Months	252 Months
1998-1999							494,966	494,966	494,966	494,966	494,966
1999-2000						630,157	630,157	630,304	633,604	633,775	
2000-2001					264,533	264,628	264,628	264,628	264,628		
2001-2002				324,991	324,991	324,991	324,991	324,991			
2002-2003			613,497	613,497	613,497	613,497	618,102				
2003-2004		1,003,849	1,006,656	1,008,583	1,010,271	1,011,771					
2004-2005	728,200	728,200	728,200	728,200	728,200						
2005-2006	434,905	434,905	434,905	434,905							
2006-2007	432,610	432,610	432,610								
2007-2008	599,017	599,764									
2008-2009	1,061,964										
2009-2010											
2010-2011											
2011-2012											
2012-2013											
2013-2014											
2014-2015											
2015-2016											
2016-2017											
2017-2018											
2018-2019											

Paid Loss Development Factors:

	132-144 Months	144-156 Months	156-168 Months	168-180 Months	180-192 Months	192-204 Months	204-216 Months	216-228 Months	228-240 Months	240-252 Months	252-Ult. Months
1998-1999							1.000	1.000	1.000	1.000	
1999-2000						1.000	1.000	1.005	1.000		
2000-2001					1.000	1.000	1.000	1.000			
2001-2002				1.000	1.000	1.000	1.000				
2002-2003			1.000	1.000	1.000	1.008					
2003-2004		1.003	1.002	1.002	1.001						
2004-2005	1.000	1.000	1.000	1.000							
2005-2006	1.000	1.000	1.000								
2006-2007	1.000	1.000									
2007-2008	1.001										
2008-2009											
2009-2010											
2010-2011											
2011-2012											
2012-2013											
2013-2014											
2014-2015											
2015-2016											
2016-2017											
2017-2018											
Average	1.000	1.001	1.001	1.001	1.000	1.002	1.000	1.002	1.000	1.000	
Dollar-Weighted											
Averages											
3-yr	1.001	1.000	1.001	1.001	1.001	1.004	1.000	1.002			
4-yr	1.000	1.001	1.001	1.001	1.001	1.003	1.000				
Comparative											
Factors	1.009	1.008	1.007	1.006	1.005	1.005	1.004	1.004	1.004	1.004	1.013
Prior	1.009	1.008	1.007	1.006	1.005	1.005	1.004	1.004	1.004	1.004	1.013
Selected	1.009	1.008	1.007	1.006	1.005	1.005	1.004	1.004	1.004	1.004	1.013
Cumulated	1.070	1.060	1.052	1.045	1.039	1.034	1.029	1.025	1.021	1.017	1.013

City of Merced - Workers' Compensation
Paid between \$100,000 and \$500,000 Loss Development

Accident Year	<u>Losses Paid as of:</u>									
	12 Months	24 Months	36 Months	48 Months	60 Months	72 Months	84 Months	96 Months	108 Months	120 Months
1998-1999										
1999-2000										
2000-2001										
2001-2002										
2002-2003										
2003-2004										
2004-2005										
2005-2006										26,917
2006-2007									164,318	165,830
2007-2008								13,213	13,213	13,213
2008-2009							578,288	343,674	341,634	342,677
2009-2010						133,615	135,684	137,421	138,665	139,200
2010-2011					357,502	357,551	357,551	357,551	357,551	
2011-2012				93,732	112,089	113,388	118,075	121,537		
2012-2013			84,639	112,016	284,354	320,401	332,688			
2013-2014		194,065	242,992	381,403	412,424	447,930				
2014-2015		54,292	115,766	308,359	612,746					
2015-2016		65,900	485,195	525,703						
2016-2017			251,500							
2017-2018										
2018-2019										

Paid Loss Development Factors:

	12-24 Months	24-36 Months	36-48 Months	48-60 Months	60-72 Months	72-84 Months	84-96 Months	96-108 Months	108-120 Months	120-132 Months
1998-1999										
1999-2000										
2000-2001										
2001-2002										
2002-2003										
2003-2004										
2004-2005										
2005-2006										1.128
2006-2007									1.009	0.991
2007-2008								1.000	1.000	1.000
2008-2009							0.594	0.994	1.003	1.253
2009-2010						1.015	1.013	1.009	1.004	
2010-2011					1.000	1.000	1.000	1.000		
2011-2012				1.196	1.012	1.041	1.029			
2012-2013			1.323	2.539	1.127	1.038				
2013-2014		1.252	1.570	1.081	1.086					
2014-2015		2.132	2.664	1.987						
2015-2016		7.363	1.083							
2016-2017										
2017-2018										

	12-24 Months	24-36 Months	36-48 Months	48-60 Months	60-72 Months	72-84 Months	84-96 Months	96-108 Months	108-120 Months	120-132 Months
Average		3.582	1.660	1.701	1.056	1.024	0.909	1.001	1.004	1.093
Dollar-Weighted										
Averages										
3-yr			1.440	1.633	1.090	1.021	1.009	0.999	1.003	1.164
4-yr			1.430	1.587	1.063	1.021	0.807	0.999	1.005	1.162
Comparative										
Factors	4.000	3.100	2.400	1.750	1.500	1.300	1.250	1.175	1.100	1.080
Prior	4.000	3.100	2.400	1.750	1.500	1.300	1.250	1.175	1.100	1.080
Selected	4.000	3.100	2.400	1.750	1.500	1.300	1.250	1.175	1.100	1.080
Cumulated	331.020	82.755	26.695	11.123	6.356	4.237	3.259	2.607	2.219	2.017

City of Merced - Workers' Compensation
Paid between \$100,000 and \$500,000 Loss Development

Accident Year	<u>Losses Paid as of:</u>		156 Months	168 Months	180 Months	192 Months	204 Months	216 Months	228 Months	240 Months	252 Months
	132 Months	144 Months									
1998-1999							154,213	151,557	151,557	151,847	151,557
1999-2000						77,304	77,304	77,304	77,304	77,304	
2000-2001											
2001-2002				149,385	149,385	149,385	149,385	149,385			
2002-2003			253,425	253,425	253,425	253,425	253,425				
2003-2004		277,389	364,561	350,659	352,371	359,467					
2004-2005	44,928	47,977	49,183	52,376	56,315						
2005-2006	30,355	40,147	45,789	51,416							
2006-2007	164,299	164,299	164,299								
2007-2008	13,213	13,213									
2008-2009	429,531										
2009-2010											
2010-2011											
2011-2012											
2012-2013											
2013-2014											
2014-2015											
2015-2016											
2016-2017											
2017-2018											
2018-2019											

Paid Loss Development Factors:

	132-144 Months	144-156 Months	156-168 Months	168-180 Months	180-192 Months	192-204 Months	204-216 Months	216-228 Months	228-240 Months	240-252 Months	252-Ult. Months
1998-1999											
1999-2000						1.000	0.983	1.000	1.002	0.998	
2000-2001							1.000	1.000	1.000		
2001-2002				1.000	1.000	1.000	1.000				
2002-2003			1.000	1.000	1.000	1.000					
2003-2004		1.314	0.962	1.005	1.020						
2004-2005	1.068	1.025	1.065	1.075							
2005-2006	1.323	1.141	1.123								
2006-2007	1.000	1.000									
2007-2008	1.000										
2008-2009											
2009-2010											
2010-2011											
2011-2012											
2012-2013											
2013-2014											
2014-2015											
2015-2016											
2016-2017											
2017-2018											

	132-144 Months	144-156 Months	156-168 Months	168-180 Months	180-192 Months	192-204 Months	204-216 Months	216-228 Months	228-240 Months	240-252 Months	252-Ult. Months
Average	1.098	1.120	1.038	1.020	1.007	1.000	0.994	1.000	1.001	0.998	
Dollar-Weighted											
Averages											
3-yr	1.047	1.027	0.989	1.009	1.009						
4-yr	1.051	1.177	0.993	1.007							
Comparative											
Factors	1.070	1.055	1.045	1.035	1.035	1.030	1.030	1.030	1.030	1.030	1.275
Prior	1.070	1.055	1.045	1.035	1.035	1.030	1.030	1.030	1.030	1.030	1.275
Selected	1.070	1.055	1.045	1.035	1.035	1.030	1.030	1.030	1.030	1.030	1.275
Cumulated	1.868	1.746	1.655	1.584	1.530	1.478	1.435	1.393	1.352	1.313	1.275

City of Merced - Workers' Compensation

Exposure and Development Method
Based on Reported Losses

Accident Year	Trended Payroll (\$00) (A)	Reported Losses as of 6/30/19 (B)	Loss Development Factor (C)	Percentage of Losses Yet to Be Reported (D)	Program Rate (E)	Incurred but not Reported (IBNR) (F)	Ultimate Program Losses (G)
1999-2000	294,776	731,731	1.002	0.002	2.650	1,562	733,293
2000-2001	299,134	264,628	1.004	0.004	1.061	1,270	265,898
2001-2002	297,297	474,375	1.006	0.006	1.317	2,349	476,724
2002-2003	316,328	891,562	1.008	0.008	2.445	6,187	897,749
2003-2004	310,523	1,436,837	1.012	0.012	4.110	15,315	1,452,152
2004-2005	316,731	793,783	1.016	0.016	2.811	14,245	808,028
2005-2006	369,511	560,674	1.021	0.021	1.446	11,221	571,895
2006-2007	444,146	596,909	1.027	0.026	1.203	13,892	610,801
2007-2008	477,725	612,981	1.033	0.032	1.558	23,817	636,798
2008-2009	476,255	1,613,453	1.040	0.038	2.908	52,628	1,666,081
2009-2010	440,771	1,146,670	1.050	0.048	2.797	59,176	1,205,846
2010-2011	413,616	1,443,877	1.078	0.072	3.537	105,333	1,549,210
2011-2012	384,837	1,399,710	1.097	0.088	4.445	150,533	1,550,243
2012-2013	359,241	1,724,682	1.121	0.108	5.259	204,039	1,928,721
2013-2014	352,575	2,011,113	1.150	0.130	5.399	247,462	2,258,575
2014-2015	343,499	2,561,511	1.187	0.158	7.152	388,159	2,949,670
2015-2016	348,817	2,110,215	1.288	0.224	7.207	563,119	2,673,334
2016-2017	349,621	1,696,417	1.465	0.317	7.278	806,620	2,503,037
2017-2018	359,801	2,370,677	1.851	0.460	7.512	1,243,300	3,613,977
2018-2019	368,445	864,019	3.358	0.702	7.645	1,977,367	2,841,386
Totals	7,323,649	\$25,305,824				\$5,887,594	\$31,193,418

Notes:

- (A) From Appendix WC - M, Column (C).
- (B) Provided by the City. These losses exclude amounts incurred above the City's SIR for each year.
- (C) From Appendix WC - A, Page 1, Column (F).
- (D) $1 - 1 / (C)$.
- (E) From Appendix WC - C, Page 3, Column (H).
- (F) $(A) \times (D) \times (E)$.
- (G) $(B) + (F)$.

This exhibit shows the calculation of ultimate losses based on the assumption that there is an underlying relationship between losses and exposure that changes in regular ways over time. The method relies on the premise that the losses that are currently unreported will cost what this relationship would suggest.

City of Merced - Workers' Compensation

Exposure and Development Method
Based on Paid Losses

Accident Year	Trended Payroll (\$00) (A)	Paid Losses as of 6/30/19 (B)	Loss Development Factor (C)	Percentage of Losses Yet to Be Paid (D)	Program Rate (E)	Incurred but not Paid (F)	Ultimate Program Losses (G)
1999-2000	294,776	711,079	1.055	0.052	2.650	40,620	751,699
2000-2001	299,134	264,628	1.064	0.060	1.061	19,043	283,671
2001-2002	297,297	474,375	1.073	0.068	1.317	26,625	501,000
2002-2003	316,328	871,527	1.082	0.076	2.445	58,780	930,307
2003-2004	310,523	1,360,900	1.092	0.084	4.110	107,205	1,468,105
2004-2005	316,731	784,515	1.103	0.093	2.811	82,801	867,316
2005-2006	369,511	486,321	1.116	0.104	1.446	55,569	541,890
2006-2007	444,146	596,909	1.130	0.115	1.203	61,445	658,354
2007-2008	477,725	612,978	1.147	0.128	1.558	95,270	708,248
2008-2009	476,255	1,491,389	1.169	0.145	2.908	200,818	1,692,207
2009-2010	440,771	1,099,216	1.193	0.162	2.797	199,720	1,298,936
2010-2011	413,616	1,443,877	1.258	0.205	3.537	299,907	1,743,784
2011-2012	384,837	1,180,931	1.307	0.235	4.445	401,991	1,582,922
2012-2013	359,241	1,586,596	1.372	0.271	5.259	511,986	2,098,582
2013-2014	352,575	1,609,596	1.457	0.314	5.399	597,715	2,207,311
2014-2015	343,499	2,038,839	1.576	0.365	7.152	896,697	2,935,536
2015-2016	348,817	1,714,262	1.836	0.455	7.207	1,143,835	2,858,097
2016-2017	349,621	1,272,397	2.215	0.549	7.278	1,396,953	2,669,350
2017-2018	359,801	1,035,942	3.388	0.705	7.512	1,905,492	2,941,434
2018-2019	368,445	172,189	10.261	0.903	7.645	2,543,536	2,715,725
Totals	7,323,649	\$20,808,466				\$10,646,008	\$31,454,474

Notes:

- (A) From Appendix WC - M, Column (C).
- (B) Provided by the City. These losses exclude amounts paid above the City's SIR for each year.
- (C) From Appendix WC - B, Page 1, Column (F).
- (D) $1 - 1 / (C)$.
- (E) From Appendix WC - C, Page 3, Column (H).
- (F) $(A) \times (D) \times (E)$.
- (G) $(B) + (F)$.

This exhibit shows the calculation of ultimate losses based on the assumption that there is an underlying relationship between losses and exposure that changes in regular ways over time. The method relies on the premise that the losses that are currently unpaid will cost what this relationship would suggest.

City of Merced - Workers' Compensation

Exposure and Development Method

Accident Year	Trended Payroll (\$00) (A)	Ultimate Limited Losses (B)	Trend Factor (C)	Trended Limited Losses (D)	Trended Limited Loss Rate (E)	Limited Loss Rate (F)	Factor to SIR (G)	Program Loss Rate (H)
1999-2000	294,776	655,000	0.883	578,365	1.962	2.222	1.193	2.650
2000-2001	299,134	264,628	0.828	219,112	0.732	0.885	1.199	1.061
2001-2002	297,297	324,991	0.829	269,418	0.906	1.093	1.205	1.317
2002-2003	316,328	639,000	0.868	554,652	1.753	2.020	1.211	2.445
2003-2004	310,523	1,049,000	1.068	1,120,332	3.608	3.378	1.217	4.110
2004-2005	316,731	728,200	1.371	998,362	3.152	2.299	1.223	2.811
2005-2006	369,511	434,905	1.482	644,529	1.744	1.177	1.229	1.446
2006-2007	444,146	432,610	1.400	605,654	1.364	0.974	1.235	1.203
2007-2008	477,725	600,000	1.298	778,800	1.630	1.256	1.241	1.558
2008-2009	476,255	1,111,000	1.209	1,343,199	2.820	2.333	1.247	2.908
2009-2010	440,771	984,000	1.106	1,088,304	2.469	2.232	1.253	2.797
2010-2011	413,616	1,086,326	1.053	1,143,901	2.766	2.626	1.347	3.537
2011-2012	384,837	1,261,000	1.048	1,321,528	3.434	3.277	1.356	4.445
2012-2013	359,241	1,383,000	1.061	1,467,363	4.085	3.850	1.366	5.259
2013-2014	352,575	1,384,000	1.067	1,476,728	4.188	3.925	1.376	5.399
2014-2015	343,499	1,751,000	1.046	1,831,546	5.332	5.163	1.385	7.152
2015-2016	348,817	1,579,000	1.045	1,650,055	4.730	5.167	1.395	7.207
2016-2017	349,621	1,681,000	1.042	1,751,602	5.010	5.182	1.404	7.278
2017-2018	359,801	2,677,000	1.017	2,722,509	7.567	5.310	1.415	7.512
2018-2019	368,445	1,665,000	1.006	1,674,990	4.546	5.368	1.424	7.645
Total/Avg	7,323,649	\$21,690,660		\$23,240,949	\$3.173			
13/14-17/18	1,754,313	9,072,000		9,432,440	5.377			
14/15-18/19	1,770,183	9,353,000		9,630,702	5.441			
Selected Limited Rate:					\$5.400			
Prior:					N/A			

Notes:

- (A) From Appendix WC - M, Column (C).
- (B) Selected average of results from Appendices W and X.
- (C) From Appendix WC - E, Page 1, Column (B).
- (D) (B) x (C).
- (E) (D) / (A).
- (F) Selected Limited Rate / (C). For 2013-2014 and prior (B) / (A).
- (G) Based on a Weibull distribution, a mathematical model of claim sizes.
- (H) (F) x (G).

This exhibit shows the calculation of the underlying historical relationship between losses and exposure that is needed to apply the estimation methods shown on pages 1 and 2 of this Appendix.

City of Merced - Workers' Compensation

Frequency and Severity Method

Accident Year	Ultimate Program Severity (A)	Adjusted Ultimate Claims (B)	Ultimate Program Losses (C)
Prior	\$9,055	1,123	\$10,168,765
1999-2000	9,190	85	781,150
2000-2001	5,874	54	317,196
2001-2002	5,593	70	391,510
2002-2003	10,314	75	773,550
2003-2004	15,193	84	1,276,212
2004-2005	11,562	77	890,274
2005-2006	8,221	65	534,365
2006-2007	8,093	66	534,138
2007-2008	8,968	83	744,344
2008-2009	16,105	86	1,385,030
2009-2010	13,701	90	1,233,090
2010-2011	16,078	91	1,463,098
2011-2012	19,660	87	1,710,420
2012-2013	20,535	92	1,889,220
2013-2014	25,728	74	1,903,872
2014-2015	29,203	81	2,365,443
2015-2016	30,030	65	1,951,950
2016-2017	30,947	90	2,785,230
2017-2018	32,526	101	3,285,126
2018-2019	33,801	89	3,008,289
Total		2,728	\$39,392,272

Notes:

- (A) From Appendix WC - D, Page 2, Column (H).
- (B) From Appendix WC - D, Page 2, Column (B).
- (C) (A) x (B).

This exhibit shows the calculation of the estimated ultimate losses for each year based on the observed average frequency and severity of claims.

City of Merced - Workers' Compensation

Frequency and Severity Method

Accident Year	Ultimate Limited Losses (A)	Adjusted Ultimate Claims (B)	Ultimate Limited Severity (C)	Trend Factor (D)	Trended Limited Severity (E)	Limited Severity (F)	Factor to SIR (G)	Program Severity (H)
Prior	\$8,912,000	1,123	\$7,936	1.504	\$11,936	\$7,936	1.141	\$9,055
1999-2000	655,000	85	7,706	1.312	10,110	7,706	1.193	9,190
2000-2001	264,628	54	4,901	1.208	5,920	4,901	1.199	5,874
2001-2002	324,991	70	4,643	1.185	5,502	4,643	1.205	5,593
2002-2003	639,000	75	8,520	1.217	10,369	8,520	1.211	10,314
2003-2004	1,049,000	84	12,488	1.469	18,345	12,488	1.217	15,193
2004-2005	728,200	77	9,457	1.849	17,486	9,457	1.223	11,562
2005-2006	434,905	65	6,691	1.958	13,101	6,691	1.229	8,221
2006-2007	432,610	66	6,555	1.814	11,891	6,555	1.235	8,093
2007-2008	600,000	83	7,229	1.648	11,913	7,229	1.241	8,968
2008-2009	1,111,000	86	12,919	1.504	19,430	12,919	1.247	16,105
2009-2010	984,000	90	10,933	1.349	14,749	10,933	1.253	13,701
2010-2011	1,086,326	91	11,938	1.259	15,030	11,938	1.347	16,078
2011-2012	1,261,000	87	14,494	1.229	17,813	14,494	1.356	19,660
2012-2013	1,383,000	92	15,033	1.219	18,325	15,033	1.366	20,535
2013-2014	1,384,000	74	18,703	1.202	22,481	18,703	1.376	25,728
2014-2015	1,751,000	81	21,617	1.155	24,968	21,082	1.385	29,203
2015-2016	1,579,000	65	24,292	1.131	27,474	21,530	1.395	30,030
2016-2017	1,681,000	90	18,678	1.105	20,639	22,036	1.404	30,947
2017-2018	2,519,000	101	24,941	1.059	26,413	22,993	1.415	32,526
2018-2019	1,947,000	89	21,876	1.026	22,445	23,733	1.424	33,801

Average Limited Severity: \$16,492
Average 13/14-17/18 Limited Severity: 24,395
Average 14/15-18/19 Limited Severity: 24,388

Selected Limited Severity: \$24,350
Prior: N/A

Notes:

- (A) Selected average of results from Appendices W, W, and W.
- (B) Appendix WC - D, Page 3, Column (C).
- (C) (A) / (B).
- (D) From Appendix WC - E, Page 1, Column (J).
- (E) (C) x (D).
- (F) Selected Limited Severity / (D).
- (G) Based on a Weibull distribution, a mathematical model of claim sizes.
- (H) (F) x (G).

This exhibit shows the calculation of the historical average cost per claim, or severity. The observed average severity is used in the method shown on page 1 of this Appendix.

City of Merced - Workers' Compensation

Frequency and Severity Method
Projection of Ultimate Claims

Accident Year	Reported Claim Development (A)	Closed Claim Development (B)	Selected Ultimate Claims (C)	Trended Payroll (\$000,000) (D)	Claim Frequency (E)	Trend Factor (F)	Trended Claim Frequency (G)
Prior	1,123	1,120	1,123	0.0		0.655	
1999-2000	85	85	85	29.5	2.884	0.668	1.927
2000-2001	54	54	54	29.9	1.805	0.682	1.231
2001-2002	70	71	70	29.7	2.355	0.696	1.639
2002-2003	75	75	75	31.6	2.371	0.710	1.683
2003-2004	84	80	84	31.1	2.705	0.725	1.961
2004-2005	77	77	77	31.7	2.431	0.740	1.799
2005-2006	65	65	65	37.0	1.759	0.755	1.328
2006-2007	66	66	66	44.4	1.486	0.769	1.143
2007-2008	83	84	83	47.8	1.737	0.785	1.364
2008-2009	86	82	86	47.6	1.806	0.801	1.447
2009-2010	90	88	90	44.1	2.042	0.817	1.668
2010-2011	91	94	91	41.4	2.200	0.834	1.835
2011-2012	87	81	87	38.5	2.261	0.851	1.924
2012-2013	92	91	92	35.9	2.561	0.868	2.223
2013-2014	74	70	74	35.3	2.099	0.886	1.860
2014-2015	81	71	81	34.3	2.358	0.904	2.132
2015-2016	65	64	65	34.9	1.863	0.922	1.718
2016-2017	90	86	90	35.0	2.574	0.942	2.425
2017-2018	101	101	101	36.0	2.807	0.961	2.698
2018-2019	89	85	89	36.8	2.416	0.980	2.368
Total	2,728	2,690	2,728	732.4			1.800
13/14-17/18	411	392	411	175.4			2.169
(H) Selected Frequency:							2.400
Prior:							N/A
Program Year:				2019-2020	2020-2021		
(I) Trend Factor:				1.000	0.980		
(J) Selected Frequency:				2.400	2.352		
(K) Est. Payroll (\$000,000):				37.7	39.6		
(L) Ultimate Claims:				90	93		

Notes:

- | | |
|--|--|
| (A) From Appendix WC - D, Page 4, (C). | (G) (E) x (F). |
| (B) From Appendix WC - D, Page 5, (C). | (H) The selected frequency of 2.400 is based on (G). |
| (C) Selected from (A) and (B). | (I) From Appendix WC - E, Page 1, Column (H). |
| (D) From Appendix WC - M, Column (C) / 10,000. | (J) (H) x (I). |
| (E) (C) / (D). | (K) From Appendix WC - M, Column (C) / 10,000. |
| (F) From Appendix WC - E, Page 1, Column (H). | (L) (J) x (K). |

This exhibit summarizes the estimated numbers of claims and shows the estimated frequencies per \$1,000,000 of trended payroll.

City of Merced - Workers' Compensation

Frequency and Severity Method
Reported Claim Count Development

Accident Year	Claims Reported as of 6/30/2019 (A)	Reported Claim Development Factor (B)	Ultimate Claims (C)	Trended Claim Frequency (D)
Prior	1,123	1.000	1,123	
1999-2000	85	1.000	85	1.926
2000-2001	54	1.000	54	1.231
2001-2002	70	1.000	70	1.639
2002-2003	75	1.000	75	1.683
2003-2004	84	1.000	84	1.961
2004-2005	77	1.000	77	1.799
2005-2006	65	1.000	65	1.328
2006-2007	66	1.000	66	1.143
2007-2008	83	1.000	83	1.364
2008-2009	86	1.000	86	1.446
2009-2010	90	1.000	90	1.668
2010-2011	91	1.000	91	1.835
2011-2012	87	1.000	87	1.924
2012-2013	92	1.000	92	2.223
2013-2014	74	1.000	74	1.860
2014-2015	81	1.000	81	2.132
2015-2016	65	1.004	65	1.718
2016-2017	89	1.010	90	2.425
2017-2018	99	1.017	101	2.698
2018-2019	81	1.093	89	2.367
Total	2,717		2,728	1.800

Notes:

- (A) Provided by the City.
- (B) From Appendix WC - D, Page 6.
- (C) (A) x (B).
- (D) (C) / [Appendix WC - D, Page 3, (D)] x [Appendix WC - D, Page 3, (F)].

This exhibit shows the calculation of estimated ultimate claims for each year based on reported claims as provided by the City. These numbers of claims tend to "develop" or change from period to period as more claims are filed. This development tends to follow quantifiable patterns over time.

City of Merced - Workers' Compensation

Frequency and Severity Method
Closed Claim Count Development

Accident Year	Claims Closed as of 6/30/2019 (A)	Closed Claim Development Factor (B)	Ultimate Claims (C)	Trended Claim Frequency (D)
Prior	1,114	1.005	1,120	
1999-2000	84	1.006	85	1.926
2000-2001	54	1.007	54	1.231
2001-2002	70	1.008	71	1.662
2002-2003	74	1.009	75	1.683
2003-2004	79	1.010	80	1.868
2004-2005	76	1.011	77	1.799
2005-2006	64	1.012	65	1.328
2006-2007	65	1.013	66	1.143
2007-2008	83	1.015	84	1.380
2008-2009	81	1.018	82	1.379
2009-2010	86	1.028	88	1.631
2010-2011	91	1.038	94	1.895
2011-2012	77	1.054	81	1.791
2012-2013	85	1.070	91	2.199
2013-2014	64	1.091	70	1.759
2014-2015	63	1.124	71	1.869
2015-2016	55	1.169	64	1.692
2016-2017	68	1.263	86	2.317
2017-2018	72	1.402	101	2.698
2018-2019	42	2.033	85	2.261
Total	2,547		2,690	1.758

Notes:

- (A) Provided by the City.
- (B) From Appendix WC - D, Page 7.
- (C) (A) x (B).
- (D) (C) / [Appendix WC - D, Page 3, (D)] x [Appendix WC - D, Page 3, (F)].

This exhibit shows the calculation of estimated ultimate claims for each year based on closed claims as provided by the City. These numbers of closed claims tend to "develop" or change from period to period as more claims are closed. This development tends to follow quantifiable patterns over time.

City of Merced - Workers' Compensation
Reported Claim Count Development

Claims Reported as of:

Accident Year	12 Months	24 Months	36 Months	48 Months	60 Months	72 Months	84 Months	96 Months	108 Months	120 Months	132 Months	144 Months	156 Months
1998-1999													
1999-2000													
2000-2001													
2001-2002													
2002-2003													75
2003-2004												84	84
2004-2005											77	77	77
2005-2006										65	65	65	65
2006-2007									66	66	66	66	66
2007-2008								83	83	83	83	83	
2008-2009							86	86	86	86	86		
2009-2010						90	90	90	90	90			
2010-2011					91	91	91	91	91				
2011-2012				86	87	87	87	87					
2012-2013			91	92	92	92	92						
2013-2014		73	73	74	74	74							
2014-2015	74	80	80	80	81								
2015-2016	56	63	65	65									
2016-2017	83	89	89										
2017-2018	94	99											
2018-2019	81												

Reported Claim Count Development Factors:

	12-24 Months	24-36 Months	36-48 Months	48-60 Months	60-72 Months	72-84 Months	84-96 Months	96-108 Months	108-120 Months	120-132 Months	132-144 Months	144-156 Months	156-168 Months
1998-1999													
1999-2000													
2000-2001													
2001-2002													
2002-2003													1.000
2003-2004												1.000	1.000
2004-2005											1.000	1.000	1.000
2005-2006										1.000	1.000	1.000	1.000
2006-2007									1.000	1.000	1.000	1.000	
2007-2008								1.000	1.000	1.000	1.000		
2008-2009							1.000	1.000	1.000	1.000			
2009-2010						1.000	1.000	1.000	1.000				
2010-2011					1.000	1.000	1.000	1.000					
2011-2012				1.012	1.000	1.000	1.000						
2012-2013			1.011	1.000	1.000	1.000							
2013-2014		1.000	1.014	1.000	1.000								
2014-2015	1.081	1.000	1.000	1.013									
2015-2016	1.125	1.032	1.000										
2016-2017	1.072	1.000											
2017-2018	1.053												

	12-24 Months	24-36 Months	36-48 Months	48-60 Months	60-72 Months	72-84 Months	84-96 Months	96-108 Months	108-120 Months	120-132 Months	132-144 Months	144-156 Months	156-168 Months
Average	1.083	1.008	1.006	1.006	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Claim-Weighted													
Averages													
3-yr	1.077	1.009	1.005	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
4-yr	1.078	1.007	1.006	1.006	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Comparative													
Factors													
Prior	1.100	1.007	1.004	1.003	1.002	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.000
Selected	1.075	1.007	1.006	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Cumulated	1.093	1.017	1.010	1.004	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

City of Merced - Workers' Compensation
Closed Claim Development

Accident Year	Claims Closed as of:												
	12 Months	24 Months	36 Months	48 Months	60 Months	72 Months	84 Months	96 Months	108 Months	120 Months	132 Months	144 Months	156 Months
1998-1999													
1999-2000													
2000-2001													
2001-2002													
2002-2003													75
2003-2004												76	77
2004-2005											76	76	76
2005-2006										63	64	64	64
2006-2007									64	65	65	65	65
2007-2008								82	81	81	82	83	
2008-2009							75	75	78	79	81		
2009-2010						83	82	82	84	86			
2010-2011					85	86	88	90	91				
2011-2012				72	73	73	75	77					
2012-2013			68	71	74	79	85						
2013-2014		48	56	59	61	64							
2014-2015	32	52	54	58	63								
2015-2016	32	42	48	55									
2016-2017	44	62	68										
2017-2018	49	72											
2018-2019	42												

Closed Claim Count Development Factors:

	12-24 Months	24-36 Months	36-48 Months	48-60 Months	60-72 Months	72-84 Months	84-96 Months	96-108 Months	108-120 Months	120-132 Months	132-144 Months	144-156 Months	156-168 Months
1998-1999													
1999-2000													
2000-2001													
2001-2002													
2002-2003													1.000
2003-2004												1.013	1.013
2004-2005											1.000	1.000	1.000
2005-2006										1.016	1.000	1.000	1.000
2006-2007									1.016	1.000	1.000	1.000	
2007-2008								0.988	1.000	1.012	1.012		
2008-2009							1.000	1.040	1.013	1.025			
2009-2010						0.988	1.000	1.024	1.024				
2010-2011					1.012	1.023	1.023	1.011					
2011-2012				1.014	1.000	1.027	1.027						
2012-2013			1.044	1.042	1.068	1.076							
2013-2014		1.167	1.054	1.034	1.049								
2014-2015	1.625	1.038	1.074	1.086									
2015-2016	1.313	1.143	1.146										
2016-2017	1.409	1.097											
2017-2018	1.469												
Average Claim-Weighted Averages													
3-yr	1.408	1.090	1.089	1.053	1.038	1.042	1.016	1.024	1.012	1.013	1.005	1.000	1.005
4-yr	1.452	1.108	1.075	1.042	1.031	1.028	1.013	1.015	1.013	1.014	1.003	1.004	1.003
Comparative Factors													
Prior	1.600	1.080	1.050	1.030	1.025	1.015	1.010	1.008	1.005	1.004	1.003	1.002	1.001
Selected	1.450	1.110	1.080	1.040	1.030	1.020	1.015	1.015	1.010	1.010	1.003	1.002	1.001
Cumulated	2.033	1.402	1.263	1.169	1.124	1.091	1.070	1.054	1.038	1.028	1.018	1.015	1.013

City of Merced - Workers' Compensation

Loss Trend Factors

Accident Year	Benefit Level Factor (A)	Factor to 2019-2020 Loss Rate Level (B)	Factor to 2020-2021 Loss Rate Level (C)	Factor to 2021-2022 Loss Rate Level (D)	Factor to 2022-2023 Loss Rate Level (E)	Factor to 2019-2020 Frequency Level (F)	Factor to 2020-2021 Frequency Level (G)	Factor to 2021-2022 Frequency Level (H)	Factor to 2022-2023 Frequency Level (I)	Factor to 2019-2020 Severity Level (J)
Prior	0.896	0.992	0.997	1.002	1.007	0.655	0.642	0.629	0.616	1.504
1999-2000	0.801	0.883	0.887	0.891	0.896	0.668	0.655	0.642	0.629	1.312
2000-2001	0.756	0.828	0.832	0.836	0.841	0.682	0.669	0.655	0.642	1.208
2001-2002	0.760	0.829	0.833	0.837	0.841	0.696	0.682	0.668	0.655	1.185
2002-2003	0.801	0.868	0.872	0.876	0.881	0.710	0.696	0.682	0.668	1.217
2003-2004	0.990	1.068	1.074	1.079	1.084	0.725	0.710	0.696	0.682	1.469
2004-2005	1.277	1.371	1.378	1.385	1.392	0.740	0.725	0.710	0.696	1.849
2005-2006	1.387	1.482	1.490	1.497	1.504	0.755	0.740	0.724	0.710	1.958
2006-2007	1.316	1.400	1.407	1.414	1.421	0.769	0.754	0.739	0.724	1.814
2007-2008	1.226	1.298	1.305	1.311	1.318	0.785	0.770	0.754	0.739	1.648
2008-2009	1.147	1.209	1.215	1.221	1.227	0.801	0.785	0.769	0.754	1.504
2009-2010	1.054	1.106	1.111	1.117	1.122	0.817	0.801	0.785	0.769	1.349
2010-2011	1.008	1.053	1.058	1.064	1.069	0.834	0.818	0.801	0.785	1.259
2011-2012	1.008	1.048	1.053	1.059	1.064	0.851	0.834	0.817	0.801	1.229
2012-2013	1.026	1.061	1.066	1.072	1.077	0.868	0.851	0.834	0.817	1.219
2013-2014	1.036	1.067	1.072	1.078	1.083	0.886	0.869	0.851	0.834	1.202
2014-2015	1.020	1.046	1.051	1.056	1.061	0.904	0.886	0.868	0.851	1.155
2015-2016	1.025	1.045	1.050	1.055	1.060	0.922	0.904	0.886	0.868	1.131
2016-2017	1.026	1.042	1.047	1.052	1.057	0.942	0.923	0.904	0.886	1.105
2017-2018	1.007	1.017	1.022	1.027	1.033	0.961	0.942	0.922	0.904	1.059
2018-2019	1.001	1.006	1.011	1.016	1.021	0.980	0.960	0.941	0.922	1.026
2019-2020	1.000	1.000	1.005	1.010	1.015	1.000	0.980	0.960	0.941	1.000
2020-2021	1.000	--	1.000	1.005	1.010	--	1.000	0.980	0.960	--
2021-2022	1.000	--	--	1.000	1.005	--	--	1.000	0.980	--
2022-2023	1.000	--	--	--	1.000	--	--	--	1.000	--

Notes:

- (A) Based on WCIRB.
- (B) - (E) (A) adjusted for a 0.5% annual loss rate trend.
- (F) - (I) (A) adjusted for a -2.0% annual frequency trend.
- (J) (A) adjusted for a 2.5% annual severity trend.

This exhibit shows the calculation of the ways in which we expect claims costs to have changed over the past twenty years due to changes in statutory workers' compensation benefit levels and changes in actual claims costs in excess of changes in payroll. Changes in the ways in which claims are filed as a result of greater awareness of workers' compensation benefits are not generally reflected in the statutory benefit level factors shown above, but may be part of the reason for changes in actual claims costs in excess of payroll changes.

City of Merced - Workers' Compensation

Residual Trend Factors

Accident Year	Initial Estimate of Ultimate Limited Losses (A)	Ultimate Reported Claims (B)	BLF (C)	Adjusted Limited Severity (D)	Trended Payroll (\$00) (E)	Ultimate Frequency (F)
Prior	\$8,912,000	1,123	0.896	7,108		
1999-2000	655,000	85	0.801	6,174	294,776	2.884
2000-2001	264,628	54	0.756	3,704	299,134	1.805
2001-2002	324,991	70	0.760	3,530	297,297	2.355
2002-2003	639,000	75	0.801	6,820	316,328	2.371
2003-2004	1,049,000	84	0.990	12,366	310,523	2.705
2004-2005	728,200	77	1.277	12,077	316,731	2.431
2005-2006	434,905	65	1.387	9,278	369,511	1.759
2006-2007	432,610	66	1.316	8,627	444,146	1.486
2007-2008	600,000	83	1.226	8,862	477,725	1.737
2008-2009	1,111,000	86	1.147	14,811	476,255	1.806
2009-2010	984,000	90	1.054	11,520	440,771	2.042
2010-2011	1,086,326	91	1.008	12,037	413,616	2.200
2011-2012	1,261,000	87	1.008	14,617	384,837	2.261
2012-2013	1,383,000	92	1.026	15,418	359,241	2.561
2013-2014	1,384,000	74	1.036	19,383	352,575	2.099
2014-2015	1,751,000	81	1.020	22,058	343,499	2.358
2015-2016	1,579,000	65	1.025	24,889	348,817	1.863
2016-2017	1,681,000	90	1.026	19,171	349,621	2.574
2017-2018	2,677,000	101	1.007	26,700	359,801	2.807
2018-2019	1,665,000	89	1.001	18,729	368,445	2.416

	<u>Severity Trend Factors</u>	<u>Frequency Trend Factors</u>
Latest 10 x 2018-2019	1.088	1.029
Latest 5 x 2018-2019	1.051	1.069
Prior	1.025	0.980
Default	1.025	0.980
Selected Residual Trend	1.025	0.980

Notes:

- (A) Selected average of results from Appendix WC - A and Appendix WC - B.
- (B) Appendix WC - D, Page 3, Column (C).
- (C) Appendix WC - E, Page 1, (A).
- (D) (A) x (C) / (B).
- (E) From Appendix WC - M, Column (C).
- (F) (B) / (E) x 10,000.

City of Merced - Workers' Compensation

Outstanding Liability for
Unallocated Loss Adjustment Expenses
as of 6/30/19

Fiscal Year (A)	Number of Claims Active During Fiscal Year (B)	Average ULAE Charge per Active Claim (C)	Inflation Trend Factor (D)	Trended ULAE Charge per Active Claim (E)	ULAE Paid During Year (F)
2019-2020	168.0	\$830	1.000	\$830	\$139,440
2020-2021	118.4	830	1.050	872	103,245
2021-2022	89.3	830	1.103	915	81,710
2022-2023	64.0	830	1.158	961	61,504
2023-2024	48.8	830	1.216	1,009	49,239
2024-2025	37.5	830	1.277	1,060	39,750
2025-2026	29.1	830	1.341	1,113	32,388
2026-2027	23.2	830	1.408	1,169	27,121
2027-2028	16.8	830	1.478	1,227	20,614
2028-2029	12.8	830	1.552	1,288	16,486
2029-2030	10.7	830	1.630	1,353	14,477
2030-2031	8.1	830	1.712	1,421	11,510
2031-2032	6.5	830	1.798	1,492	9,698
2032-2033	4.8	830	1.888	1,567	7,522
2033-2034	3.2	830	1.982	1,645	5,264
2034-2035	2.5	830	2.081	1,727	4,318
2035-2036	1.5	830	2.185	1,814	2,721
2036-2037	0.6	830	2.294	1,904	1,142

(G) Total ULAE Outstanding as of 6/30/19: \$628,149

Notes:

- (A) We assume fiscal years will be 7/1 to 6/30.
- (B) Based on an estimated claim closing pattern.
- (C) Based on claims administration payment information provided by the City.
- (D) We assume ULAE costs will increase at 5.0% per year.
- (E) (C) x (D).
- (F) (B) x (E).
- (G) Total of Column (F).

This exhibit shows the calculation of the outstanding ULAE based on the expected pattern of claims closings and assumptions about future claims administration costs per open claim.

City of Merced - Workers' Compensation

Outstanding Liability for
Unallocated Loss Adjustment Expenses
as of 6/30/20

Fiscal Year (A)	Number of Claims Active During Fiscal Year (B)	Average ULAE Charge per Active Claim (C)	Inflation Trend Factor (D)	Trended ULAE Charge per Active Claim (E)	ULAE Paid During Year (F)
2020-2021	162.3	\$830	1.050	\$872	\$141,526
2021-2022	114.4	830	1.103	915	104,676
2022-2023	83.0	830	1.158	961	79,763
2023-2024	61.9	830	1.216	1,009	62,457
2024-2025	47.5	830	1.277	1,060	50,350
2025-2026	36.7	830	1.341	1,113	40,847
2026-2027	29.2	830	1.408	1,169	34,135
2027-2028	21.5	830	1.478	1,227	26,381
2028-2029	16.2	830	1.552	1,288	20,866
2029-2030	13.2	830	1.630	1,353	17,860
2030-2031	9.7	830	1.712	1,421	13,784
2031-2032	7.8	830	1.798	1,492	11,638
2032-2033	5.9	830	1.888	1,567	9,245
2033-2034	4.2	830	1.982	1,645	6,909
2034-2035	3.4	830	2.081	1,727	5,872
2035-2036	2.3	830	2.185	1,814	4,172
2036-2037	1.3	830	2.294	1,904	2,475
2037-2038	0.6	830	2.409	1,999	1,199

(G) Total ULAE Outstanding as of 6/30/20: \$634,155

Notes:

- (A) We assume fiscal years will be 7/1 to 6/30.
- (B) Based on an estimated claim closing pattern.
- (C) Based on claims administration payment information provided by the City.
- (D) We assume ULAE costs will increase at 5.0% per year.
- (E) (C) x (D).
- (F) (B) x (E).
- (G) Total of Column (F).

This exhibit shows the calculation of the outstanding ULAE based on the expected pattern of claims closings and assumptions about future claims administration costs per open claim.

City of Merced - Workers' Compensation

Payment and Reserve Forecast

<u>Accident Year</u>	<u>As of 6/30/2019</u>	<u>Calendar Period</u>	
		<u>7/1/2019 to 6/30/2020</u>	<u>7/1/2020 to 6/30/2021</u>
Prior			
Ultimate Loss	\$12,423,003	\$12,423,003	\$12,423,003
Paid in Calendar Period	-	29,424	22,412
Paid to Date	12,236,132	12,265,556	12,287,968
Outstanding Liability	186,871	157,447	135,035
2003-2004			
Ultimate Loss	\$1,454,000	\$1,454,000	\$1,454,000
Paid in Calendar Period	-	9,310	8,547
Paid to Date	1,360,900	1,370,210	1,378,757
Outstanding Liability	93,100	83,790	75,243
2004-2005			
Ultimate Loss	\$806,000	\$806,000	\$806,000
Paid in Calendar Period	-	2,106	1,938
Paid to Date	784,515	786,621	788,559
Outstanding Liability	21,485	19,379	17,441
2005-2006			
Ultimate Loss	\$572,000	\$572,000	\$572,000
Paid in Calendar Period	-	8,739	7,540
Paid to Date	486,321	495,060	502,600
Outstanding Liability	85,679	76,940	69,400
2006-2007			
Ultimate Loss	\$613,000	\$613,000	\$613,000
Paid in Calendar Period	-	1,545	1,484
Paid to Date	596,909	598,454	599,938
Outstanding Liability	16,091	14,546	13,062
2007-2008			
Ultimate Loss	\$612,981	\$612,981	\$612,981
Paid in Calendar Period	-		
Paid to Date	612,978	612,978	612,978
Outstanding Liability	3	3	3
2008-2009			
Ultimate Loss	\$1,711,000	\$1,711,000	\$1,711,000
Paid in Calendar Period	-	24,816	19,869
Paid to Date	1,491,389	1,516,205	1,536,074
Outstanding Liability	219,611	194,795	174,926
2009-2010			
Ultimate Loss	\$1,258,000	\$1,258,000	\$1,258,000
Paid in Calendar Period	-	16,831	16,041
Paid to Date	1,099,216	1,116,047	1,132,088
Outstanding Liability	158,784	141,953	125,912

City of Merced - Workers' Compensation

Payment and Reserve Forecast

<u>Accident Year</u>	<u>As of 6/30/2019</u>	<u>Calendar Period</u>	
		<u>7/1/2019 to 6/30/2020</u>	<u>7/1/2020 to 6/30/2021</u>
2010-2011			
Ultimate Loss	\$1,443,877	\$1,443,877	\$1,443,877
Paid in Calendar Period	-		
Paid to Date	1,443,877	1,443,877	1,443,877
Outstanding Liability			
2011-2012			
Ultimate Loss	\$1,539,000	\$1,539,000	\$1,539,000
Paid in Calendar Period	-	45,475	65,957
Paid to Date	1,180,931	1,226,406	1,292,363
Outstanding Liability	358,069	312,594	246,637
2012-2013			
Ultimate Loss	\$2,055,000	\$2,055,000	\$2,055,000
Paid in Calendar Period	-	62,766	51,516
Paid to Date	1,586,596	1,649,362	1,700,878
Outstanding Liability	468,404	405,638	354,122
2013-2014			
Ultimate Loss	\$2,329,000	\$2,329,000	\$2,329,000
Paid in Calendar Period	-	97,839	83,290
Paid to Date	1,609,596	1,707,435	1,790,725
Outstanding Liability	719,404	621,565	538,275
2014-2015			
Ultimate Loss	\$3,035,000	\$3,035,000	\$3,035,000
Paid in Calendar Period	-	141,455	116,240
Paid to Date	2,038,839	2,180,294	2,296,534
Outstanding Liability	996,161	854,706	738,466
2015-2016			
Ultimate Loss	\$2,849,000	\$2,849,000	\$2,849,000
Paid in Calendar Period	-	223,543	129,390
Paid to Date	1,714,262	1,937,805	2,067,195
Outstanding Liability	1,134,738	911,195	781,805
2016-2017			
Ultimate Loss	\$2,586,000	\$2,586,000	\$2,586,000
Paid in Calendar Period	-	223,313	214,787
Paid to Date	1,272,397	1,495,710	1,710,497
Outstanding Liability	1,313,603	1,090,290	875,503
2017-2018			
Ultimate Loss	\$3,278,000	\$3,278,000	\$3,278,000
Paid in Calendar Period	-	497,737	296,535
Paid to Date	1,035,942	1,533,679	1,830,214
Outstanding Liability	2,242,058	1,744,321	1,447,786

City of Merced - Workers' Compensation

Payment and Reserve Forecast

<u>Accident Year</u>	<u>As of 6/30/2019</u>	<u>Calendar Period</u>	
		<u>7/1/2019 to 6/30/2020</u>	<u>7/1/2020 to 6/30/2021</u>
2018-2019			
Ultimate Loss	\$2,779,000	\$2,779,000	\$2,779,000
Paid in Calendar Period	-	570,892	451,974
Paid to Date	172,189	743,081	1,195,055
Outstanding Liability	2,606,811	2,035,919	1,583,945
2019-2020			
Ultimate Loss	-	\$2,866,000	\$2,866,000
Paid in Calendar Period	-	278,002	566,772
Paid to Date	-	278,002	844,774
Outstanding Liability	-	2,587,998	2,021,226
2020-2021			
Ultimate Loss	-	-	\$3,046,000
Paid in Calendar Period	-	-	295,462
Paid to Date	-	-	295,462
Outstanding Liability	-	-	2,750,538
Totals			
Ultimate Loss	\$41,343,861	\$44,209,861	\$47,255,861
Paid in Calendar Period	-	2,233,793	2,349,754
Paid to Date	30,722,989	32,956,782	35,306,536
Outstanding Liability	10,620,872	11,253,079	11,949,325
Total Outstanding ULAE	628,149	634,155	648,546
Outstanding Liability plus ULAE	11,249,021	11,887,234	12,597,871

Notes appear on the next page.

City of Merced - Workers' Compensation

Payment and Reserve Forecast

Notes to previous page:

- Accident Year is associated with date of loss. Calendar Period is associated with date of transaction. For example, for the losses which occurred during 2017-2018, \$497,737 is expected to be paid between 7/1/19 and 6/30/20, \$1,533,679 will have been paid by 6/30/20, and the reserve for remaining payments on these claims should be \$1,744,321.
- Ultimate Losses for each accident year are from Exhibit WC - 4, Page 1.
- Paid in Calendar Period is a proportion of the Outstanding Liability from the previous calendar period. These proportions are derived from the paid loss development pattern selected in Appendix B. For example, $\$296,535 = \$1,744,321 \times 17.0\%$.
- Paid to Date is Paid in Calendar Period plus Paid to Date from previous calendar period. For example, $\$1,830,214 = \$296,535 + \$1,533,679$.
- Outstanding Liability is Ultimate Loss minus Paid to Date. For example, $\$1,744,321 = \$3,278,000 - \$1,533,679$.

This exhibit shows the calculation of the liability for outstanding claims as of the date of evaluation, the end of the current fiscal year, and the end of the coming fiscal year. It also shows the expected claims payout during the remainder of the current fiscal year and the coming fiscal year. Refer to the Totals at the end of the exhibit for the balance sheet information. The top parts of the exhibit show information for each program year.

Short- and Long-Term Liabilities

<u>Liabilities as of 6/30/19:</u>		<u>Expected</u>	<u>Discounted</u>
<u>Current (Short Term)</u>	Loss and ALAE:	\$1,955,791	\$1,931,793
	ULAE:	139,440	137,729
	Short-Term Loss and LAE:	<u>\$2,095,231</u>	<u>\$2,069,522</u>
<u>Non-Current (Long Term)</u>	Loss and ALAE:	\$8,665,081	\$7,383,575
	ULAE:	488,709	413,209
	Long-Term Loss and LAE:	<u>\$9,153,790</u>	<u>\$7,796,784</u>
<u>Total Liability</u>	Loss and ALAE:	\$10,620,872	\$9,315,368
	ULAE:	628,149	550,938
	Total Loss and LAE:	<u>\$11,249,021</u>	<u>\$9,866,306</u>
<u>Liabilities as of 6/30/20:</u>			
<u>Current (Short Term)</u>	Loss and ALAE:	\$2,054,292	\$2,029,085
	ULAE:	141,526	139,789
	Short-Term Loss and LAE:	<u>\$2,195,818</u>	<u>\$2,168,874</u>
<u>Non-Current (Long Term)</u>	Loss and ALAE:	\$9,198,787	\$7,835,108
	ULAE:	492,629	416,097
	Long-Term Loss and LAE:	<u>\$9,691,416</u>	<u>\$8,251,205</u>
<u>Total Liability</u>	Loss and ALAE:	\$11,253,079	\$9,864,193
	ULAE:	634,155	555,886
	Total Loss and LAE:	<u>\$11,887,234</u>	<u>\$10,420,079</u>

		<u>Discounted with a Margin for Contingencies</u>				
		<u>70%</u>	<u>75%</u>	<u>80%</u>	<u>85%</u>	<u>90%</u>
		<u>Confidence</u>	<u>Confidence</u>	<u>Confidence</u>	<u>Confidence</u>	<u>Confidence</u>
<u>Liabilities as of 6/30/19:</u>						
<u>Current (Short Term)</u>	Loss and ALAE:	\$2,113,382	\$2,186,790	\$2,273,720	\$2,378,037	\$2,517,126
	ULAE:	150,676	155,909	162,107	169,544	179,461
	Short-Term Loss and LAE:	<u>\$2,264,058</u>	<u>\$2,342,699</u>	<u>\$2,435,827</u>	<u>\$2,547,581</u>	<u>\$2,696,587</u>
<u>Non-Current (Long Term)</u>	Loss and ALAE:	\$8,077,631	\$8,358,207	\$8,690,468	\$9,089,181	\$9,620,799
	ULAE:	452,050	467,752	486,347	508,661	538,411
	Long-Term Loss and LAE:	<u>\$8,529,681</u>	<u>\$8,825,959</u>	<u>\$9,176,815</u>	<u>\$9,597,842</u>	<u>\$10,159,210</u>
<u>Total Liability</u>	Loss and ALAE:	\$10,191,013	\$10,544,997	\$10,964,188	\$11,467,218	\$12,137,925
	ULAE:	602,726	623,661	648,454	678,205	717,872
	Total Loss and LAE:	<u>\$10,793,739</u>	<u>\$11,168,658</u>	<u>\$11,612,642</u>	<u>\$12,145,423</u>	<u>\$12,855,797</u>
<u>Liabilities as of 6/30/20:</u>						
<u>Current (Short Term)</u>	Loss and ALAE:	\$2,219,819	\$2,296,924	\$2,388,233	\$2,497,804	\$2,643,898
	ULAE:	152,929	158,241	164,532	172,080	182,145
	Short-Term Loss and LAE:	<u>\$2,372,748</u>	<u>\$2,455,165</u>	<u>\$2,552,765</u>	<u>\$2,669,884</u>	<u>\$2,826,043</u>
<u>Non-Current (Long Term)</u>	Loss and ALAE:	\$8,571,608	\$8,869,342	\$9,221,922	\$9,645,018	\$10,209,145
	ULAE:	455,210	471,022	489,746	512,215	542,175
	Long-Term Loss and LAE:	<u>\$9,026,818</u>	<u>\$9,340,364</u>	<u>\$9,711,668</u>	<u>\$10,157,233</u>	<u>\$10,751,320</u>
<u>Total Liability</u>	Loss and ALAE:	\$10,791,427	\$11,166,266	\$11,610,155	\$12,142,822	\$12,853,043
	ULAE:	608,139	629,263	654,278	684,295	724,320
	Total Loss and LAE:	<u>\$11,399,566</u>	<u>\$11,795,529</u>	<u>\$12,264,433</u>	<u>\$12,827,117</u>	<u>\$13,577,363</u>

Note: Current (short term) liabilities are the portion of the total estimated liability shown on Appendix WC - G that is expected to be paid out within the coming year. Totals may vary from Exhibit WC - 1, due to rounding.

City of Merced - Workers' Compensation

Discount Factors to be Applied to Overall Reserves

Accident Year	Full Value of Reserve at 6/30/19 (A)	Discount Factor (B)	Discounted Reserve at 6/30/19 (C)	Full Value of Reserve at 6/30/20 (D)	Discount Factor (E)	Discounted Reserve at 6/30/20 (F)
Prior	\$137,477	0.988	\$135,790	\$116,993	1.000	\$116,993
1999-2000	21,921	0.970	21,272	15,783	0.988	15,589
2000-2001	0	0.952	0	0	0.970	0
2001-2002	0	0.936	0	0	0.952	0
2002-2003	27,473	0.921	25,291	24,671	0.936	23,086
2003-2004	93,100	0.907	84,455	83,790	0.921	77,137
2004-2005	21,485	0.895	19,230	19,379	0.907	17,579
2005-2006	85,679	0.885	75,814	76,940	0.895	68,866
2006-2007	16,091	0.875	14,084	14,546	0.885	12,871
2007-2008	3	0.868	3	3	0.875	3
2008-2009	219,611	0.863	189,415	194,795	0.868	169,011
2009-2010	158,784	0.857	136,082	141,953	0.863	122,435
2010-2011	0	0.868	0	0	0.857	0
2011-2012	358,069	0.865	309,667	312,594	0.868	271,375
2012-2013	468,404	0.863	404,224	405,638	0.865	350,806
2013-2014	719,404	0.862	619,910	621,565	0.863	536,400
2014-2015	996,161	0.862	858,225	854,706	0.862	736,499
2015-2016	1,134,738	0.870	986,734	911,195	0.862	785,024
2016-2017	1,313,603	0.872	1,145,514	1,090,290	0.870	948,083
2017-2018	2,242,058	0.881	1,975,573	1,744,321	0.872	1,521,117
2018-2019	2,606,811	0.888	2,314,085	2,035,919	0.881	1,793,935
2019-2020				2,587,998	0.888	2,297,384
Totals	\$10,620,872		\$9,315,368	\$11,253,079		\$9,864,193

(G) Discount Factor at 6/30/19 for Overall Reserve: 0.877
(H) Discount Factor at 6/30/20 for Overall Reserve: 0.877

Notes:

- (A) From Appendix WC - G, Outstanding Liability at 6/30/19.
- (B) Based on Appendix WC - I, Page 2, Column (E).
- (C) (A) x (B).
- (D) From Appendix WC - G, Outstanding Liability at 6/30/20.
- (E) Based on Appendix WC - I, Page 2, Column (E).
- (F) (D) x (E).
- (G) Total of (C) / Total of (A).
- (H) Total of (F) / Total of (D).

This exhibit shows the expected impact of anticipated investment income on the liability for outstanding claims at the date of evaluation and the end of the current fiscal year. For example, if the discount factor in item (G) is 0.877, the discounted liability for outstanding claims is 87.7% of the full value.

City of Merced - Workers' Compensation

Calculation of Discount Factors

Payment Year (A)	Payment Pattern (B)	Return on Investment (C)	Discounted Reserves (D)	Undiscounted Reserves (E)	Discount Factor (F)
22	7.5%	2.5%	0.074	0.075	0.988
21	1.0%	2.5%	0.082	0.085	0.967
20	0.9%	2.5%	0.089	0.094	0.947
19	1.0%	2.5%	0.097	0.104	0.930
18	0.9%	2.5%	0.103	0.113	0.914
17	0.9%	2.5%	0.110	0.122	0.899
16	1.1%	2.5%	0.118	0.133	0.886
15	1.0%	2.5%	0.125	0.143	0.873
14	1.3%	2.5%	0.135	0.156	0.863
13	1.5%	2.5%	0.146	0.171	0.855
12	1.7%	2.5%	0.160	0.188	0.848
11	1.9%	2.5%	0.174	0.207	0.842
10	2.1%	2.5%	0.191	0.228	0.837
9	3.0%	2.5%	0.216	0.258	0.836
8	3.6%	2.5%	0.246	0.294	0.837
7	4.1%	2.5%	0.281	0.335	0.837
6	5.0%	2.5%	0.323	0.385	0.839
5	8.6%	2.5%	0.400	0.471	0.850
4	8.9%	2.5%	0.478	0.560	0.854
3	15.1%	2.5%	0.615	0.711	0.866
2	19.3%	2.5%	0.791	0.904	0.875
1	9.6%	2.5%	0.867	1.000	0.867
(G) Discount Factor for Future Funding:				2019-2020	0.878
				2020-2021	0.878

Notes:

- (A) This is the year of payment relative to the accident year. For example, year 7 refers to payments made in the seventh year after the inception of the accident year. We assume that payments are made at midyear.
- (B) Percent of ultimate loss paid this year. This payment pattern is based on the paid loss development pattern selected in Appendix WC - B, Page 2.
- (C) Assumed Investment Income Rates.
- (D) Discounted Reserves at the beginning of this year is next year's Discounted Reserves discounted one year plus this year's payments discounted six months. For example, in year 2, $79.1\% = [61.5\% / 1.025] + [19.3\% / (1.012)]$.
- (E) Summation of future (B) values. This is the percent of ultimate loss unpaid at the beginning of the year.
- (F) (D) / (E).
- (G) (F) at year 1, with interest accumulated for six months. We assume that the required funding is deposited at the middle of the first year.

This exhibit shows the calculation of the effect of anticipated investment income on future claims costs. Thus, if the discount factor in item (F) is 0.88, on a discounted basis, \$0.88 must be budgeted for every \$1 that will actually be paid on claims that will be incurred in the next fiscal year.

City of Merced - Workers' Compensation

Confidence Level Table

Probability	Projected Losses	Outstanding Losses
95%	1.709	1.419
90%	1.509	1.303
85%	1.385	1.231
80%	1.292	1.177
75%	1.217	1.132
70%	1.152	1.094
65%	1.095	1.060
60%	1.042	1.029
55%	0.993	1.000
50%	0.947	0.972
45%	0.902	0.945
40%	0.858	0.919
35%	0.815	0.892
30%	0.770	0.865
25%	0.724	0.837

To read table: For the above retention, there is a 90% chance that final loss settlements will be less than 1.509 times the average expected amount of losses.

This exhibit shows the loads that must be applied to bring estimated losses at the expected level to the various indicated confidence levels.

City of Merced - Workers' Compensation

Program History

Policy Year Start Date	Policy Year End Date	Policy Year	Self-Insured Retention	
			Per Occurrence	Aggregate
1/1/1971	6/30/1999	Prior	\$250,000	(none)
7/1/1999	6/30/2000	1999-2000	250,000	(none)
7/1/2000	6/30/2001	2000-2001	250,000	(none)
7/1/2001	6/30/2002	2001-2002	250,000	(none)
7/1/2002	6/30/2003	2002-2003	250,000	(none)
7/1/2003	6/30/2004	2003-2004	250,000	(none)
7/1/2004	6/30/2005	2004-2005	250,000	(none)
7/1/2005	6/30/2006	2005-2006	250,000	(none)
7/1/2006	6/30/2007	2006-2007	250,000	(none)
7/1/2007	6/30/2008	2007-2008	250,000	(none)
7/1/2008	6/30/2009	2008-2009	250,000	(none)
7/1/2009	6/30/2010	2009-2010	250,000	(none)
7/1/2010	6/30/2011	2010-2011	350,000	(none)
7/1/2011	6/30/2012	2011-2012	350,000	(none)
7/1/2012	6/30/2013	2012-2013	350,000	(none)
7/1/2013	6/30/2014	2013-2014	350,000	(none)
7/1/2014	6/30/2015	2014-2015	350,000	(none)
7/1/2015	6/30/2016	2015-2016	350,000	(none)
7/1/2016	6/30/2017	2016-2017	350,000	(none)
7/1/2017	6/30/2018	2017-2018	350,000	(none)
7/1/2018	6/30/2019	2018-2019	350,000	(none)
7/1/2019	6/30/2020	2019-2020	350,000	(none)
7/1/2020	6/30/2021	2020-2021	350,000	(none)
Third Party Claims Administrator			Begin Date	End Date
Tri-Star				Current

This exhibit summarizes some of the key facts about the history of the program.

City of Merced - Workers' Compensation

Incurred Losses as of 6/30/19

Accident Year (A)	Unlimited Incurred (B)	Additions to Losses (C)	Subtractions from Losses (D)	Adjusted Incurred (E)	Incurred Over SIR (F)	Incurred Over \$100,000 (G)	Incurred Capped at \$100,000 (H)	Incurred \$100,000 to SIR Layer (I)	Incurred Capped at SIR (J)	Incurred Capped at SIR & Aggregate (K)
Prior	\$10,769,635	\$0	\$334,665	\$10,434,970	\$393,176	\$1,523,586	\$8,911,384	\$1,130,410	\$10,041,794	\$10,041,794
1999-2000	732,801	0	1,069	731,731	0	77,304	654,428	77,304	731,731	731,731
2000-2001	280,832	0	16,204	264,628	0	0	264,628	0	264,628	264,628
2001-2002	479,435	0	5,059	474,375	0	149,385	324,991	149,385	474,375	474,375
2002-2003	891,562	0	0	891,562	0	253,425	638,137	253,425	891,562	891,562
2003-2004	1,775,203	0	322,460	1,452,743	15,906	404,567	1,048,176	388,661	1,436,837	1,436,837
2004-2005	793,783	0	0	793,783	0	65,583	728,200	65,583	793,783	793,783
2005-2006	560,674	0	0	560,674	0	125,769	434,905	125,769	560,674	560,674
2006-2007	639,543	0	32,201	607,342	10,433	174,732	432,610	164,299	596,909	596,909
2007-2008	614,915	0	1,934	612,981	0	13,213	599,767	13,213	612,981	612,981
2008-2009	2,797,144	0	1,107,594	1,689,550	76,096	579,337	1,110,213	503,240	1,613,453	1,613,453
2009-2010	1,161,778	0	15,109	1,146,670	0	164,396	982,273	164,396	1,146,670	1,146,670
2010-2011	1,450,734	0	6,856	1,443,877	0	357,551	1,086,326	357,551	1,443,877	1,443,877
2011-2012	1,400,093	0	383	1,399,710	0	146,426	1,253,284	146,426	1,399,710	1,399,710
2012-2013	1,750,748	0	26,066	1,724,682	0	394,265	1,330,417	394,265	1,724,682	1,724,682
2013-2014	2,015,519	0	4,406	2,011,113	0	628,817	1,382,296	628,817	2,011,113	2,011,113
2014-2015	2,693,627	0	119,396	2,574,231	12,720	864,591	1,709,640	851,870	2,561,511	2,561,511
2015-2016	2,111,296	0	1,081	2,110,215	0	705,923	1,404,292	705,923	2,110,215	2,110,215
2016-2017	1,755,691	0	47,873	1,707,817	11,400	268,269	1,439,548	256,869	1,696,417	1,696,417
2017-2018	2,370,908	0	231	2,370,677	0	376,586	1,994,090	376,586	2,370,677	2,370,677
2018-2019	864,740	0	721	864,019	0	31,546	832,473	31,546	864,019	864,019
2019-2020	0	0	0	0	0	0	0	0	0	0
Total	\$37,910,660	\$0	\$2,043,310	\$35,867,350	\$519,732	\$7,305,272	\$28,562,078	\$6,785,540	\$35,347,618	\$35,347,618

Notes:

- (A) Years are 7/1 to 6/30.
- (B) Provided by the City.
- (C) No adjustments were made.
- (D) Recoveries.
- (E) (B) + (C) - (D).
- (F) Sum of incurred losses in excess of SIR.
- (G) Sum of incurred losses in excess of \$100,000.
- (H) (E) - (G).
- (I) (G) - (F).
- (J) (E) - (F).
- (K) Minimum of (J) and the aggregate stop loss. See Appendix WC - K.

City of Merced - Workers' Compensation

Paid Losses as of 6/30/19

Accident Year (A)	Unlimited Paid (B)	Additions to Losses (C)	Subtractions from Losses (D)	Adjusted Paid (E)	Paid Over SIR (F)	Paid Over \$100,000 (G)	Paid Capped at \$100,000 (H)	Paid \$100,000 to SIR Layer (I)	Paid Capped at SIR (J)	Paid Capped at SIR & Aggregate (K)
Prior	\$10,635,109	\$0	\$334,665	\$10,300,444	\$385,920	\$1,498,392	\$8,802,052	\$1,112,471	\$9,914,523	\$9,914,523
1999-2000	712,148	0	1,069	711,079	0	77,304	633,775	77,304	711,079	711,079
2000-2001	280,832	0	16,204	264,628	0	0	264,628	0	264,628	264,628
2001-2002	479,435	0	5,059	474,375	0	149,385	324,991	149,385	474,375	474,375
2002-2003	871,527	0	0	871,527	0	253,425	618,102	253,425	871,527	871,527
2003-2004	1,693,698	0	322,460	1,371,238	10,338	359,467	1,011,771	349,129	1,360,900	1,360,900
2004-2005	784,515	0	0	784,515	0	56,315	728,200	56,315	784,515	784,515
2005-2006	486,321	0	0	486,321	0	51,416	434,905	51,416	486,321	486,321
2006-2007	629,110	0	32,201	596,909	0	164,299	432,610	164,299	596,909	596,909
2007-2008	614,912	0	1,934	612,978	0	13,213	599,764	13,213	612,978	612,978
2008-2009	2,599,089	0	1,107,594	1,491,495	106	429,531	1,061,964	429,425	1,491,389	1,491,389
2009-2010	1,114,324	0	15,109	1,099,216	0	139,200	960,016	139,200	1,099,216	1,099,216
2010-2011	1,450,734	0	6,856	1,443,877	0	357,551	1,086,326	357,551	1,443,877	1,443,877
2011-2012	1,181,314	0	383	1,180,931	0	121,537	1,059,394	121,537	1,180,931	1,180,931
2012-2013	1,612,663	0	26,066	1,586,596	0	332,688	1,253,908	332,688	1,586,596	1,586,596
2013-2014	1,614,002	0	4,406	1,609,596	0	447,930	1,161,667	447,930	1,609,596	1,609,596
2014-2015	2,158,855	0	119,396	2,039,458	620	612,746	1,426,712	612,127	2,038,839	2,038,839
2015-2016	1,715,343	0	1,081	1,714,262	0	525,703	1,188,559	525,703	1,714,262	1,714,262
2016-2017	1,321,771	0	47,873	1,273,897	1,500	251,500	1,022,397	250,000	1,272,397	1,272,397
2017-2018	1,036,173	0	231	1,035,942	0	0	1,035,942	0	1,035,942	1,035,942
2018-2019	172,910	0	721	172,189	0	0	172,189	0	172,189	172,189
2019-2020	0	0	0	0	0	0	0	0	0	0
Total	\$33,164,783	\$0	\$2,043,310	\$31,121,473	\$398,484	\$5,841,601	\$25,279,872	\$5,443,117	\$30,722,990	\$30,722,990

Notes:

- (A) Years are 7/1 to 6/30.
- (B) Provided by the City.
- (C) No adjustments were made.
- (D) Recoveries.
- (E) (B) + (C) - (D).
- (F) Sum of paid losses in excess of SIR.
- (G) Sum of paid losses in excess of \$100,000.
- (H) (E) - (G).
- (I) (G) - (F).
- (J) (E) - (F).
- (K) Minimum of (J) and the aggregate stop loss. See Appendix WC - K.

City of Merced - Workers' Compensation

Case Reserves as of 6/30/19

Accident Year (A)	Unlimited Reserves (B)	Additions to Losses (C)	Subtractions from Losses (D)	Adjusted Reserves (E)	Reserves Over SIR (F)	Reserves Over \$100,000 (G)	Reserves Capped at \$100,000 (H)	Reserves \$100,000 to SIR Layer (I)	Reserves Capped at SIR (J)	Reserves Capped at SIR & Aggregate (K)
Prior	\$134,526	\$0	\$0	\$134,526	\$7,256	\$25,195	\$109,332	\$17,939	\$127,270	\$127,270
1999-2000	20,653	0	0	20,653	0	0	20,653	0	20,653	20,653
2000-2001	0	0	0	0	0	0	0	0	0	0
2001-2002	0	0	0	0	0	0	0	0	0	0
2002-2003	20,036	0	0	20,036	0	0	20,036	0	20,036	20,036
2003-2004	81,506	0	0	81,506	5,568	45,101	36,405	39,532	75,937	75,937
2004-2005	9,268	0	0	9,268	0	9,268	0	9,268	9,268	9,268
2005-2006	74,353	0	0	74,353	0	74,353	0	74,353	74,353	74,353
2006-2007	10,433	0	0	10,433	10,433	10,433	0	0	0	0
2007-2008	3	0	0	3	0	0	3	0	3	3
2008-2009	198,055	0	0	198,055	75,991	149,806	48,250	73,815	122,065	122,065
2009-2010	47,454	0	0	47,454	0	25,197	22,257	25,197	47,454	47,454
2010-2011	0	0	0	0	0	0	0	0	0	0
2011-2012	218,779	0	0	218,779	0	24,889	193,890	24,889	218,779	218,779
2012-2013	138,086	0	0	138,086	0	61,577	76,508	61,577	138,086	138,086
2013-2014	401,517	0	0	401,517	0	180,888	220,629	180,888	401,517	401,517
2014-2015	534,772	0	0	534,772	12,101	251,844	282,928	239,744	522,672	522,672
2015-2016	395,953	0	0	395,953	0	180,220	215,733	180,220	395,953	395,953
2016-2017	433,920	0	0	433,920	9,900	16,769	417,151	6,869	424,020	424,020
2017-2018	1,334,734	0	0	1,334,734	0	376,586	958,148	376,586	1,334,734	1,334,734
2018-2019	691,829	0	0	691,829	0	31,546	660,284	31,546	691,829	691,829
2019-2020	0	0	0	0	0	0	0	0	0	0
Total	\$4,745,877	\$0	\$0	\$4,745,877	\$121,249	\$1,463,671	\$3,282,206	\$1,342,423	\$4,624,628	\$4,624,628

Notes:

- (A) Years are 7/1 to 6/30.
 (B) Appendix WC - L, Page 1, Column (B) - Appendix WC - L, Page 2, Column (B).
 (C) Appendix WC - L, Page 1, Column (C) - Appendix WC - L, Page 2, Column (C).
 (D) Appendix WC - L, Page 1, Column (D) - Appendix WC - L, Page 2, Column (D).
 (E) (B) + (C) - (D).
 (F) Sum of case reserves in excess of SIR.
 (G) Sum of case reserves in excess of \$100,000.
 (H) (E) - (G).
 (I) (G) - (F).
 (J) (E) - (F).
 (K) Minimum of (J) and the aggregate stop loss. See Appendix WC - K.

City of Merced - Workers' Compensation

Claim Counts as of 6/30/19

Accident Year (A)	Reported Claims (B)	Additions to Reported Claims (C)	Subtractions from Reported Claims (D)	Adjusted Reported Claims (E)	Closed Claims (F)	Additions to Closed Claims (G)	Subtractions from Closed Claims (H)	Adjusted Closed Claims (I)	Open Claims (J)	Adjusted Open Claims (K)
Prior	1,123	0	0	1,123	1,114	0	0	1,114	9	9
1999-2000	85	0	0	85	84	0	0	84	1	1
2000-2001	54	0	0	54	54	0	0	54	0	0
2001-2002	70	0	0	70	70	0	0	70	0	0
2002-2003	75	0	0	75	74	0	0	74	1	1
2003-2004	84	0	0	84	79	0	0	79	5	5
2004-2005	77	0	0	77	76	0	0	76	1	1
2005-2006	65	0	0	65	64	0	0	64	1	1
2006-2007	66	0	0	66	65	0	0	65	1	1
2007-2008	83	0	0	83	83	0	0	83	0	0
2008-2009	86	0	0	86	81	0	0	81	5	5
2009-2010	90	0	0	90	86	0	0	86	4	4
2010-2011	91	0	0	91	91	0	0	91	0	0
2011-2012	87	0	0	87	77	0	0	77	10	10
2012-2013	92	0	0	92	85	0	0	85	7	7
2013-2014	74	0	0	74	64	0	0	64	10	10
2014-2015	81	0	0	81	63	0	0	63	18	18
2015-2016	65	0	0	65	55	0	0	55	10	10
2016-2017	89	0	0	89	68	0	0	68	21	21
2017-2018	99	0	0	99	72	0	0	72	27	27
2018-2019	81	0	0	81	42	0	0	42	39	39
2019-2020	0	0	0	0	0	0	0	0	0	0
Total	2,717	0	0	2,717	2,547	0	0	2,547	170	170

Notes:

- (A) Years are 7/1 to 6/30.
- (B) Provided by the City.
- (C) No adjustments were made.
- (D) No adjustments were made.
- (E) (B) + (C) - (D).
- (F) Provided by the City.
- (G) No adjustments were made.
- (H) No adjustments were made.
- (I) (F) + (G) - (H).
- (J) (B) - (F).
- (K) (E) - (I).

City of Merced - Workers' Compensation

Exposure Measures

Accident Year	Total Payroll (\$00) (A)	Inflation Trend Factor (B)	Trended Payroll (\$00) (C)
1999-2000	179,961	1.638	294,776
2000-2001	187,193	1.598	299,134
2001-2002	190,697	1.559	297,297
2002-2003	207,974	1.521	316,328
2003-2004	209,247	1.484	310,523
2004-2005	218,737	1.448	316,731
2005-2006	261,508	1.413	369,511
2006-2007	322,078	1.379	444,146
2007-2008	355,186	1.345	477,725
2008-2009	362,999	1.312	476,255
2009-2010	344,352	1.280	440,771
2010-2011	331,158	1.249	413,616
2011-2012	315,699	1.219	384,837
2012-2013	302,137	1.189	359,241
2013-2014	303,944	1.160	352,575
2014-2015	303,444	1.132	343,499
2015-2016	315,957	1.104	348,817
2016-2017	324,625	1.077	349,621
2017-2018	342,342	1.051	359,801
2018-2019	359,459	1.025	368,445
2019-2020	377,000	1.000	377,000
2020-2021	396,000	1.000	396,000

Notes:

- (A) Provided by the City.
- (B) Based on WCIRB.
- (C) (A) x (B).