

Monterey Bay Area Self Insurance Authority

**An Actuarial Review of the
Workers' Compensation Program**

**BAY ACTUARIAL CONSULTANTS
Moraga, California
March 11, 2020**

Bay Actuarial Consultants

March 11, 2020

Mr. Conor Boughey, ARM
Vice President
Alliant Insurance Services
100 Pine Street, 11th Floor
San Francisco, CA 94111


Dear Mr. Boughey:

We are pleased to present Bay Actuarial's Actuarial Review of the Monterey Bay Area Self Insurance Authority's workers' compensation program. We appreciate the opportunity to serve the Authority.

If you have any questions, please call me at (925) 377-5269.

Respectfully,

BAY ACTUARIAL CONSULTANTS


Jack Joyce, FCAS, MAAA
Principal

Monterey Bay Area Self Insurance Authority

An Actuarial Review of the Workers' Compensation Program

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Monterey Bay Area Self Insurance Authority

An Actuarial Review of the Workers' Compensation Program

Introduction

Monterey Bay Area Self Insurance Authority

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Introduction

Background & Purpose

The Monterey Bay Area Self Insurance Authority ("MBASIA") self-insures its workers' compensation claims. MBASIA members, instead of MBASIA, currently pay all Section 4850 workers' compensation benefits and a large portion of the temporary disability benefits ("TD") directly. Therefore the Authority itself currently has no liability for unpaid 4850 and only a very small TD liability, which we have estimated conservatively. Because of the way 4850 is handled we provided two sets of recommended contribution rates. The first set would cover all workers' compensation benefits. These rates could be used to compare excess insurance quotes that cover all benefits. The second set of rates covers everything except 4850. These are for projecting the Authority's internal funding requirements. We also included, as management information, a third set of contribution rates. The third set excludes all 4850 and all TD benefits. This report covers the following topics:

- 1) Projected 2020-21 Losses & Rates of Loss.** It includes a projection of the losses expected to be incurred during 2020-21. It also expresses this as a rate of loss per \$100 of payroll. Rates are based on projected 2020-21 payroll of \$66.36 million, a 6.0% increase over the projected 2019-20 payroll of \$62.59 million.
- 2) Unpaid Losses.** It includes an estimate of the Authority's liability for unpaid losses as of December 31, 2019 and a projection to June 30, 2020.
- 3) Discounting.** The projected 2020-21 losses and the Authority's liabilities are discounted at 1.0% interest. Discounting takes the time value of money into account, since workers' compensation costs are when accidents occur but the corresponding costs are paid out over an extended timeframe.

- 4) **Variability of Estimates.** It includes an analysis of items (1) and (2) above, in terms of “probability levels.”
- 5) **Short-Term versus Long-Term.** The liabilities are broken into their short-term and long-term components.

Conditions & Limitations

This report is for the Authority’s internal use. The Authority may provide a copy to its financial auditors. Bay Actuarial does not authorize any other use. In particular, those interested in providing insurance to the Authority must perform their own actuarial analysis and may not rely upon our work.

Risk Management Services Company and MBASIA provided the loss and payroll data. We did not audit this data and are not responsible for its accuracy. The accuracy and relevance of the conclusions and the reasonableness of the recommendations depend upon the accuracy of the underlying data. We use the term “losses” to refer to all costs that can be tied to a specific claim. These include loss payments, attorney’s fees, and other expenses linked to a specific claim.

The actuarial projections in this report are estimates. Uncertainty is unavoidable because many of the events that will determine actual claims costs will take place in the future. These events include, but are not limited to, future legislation or ballot initiatives that may change statutory benefit levels or the workers’ compensation laws, changes in the rate of inflation, and the outcomes of future administrative proceedings and litigation. Our projections are based upon the Authority’s historical experience. We did not anticipate any extraordinary changes in the various factors that might affect the future cost of claims. We used actuarial methods that should produce reasonable results given current information. There is no guarantee, express or implied, that losses will develop as projected in this report.

Organization of the Report

We have divided the remainder of this report into nine sections: the *Management Summary*, the *Technical Approach* section, the *Summary Exhibits*, the *Fiscal Year End Exhibits*, the *Limited Ultimate Loss Exhibits*, the *Gross Loss Exhibits*, the *Future Loss Exhibits*, the *Discounting Exhibits*, and the *Claims Data Exhibits*.

Monterey Bay Area Self Insurance Authority

An Actuarial Review of the Workers' Compensation Program

Management Summary

Monterey Bay Area Self Insurance Authority

An Actuarial Review of the Workers' Compensation Program

Management Summary

Projected 2020-21 Losses Excluding 4850

Table I shows the MBASIA's projected losses for 2020-21 at various self-insured retentions ("SIR's) ranging between \$250,000 and \$1,000,000. These amounts are not discounted for the time value of money and do not include 4850 benefits, claims handling fees, or program administration or excess insurance costs. This projection covers every claim with a date of loss between July 1, 2020 and June 30, 2021.

Table I: Projected 2020-21 Undiscounted Losses (Includes All Benefits Except 4850)						
Probability Level	Projected Loss in \$Millions					
	\$250,000 SIR	\$300,000 SIR	\$350,000 SIR	\$500,000 SIR	\$1,000,000 SIR	Unlimited Retention
Central Estimate	\$3.928	\$4.230	\$4.476	\$4.994	\$5.758	\$6.490
60%	4.120	4.437	4.694	5.234	6.014	6.717
70%	\$4.529	4.903	5.209	5.864	6.845	7.824
80%	5.041	5.536	5.858	6.662	7.911	9.263
90%	5.812	6.371	6.841	7.881	9.558	11.527

We project that 4850 benefits will total **\$130,000** in 2020-21. These are excluded from the projected losses in Table I because those benefits are paid directly by the members and not by MBASIA. Claim payments can stretch out for many years beyond the date of a loss so projections like this are typically "discounted" to reflect the time value of money. An interest rate of 1.0% appears plausible in the current financial environment. Discounting at 1.0% interest would reduce each of the amounts in Table I by between 5.1% and 6.5%.

The table shows "actuarial central estimates" plus estimates at higher probability levels. For example, we estimate that there is a 70% probability that the actual 2020-21 \$250,000 SIR losses, excluding 4850, will be less than **\$4.529 million**.

Loss projections like those in Table I move in tandem with the actual exposure to loss. Exposure is best measured by total number of hours worked by covered employees. This statistic, hours worked, is rarely available to us so we use the total covered payroll as a proxy. Actual calendar year 2019 payroll was up 6.0% over calendar year 2018. Based on the change between 2018 and 2019 we projected that 2020-21 payroll will be 6.0% higher than 2019-20.

We estimate that the actual exposure as measured by total hours worked rose 1.0% between 2018-19 and 2019-20, and project that it will increase 1.0% between 2019-20 and 2020-21.

Projected Rates of Loss excluding 4850

Tables II shows MBASIA's projected rates of loss per \$100 of covered payroll. It was constructed by dividing the Table I total loss projections by the projected payroll and then discounting to present value assuming a 1.0% interest rate. The multiplicative present value factors underlying these rates range between **0.935** and **0.949**.

All rates are based on projected 2020-21 payroll of **\$66.36 million**.

Table II: Projected 2020-21 Discounted Loss Rates (1.0% interest rate – All Benefits Except 4850)						
Probability Level	Projected Loss per \$100 of Payroll					
	\$250,000 SIR	\$300,000 SIR	\$350,000 SIR	\$500,000 SIR	\$1,000,000 SIR	Unlimited Retention
Central Estimate	\$5.62	\$6.04	\$6.37	\$7.09	\$8.13	\$9.14
60%	5.89	6.33	6.68	7.43	8.49	9.46
70%	\$6.48	7.00	7.42	8.32	9.67	11.02
80%	7.21	7.90	8.34	9.46	11.17	13.05
90%	8.31	9.09	9.74	11.19	13.50	16.24
19-20 Central Estimate	\$5.40	N/A	\$6.12	\$6.78	\$7.70	\$8.35
Change in C.E.	+4.0%	N/A	+4.1%	+4.6%	+5.6%	+9.5%

The next to last row in Table I shows last year's projected 2019-20 central estimate rates. The bottom row shows the percentage changes between last year's and this year's central estimate rates. The large increase in the unlimited rate is due largely to a single loss of \$5.6 million in 2013-14. Last year that loss was estimated at less than \$1 million. The increase in the unlimited rate is a recognition that losses of this size can occur in the future.

Projected 2020-21 Total Losses Including 4850

The central estimates in Table III each include the **\$130,000** of 4850 benefits that were excluded from Table I.

Table III: Projected 2020-21 Undiscounted Losses (Includes All Benefits Including 4850)						
Probability <u>Level</u>	<u>Projected Loss in \$Millions</u>					
	\$250,000 <u>SIR</u>	\$300,000 <u>SIR</u>	\$350,000 <u>SIR</u>	\$500,000 <u>SIR</u>	\$1,000,000 <u>SIR</u>	Unlimited <u>Retention</u>
Central Estimate	\$4.058	\$4.360	\$4.606	\$5.124	\$5.888	\$6.620
60%	4.256	4.573	4.831	5.370	6.149	6.852
70%	\$4.679	5.053	5.361	6.016	7.000	7.980
80%	5.208	5.706	6.028	6.835	8.089	9.448
90%	6.004	6.567	7.039	8.086	9.774	11.758

Table IV shows projected rates of loss corresponding to Table III.

Table IV: Projected 2020-21 Discounted Loss Rates (1.0% interest rate – Full Rate Including 4850)						
Probability <u>Level</u>	<u>Projected Loss per \$100 of Payroll</u>					
	\$250,000 <u>SIR</u>	\$300,000 <u>SIR</u>	\$350,000 <u>SIR</u>	\$500,000 <u>SIR</u>	\$1,000,000 <u>SIR</u>	Unlimited <u>Retention</u>
Central Estimate	\$5.80	\$6.22	\$6.56	\$7.27	\$8.31	\$9.33
60%	6.09	6.53	6.88	7.62	8.68	9.65
70%	\$6.69	7.21	7.63	8.54	9.88	11.24
80%	7.45	8.14	8.58	9.70	11.42	13.31
90%	8.59	9.37	10.02	11.48	13.80	16.57
19-20 Central Estimate	\$5.61	N/A	\$6.33	\$6.99	\$7.91	\$8.56
Change in C.E.	3.5%	N/A	3.6%	4.1%	5.1%	9.0%

Rate Changes

The unlimited central estimate rate of \$8.56 in Table IV is up 9.0% from last year but only 3.5% at the \$250,000 SIR.

Temporary Disability Benefits Data

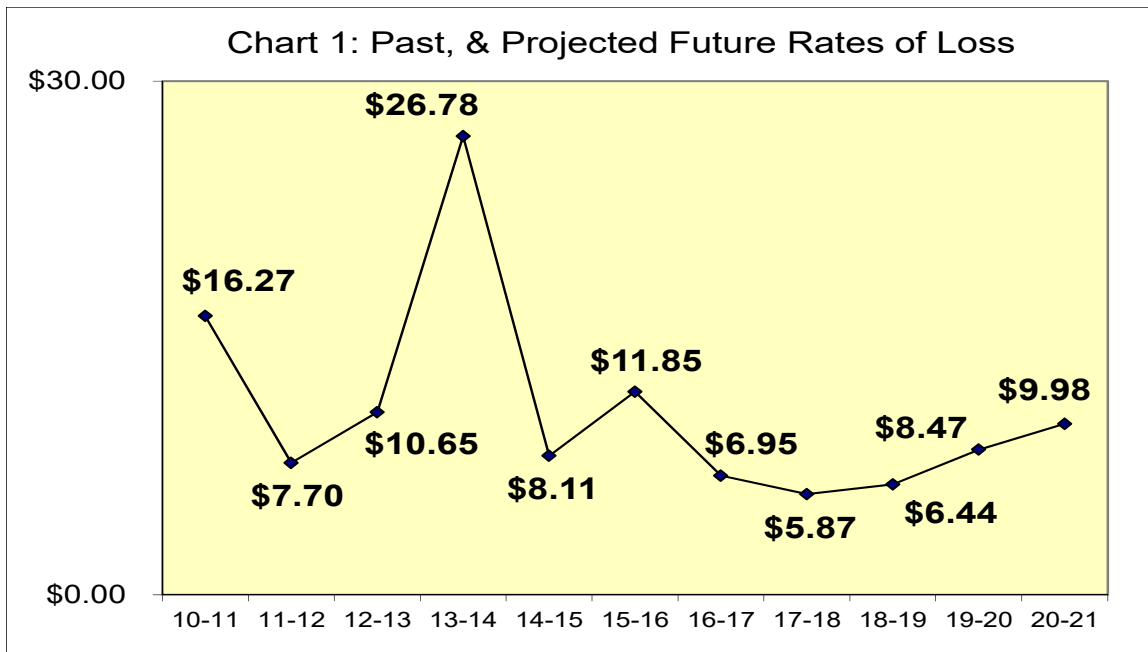
As management information we also provide Table V, which shows rates that exclude all TD and all 4850 benefits. These Table V rates are based on the assumption that TD will cost **\$370,000** in 2020-21 and that 4850 will cost **\$130,000**.

Table V: Projected 2020-21 Discounted Loss Rates (1.0% interest rate – 4850 & TD Excluded)						
Probability Level	Projected Loss per \$100 of Payroll					
	\$250,000 SIR	\$300,000 SIR	\$350,000 SIR	\$500,000 SIR	\$1,000,000 SIR	Unlimited Retention
Central Estimate	\$5.09	\$5.51	\$5.85	\$6.56	\$7.61	\$8.62
60%	5.34	5.78	6.13	6.88	7.95	8.92
70%	\$5.87	6.38	6.80	7.71	9.04	10.39
80%	6.53	7.21	7.65	8.76	10.45	12.31
90%	7.53	8.30	8.94	10.36	12.63	15.31

Only a small but unknown portion of the unpaid TD is a true MBASIA liability, since most TD is paid directly by the cities. We estimated the small MBASIA TD liability very conservatively.

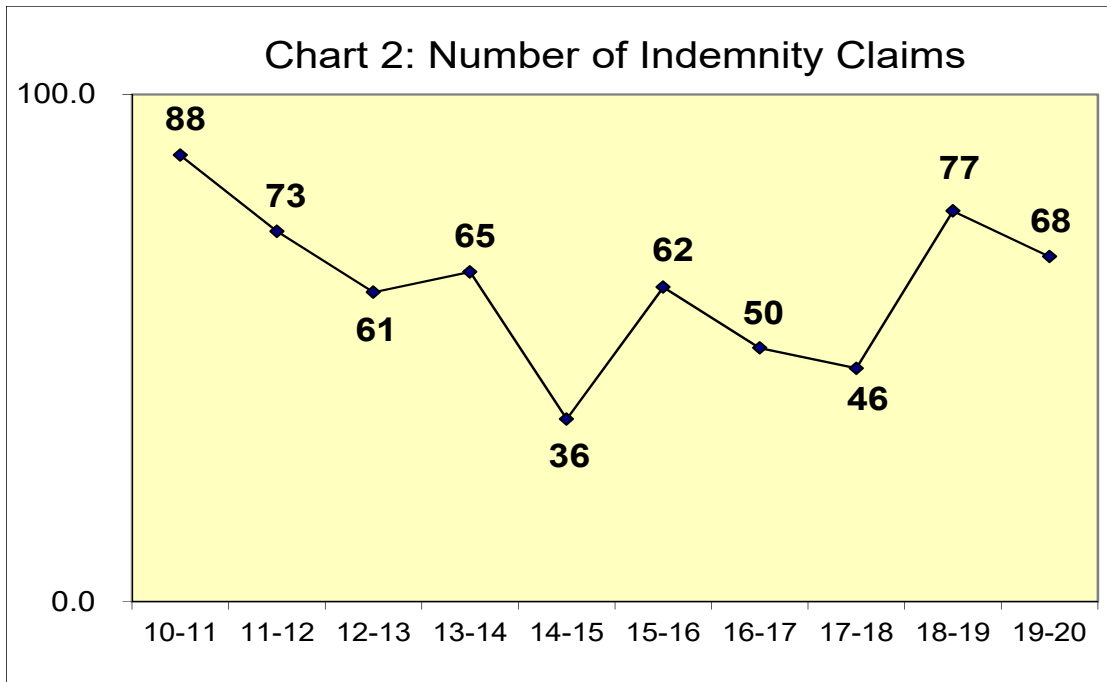
The Authority's Past Rates of Loss

Chart 1 shows the Authority's estimated past unlimited, undiscounted loss rates (no reduction for losses ceded to excess insurers). The loss rate is ultimate total loss per \$100 of payroll. **\$9.98** is the undiscounted central estimate unlimited rate for 2020-21. The rates in the chart include all 4850 and all TD.



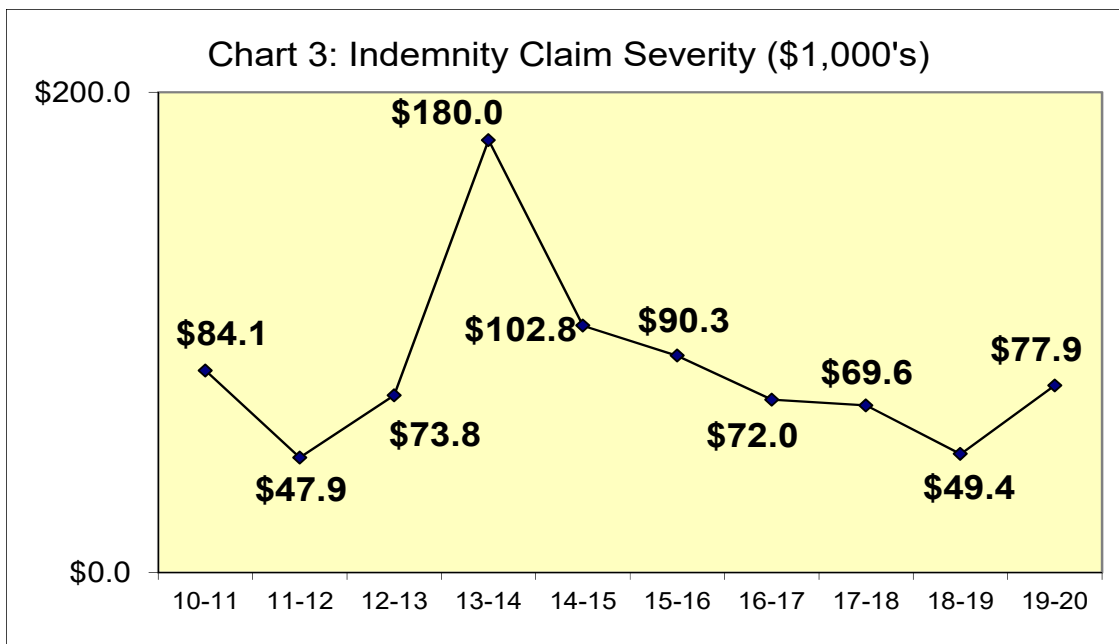
Number of Indemnity Claims

Claim frequency is an important diagnostic statistic. Chart 2 shows the estimated number of indemnity claims incurred over the last ten years.



Average Claim Amount ("Severity")

Chart 3 shows the average indemnity claim amount, calculated by dividing the estimated annual losses by the number of indemnity claims. The values in this chart are based on unlimited loss data, so they include the portions of claims are ceded to excess insurers. The Chart 3 severities include 4850 and TD.



Liability for Unpaid Losses

We estimate that the liability for unpaid losses was **\$14,453,417** on December 31, 2019 and that it will be **\$14,560,253** on June 30, 2020. The discounted values are about 5.7% lower. Table VI shows December 31, 2019 and Table VII shows June 30, 2020. Unpaid 4850 is excluded.

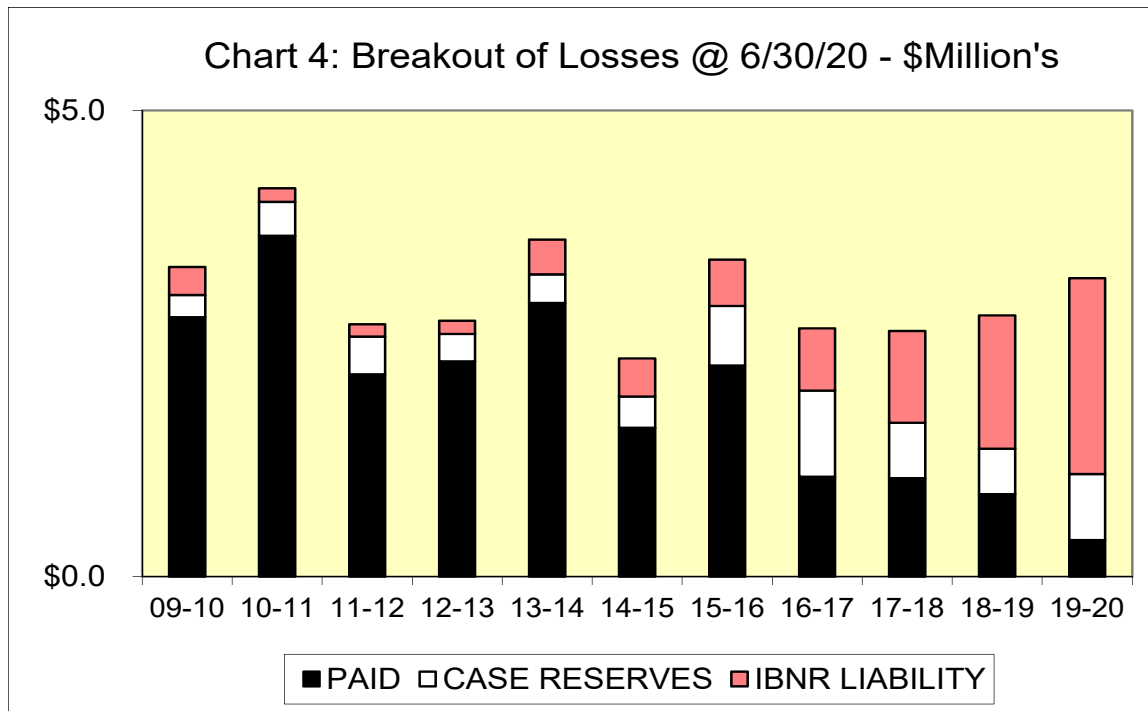
Table VI: Estimated Liability for Unpaid Losses as of December 31, 2019		
<u>Probability Level</u>	<u>Undiscounted Losses</u>	<u>Discounted at 1.0% Interest Losses</u>
Central Estimate	\$14,453,417	\$13,632,967
60%	14,742,485	13,905,626
70%	15,320,622	14,450,945
80%	16,187,827	15,268,923
90%	17,055,032	16,086,901

Table VII: Projected Liability for Unpaid Losses as of June 30, 2020		
<u>Probability Level</u>	<u>Undiscounted Losses</u>	<u>Discounted at 1.0% Interest Losses</u>
Central Estimate	\$14,560,253	\$13,733,739
60%	14,997,061	14,145,751
70%	15,870,677	14,969,776
80%	17,035,497	16,068,475
90%	18,637,124	17,579,186

The 90% probability level estimate is 18% higher than the central estimate at December 31 but 28% higher at June 30. That is because both estimates are based on December 31 data. The June 30 projections include six months of projected new losses that have not yet occurred so of course the uncertainty is currently much higher. If the liabilities were to be re-estimated at June 30 using June 30 data that 28% “probability loading” would then fall back toward the 18% level.

Loss Breakout as of 6/30/20

We project that the Authority's liability of **\$14,560,253** will comprise **\$6,683,338** in case reserves for known claims and an IBNR liability of **\$7,876,915**. Chart 4 breaks out the estimated total program year losses for 2009-10 through 2019-20 into their components: losses paid, case reserves, and IBNR liability.



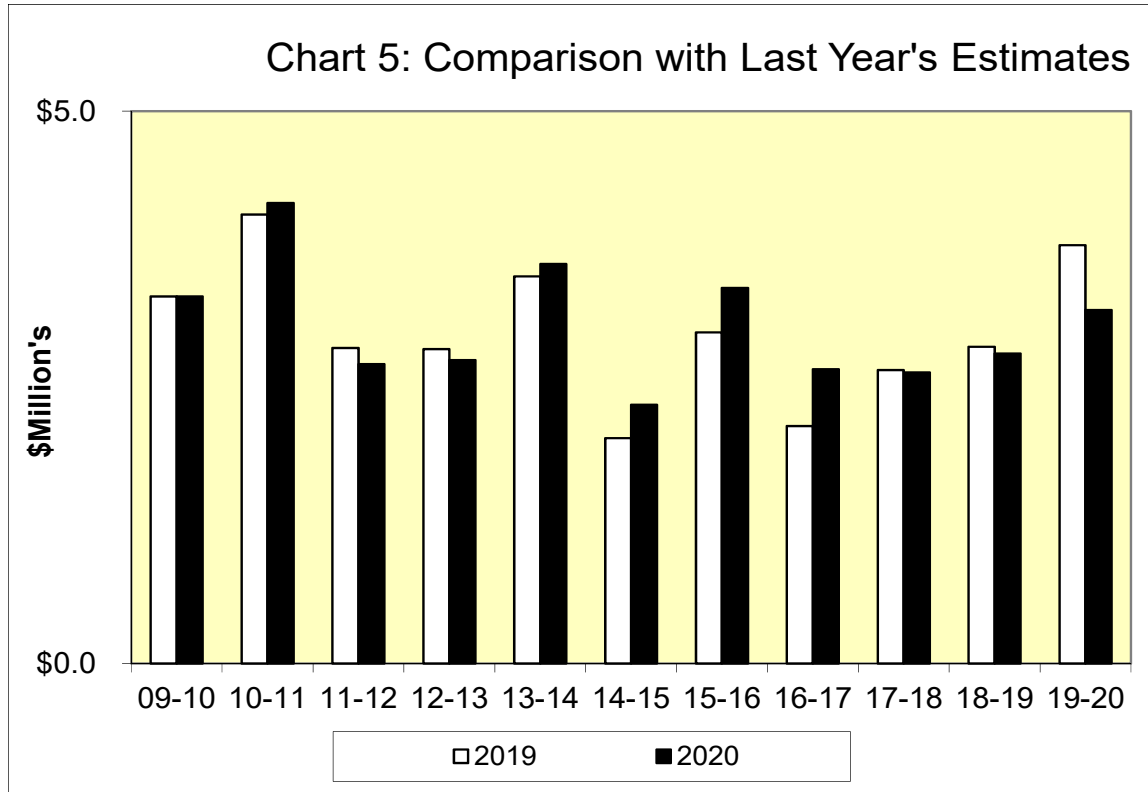
There is \$1.18 of projected IBNR liability for every \$1.00 of projected case reserves. Last year this ratio was \$1.17. There was a large increase in total case reserves, which went from **\$13.2 million** at 12/31/18 to **\$19.4 million** at 12/31/19. Most of this increase was due to the 2013-14 loss that is now over \$5 million. We are currently not assuming any change in reserving philosophy on the part of the claims administrator.

Short-Term Liability

Short-term liabilities are those expected to be expended within twelve months. The limited 6/30/20 liability comprises **\$2,532,585** in short-term and **\$12,027,668** in long-term liabilities.

Comparison with Last Year's Estimates

Chart 5 compares this year's estimates of the limited ultimate losses with last year's. It shows limited losses excluding 4850/TD benefits. The total change for all years through 2018-19 was an increase of \$219,783.



Reconciling the 12/31/18 & 12/31/19 Liabilities

In the 2019 report we estimated that the liability, excluding 4850, was **\$13,729,518** on December 31, 2018. Table IV shows the new undiscounted central estimate of **\$14,453,417**. Table VI reconciles these two amounts.

Table VI: Reconcile 12/31/18 & 12/31/19 Liabilities	
Estimated 12/31/18 Liability	\$13,729,518
Payments in Calendar 2019	-2,523,766
Change in estimates for 12/31/18 and Prior	+245,980
Estimated Losses in Calendar 2019	+3,001,685
<hr/>	
12/31/19 Liability	\$14,453,417

Interest Rates

We discounted the rates and liabilities using a 1.0% interest rate. Last year the interest rate was 2.0%. Interest rates have crashed in 2020 and there are still wild swings in rates occurring on a daily basis. Here are the adjustments to make for different interest rate assumptions:

Interest Rate	0.0%	0.67%	0.70%	1.0%	1.25%	2.0%
UNL Rate	+7.0%	+2.1%	+1.9%	0.0%	-1.6%	-6.0%
1M Rate	+6.7%	+2.1%	+1.9%	0.0%	-1.5%	-5.8%
500K Rate	+6.2%	+1.9%	+1.7%	0.0%	-1.5%	-5.4%
350K Rate	+5.8%	+1.9%	+1.7%	0.0%	-1.3%	-5.1%
300K Rate	+5.6%	+1.8%	+1.6%	0.0%	-1.3%	-4.9%
250K Rate	+5.4%	+1.7%	+1.6%	0.0%	-1.3%	-4.7%
Liabilities	+6.0%	+1.9%	+1.7%	0.0%	-1.4%	-5.2%

The table includes columns labeled 0.67% and 0.70%. Those were the “risk-free buy-and-hold” interest rates appropriate for discounting the 2020-21 losses and the 6/30/20 liabilities, respectively, as of March 10, 2020. We calculated those rates by assembling hypothetical portfolios of US Treasury bills, notes, and bonds selected to mature just in time to provide exactly the funds that would be needed to pay the claims. The portfolio matching the expenditures on the 2020-21 claims yielded an overall interest rate of 0.67%. The portfolio matching the expenditures on the 6/30/20 liabilities yielded an overall interest rate of 0.70%. These are benchmarks that rise and fall with interest rates in general.

Monterey Bay Area Self Insurance Authority

An Actuarial Review of the Workers' Compensation Program

Technical Approach

Monterey Bay Area Self Insurance Authority

An Actuarial Review of the Workers' Compensation Program

Technical Approach

This section describes the actuarial calculations.

Exhibits

Summary Exhibits

These exhibits summarize the analysis and conclusions. Summary Exhibits 1 and 2 show the estimated liabilities for unpaid losses as of December 31, 2019 and the projection to June 30, 2020. Summary Exhibit 3 shows the projected rate for the 2020-21 program year, which runs from July 1, 2020 to June 30, 2021. These rates include 4850/TD benefits. Summary Exhibit 4 shows the estimated limited unpaid losses as of June 30, 2020 by program year on both discounted and non-discounted bases. The limited unpaid losses exclude 4850. Summary Exhibit 5 shows the ULAE liability at 12/31/19 and 6/30/20.

Fiscal Year End Exhibits

These exhibits show the projected unpaid limited losses as of June 30, 2020. Fiscal Year End Exhibit 10 shows limited unpaid losses including 4850 benefits. Fiscal Year End Exhibits 3 and 4 show the projected 2020-21 4850 and TD benefits. Fiscal Year End Exhibit 2 shows the calculation that removes 4850 IBNR from the total IBNR liability. Fiscal Year End Exhibit 1 shows the limited unpaid losses excluding 4850.

Limited Ultimate Loss Exhibits

These exhibits show the estimation of the limited ultimate losses for each program year, including 4850 benefits. We start with the gross (unlimited) loss estimates and adjust them to a limited basis to reflect the expected effect of excess insurance.

Gross Loss Exhibits

These exhibits show the various actuarial projection methods and summarize the results for each program year.

We use five different actuarial methods:

- 1) Reported loss projection method;
- 2) Paid loss projection method;
- 3) IBNR to Case Reserves Ratio method;
- 4) Bornhuetter-Ferguson method using reported losses; and
- 5) Frequency times Severity method.

Gross Loss Exhibit 1 summarizes these results.

Future Loss Exhibits

These exhibits show the projection of the projected gross (unlimited) rate for 2020-21.

Discounting Exhibits

These exhibits show the discounting of the remaining unpaid losses and the projected future loss rate. They also include the Program Information Exhibit.

Claims Data Exhibits

These exhibits show the reported loss, paid loss, and claim count triangles as of December 31, 2019, and the associated loss and claim development factors.

**Monterey Bay Area Self Insurance Authority
Workers' Compensation Program**

**Actuarial Analysis of the
Workers' Compensation Program**

Summary Exhibits

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Estimated Unpaid Losses as of December 31, 2019
Limited Self-Insured Losses Excluding 4850

(1) Estimated Unpaid Losses:		\$14,453,417
(2) Discounted Value of Unpaid Losses: (Assuming 1.0% Interest Rate)		\$13,632,967

Probability Levels

Probability Level <u>(3)</u>	Probability Factor <u>(4)</u>	Discounted * Liability <u>(5)</u>
Central Estimate	1.00	\$13,632,967
60%	1.02	13,905,626
70%	1.06	14,450,945
80%	1.12	15,268,923
90%	1.18	16,086,901

* Multiply by 1.060 to obtain undiscounted values.

Notes:

- (1) Page 25, Column (6).
- (2) (1), discounted at 1.00% interest.
- (3) Estimated probability that funding will be adequate.
- (4) Estimated by BAC.
- (5) (2) x (4).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Projected Unpaid Losses as of June 30, 2020
Limited Self-Insured Losses Excluding 4850

(1) Projected Unpaid Losses:		\$14,560,253
(2) Discounted Value of Unpaid Losses: (Assuming 1.0% Interest Rate)		\$13,733,739

Probability Levels

Probability Level <u>(3)</u>	Probability Factor <u>(4)</u>	Discounted * Liability <u>(5)</u>
Central Estimate	1.00	\$13,733,739
60%	1.03	14,145,751
70%	1.09	14,969,776
80%	1.17	16,068,475
90%	1.28	17,579,186

* Multiply by 1.060 to obtain undiscounted values.

Notes:

- (1) Page 22, Column (1).
- (2) Page 22, Column (2).
- (3) Estimated probability that funding will be adequate.
- (4) Estimated by BAC.
- (5) (2) x (4).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Projected Loss Funding Rate for 2020-21

\$250,000 SIR Loss rate
Limited Losses Including 4850/TD

(1) Discounted Loss Rate: (as of July 1, 2020, 1.0% interest rate)	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right; border-bottom: 1px solid black;">Loss Rates</td> </tr> <tr> <td style="text-align: right;">\$5.81</td> </tr> </table>	Loss Rates	\$5.81
Loss Rates			
\$5.81			

Probability Levels		
Probability Level <u>(2)</u>	Probability Factor <u>(3)</u>	Discounted * Rate <u>(4)</u>
0.20	0.69	\$4.01
0.30	0.79	4.59
0.40	0.87	5.05
0.50	0.96	5.58
Central Estimate	1.00	\$5.81
0.60	1.05	6.10
0.70	1.15	6.68
0.80	1.28	7.44
0.90	1.48	8.60

* Multiply by 1.054 to obtain undiscounted values.

Notes:

- (1) [Page 60, Column (5)] x [Page 68, Item (4)], adjusted for \$250K SIR.
- (2) Estimated probability that funding will be adequate.
- (3) Estimated by BAC.
- (4) (1) x (3).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

June 30, 2020 Summary

Limited Self-Insured Losses Excluding 4850

Program Year	Undiscounted Claims Liabilities as of 6/30/20 (1)	Discounted (1.0% Interest) Claims Liabilities as of 6/30/20 (2)	Estimated Ultimate Losses (3)
1988-89	\$19,799	\$19,142	\$730,000
1989-90	15,371	14,792	755,000
1990-91	27,793	26,622	1,280,000
1991-92	89,333	85,177	1,510,000
1992-93	38,797	36,824	1,482,639
1993-94	19,717	18,630	1,138,561
1994-95	136,759	128,648	859,693
1995-96	15,509	14,525	875,518
1996-97	126,606	118,067	1,468,181
1997-98	185,680	172,426	1,232,837
1998-99	130,401	121,090	1,561,420
1999-00	34,359	31,898	1,499,757
2000-01	39,831	36,963	2,581,152
2001-02	133,624	123,936	2,061,203
2002-03	97,296	90,185	2,085,354
2003-04	59,155	54,793	1,899,776
2004-05	109,189	101,062	1,690,688
2005-06	160,826	148,739	1,205,790
2006-07	259,069	239,406	2,947,898
2007-08	304,025	280,721	1,445,596
2008-09	85,209	78,707	1,640,026
2009-10	536,046	496,485	3,320,153
2010-11	510,344	474,166	4,166,773
2011-12	537,295	500,450	2,708,577
2012-13	437,622	410,825	2,745,202
2013-14	681,342	641,755	3,615,759
2014-15	740,228	699,190	2,339,280
2015-16	1,134,763	1,073,511	3,398,991
2016-17	1,591,202	1,506,378	2,662,724
2017-18	1,578,153	1,497,427	2,633,640
2018-19	1,917,609	1,819,545	2,803,436
2019-20	2,807,302	2,671,654	3,199,933
Total	\$14,560,253	\$13,733,739	\$65,545,558

Notes:

- (1) Page 63, Column (1).
- (2) Page 63, Column (3).
- (3) Page 25, Column (1).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

ULAE Projections and Calculation of Unpaid ULAE

(1) Selected ULAE Ratio: **12.0%**

	<u>Case Reserves with Development</u>	<u>"True" IBNR</u>	<u>Total</u>
(2) ULAE Ratio:	6.0%	12.0%	
(3) Estimated Unpaid Losses as of 12/31/19:	\$32,497,585	\$1,456,835	\$33,954,420
(4) Estimated Unpaid ULAE as of 12/31/19:	\$1,949,855	\$174,820	\$2,124,675
(5) Discounted Unpaid ULAE as of 12/31/19: (1.0% interest rate)			\$2,003,569

We project that the ULAE liability will not change between 12/31/19 & 06/30/20.

Notes:

- (1) Estimated by BAC.
- (2) "50-50 Rule."
- (3) From gross ultimates on Page 45 and gross claims data, assuming 90% of IBNR is development on known claims.
- (4) (2) x (3).
- (5) (4) x [Page 63, Item (4)].

**Monterey Bay Area Self Insurance Authority
Workers' Compensation Program**

**Actuarial Analysis of the
Workers' Compensation Program**

Fiscal Year End Exhibits

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Projected Unpaid Losses as of June 30, 2020
Limited Self-Insured Losses Excluding 4850

Program Year	Estimated Ultimate Losses (1)	Limited Paid Losses less 4850 Paid 6/30/20 (2)	Limited Case Reserves less 4850 Case 6/30/20 (3)	Lim Reported less 4850 Reported 6/30/20 (4)	Limited IBNR less 4850 IBNR 6/30/20 (5)	Projected Unpaid Losses excluding 4850 6/30/20 (6)
1988-89	\$730,000	\$710,201	\$10,631	\$720,832	\$9,168	\$19,799
1989-90	755,000	739,629	0	739,629	15,371	15,371
1990-91	1,280,000	1,252,207	15,016	1,267,224	12,776	27,793
1991-92	1,510,000	1,420,667	74,368	1,495,035	14,965	89,333
1992-93	1,482,639	1,443,842	23,652	1,467,495	15,144	38,797
1993-94	1,138,561	1,118,844	12,419	1,131,263	7,298	19,717
1994-95	859,693	722,934	114,033	836,967	22,726	136,759
1995-96	875,518	860,009	115	860,124	15,394	15,509
1996-97	1,468,181	1,341,575	112,390	1,453,964	14,217	126,606
1997-98	1,232,837	1,047,156	149,085	1,196,241	36,595	185,680
1998-99	1,561,420	1,431,019	97,935	1,528,955	32,466	130,401
1999-00	1,499,757	1,465,398	661	1,466,059	33,698	34,359
2000-01	2,581,152	2,541,320	798	2,542,119	39,033	39,831
2001-02	2,061,203	1,927,580	99,593	2,027,173	34,030	133,624
2002-03	2,085,354	1,988,058	34,569	2,022,626	62,727	97,296
2003-04	1,899,776	1,840,621	1,307	1,841,928	57,848	59,155
2004-05	1,690,688	1,581,499	51,829	1,633,328	57,360	109,189
2005-06	1,205,790	1,044,965	132,513	1,177,478	28,313	160,826
2006-07	2,947,898	2,688,829	158,648	2,847,477	100,421	259,069
2007-08	1,445,596	1,141,572	261,115	1,402,687	42,910	304,025
2008-09	1,640,026	1,554,817	37,044	1,591,861	48,165	85,209
2009-10	3,320,153	2,784,107	236,977	3,021,084	299,069	536,046
2010-11	4,166,773	3,656,429	363,028	4,019,457	147,316	510,344
2011-12	2,708,577	2,171,282	403,800	2,575,082	133,495	537,295
2012-13	2,745,202	2,307,580	295,952	2,603,532	141,670	437,622
2013-14	3,615,759	2,934,417	308,732	3,243,150	372,610	681,342
2014-15	2,339,280	1,599,052	334,717	1,933,769	405,511	740,228
2015-16	3,398,991	2,264,228	639,021	2,903,249	495,742	1,134,763
2016-17	2,662,724	1,071,522	923,370	1,994,892	667,832	1,591,202
2017-18	2,633,640	1,055,486	596,037	1,651,523	982,116	1,578,153
2018-19	2,803,436	885,827	485,951	1,371,779	1,431,658	1,917,609
2019-20	3,199,933	392,631	708,030	1,100,661	2,099,273	2,807,302
Total	\$65,545,558	\$50,985,304	\$6,683,338	\$57,668,643	\$7,876,915	\$14,560,253

Notes:

(1) - (6) Page 34 entries - Page 29 entries.

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Calculation of 4850 IBNR

Program Year	Total Case Reserves 12/31/19 (1)	4850 Case Reserves 12/31/19 (2)	4850 Case Reserves Percentage (3)	Total IBNR as of 12/31/19 (4)	4850 IBNR as of 12/31/19 (5)	IBNR Net of 4850 as of 12/31/19 (6)
1988-89	\$11,574	\$0	0.0%	\$9,761	\$0	\$9,761
1989-90	0	0	0.0%	16,421	0	16,421
1990-91	15,972	0	0.0%	13,521	0	13,521
1991-92	78,499	0	0.0%	15,801	0	15,801
1992-93	24,820	0	0.0%	15,961	0	15,961
1993-94	12,974	0	0.0%	7,680	0	7,680
1994-95	118,959	0	0.0%	23,884	0	23,884
1995-96	0	0	0.0%	16,160	0	16,160
1996-97	116,741	0	0.0%	14,910	0	14,910
1997-98	160,146	0	0.0%	38,350	0	38,350
1998-99	103,871	0	0.0%	35,295	0	35,295
1999-00	0	0	0.0%	36,614	0	36,614
2000-01	0	0	0.0%	42,390	0	42,390
2001-02	105,101	0	0.0%	36,942	0	36,942
2002-03	35,248	0	0.0%	68,071	0	68,071
2003-04	0	0	0.0%	62,758	0	62,758
2004-05	53,528	0	0.0%	62,214	0	62,214
2005-06	139,643	0	0.0%	30,702	0	30,702
2006-07	165,329	0	0.0%	108,880	0	108,880
2007-08	277,664	0	0.0%	46,518	0	46,518
2008-09	40,179	0	0.0%	52,210	0	52,210
2009-10	254,644	0	0.0%	330,275	0	330,275
2010-11	397,798	0	0.0%	158,457	0	158,457
2011-12	468,018	0	0.0%	147,452	0	147,452
2012-13	318,387	0	0.0%	169,799	0	169,799
2013-14	331,978	0	0.0%	429,083	0	429,083
2014-15	370,773	4,173	1.1%	452,027	0	452,027
2015-16	684,187	125	0.0%	566,199	0	566,199
2016-17	992,595	0	0.0%	791,585	0	791,585
2017-18	519,011	0	0.0%	1,215,285	0	1,215,285
2018-19	370,224	5,397	1.5%	1,807,580	3,952	1,803,628
2019-20	174,529	3,131	1.8%	1,325,903	7,137	1,318,767
Total	\$6,342,392	\$12,826		\$8,148,688	\$11,089	\$8,137,599

Notes:

- (1) Page 36, Column (3).
- (2) Provided by Aims.
- (3) (2) / (1).
- (4) Page 36, Column (5).
- (5) (2) x 'IBNR to case reserves' ratio.
Ratio is [(4) / (1)], reduced 70% in 2019-20, 85% in 2018-19, & 95% in 2017-18.
4850 IBNR is \$0 for all other years.
- (6) (4) - (5).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

4850 as % of Total Losses

Program Year	Ultimate 4850 (1)	Estimated Ultimate Gross Loss (2)	4850 Percentage (3)
2008-09	\$529,974	\$2,170,000	24.4%
2009-10	679,847	6,120,000	11.1%
2010-11	633,227	7,400,000	8.6%
2011-12	391,423	3,500,000	11.2%
2012-13	354,798	4,500,000	7.9%
2013-14	684,241	11,700,000	5.8%
2014-15	160,720	3,700,000	4.3%
2015-16	201,009	5,600,000	3.6%
2016-17	137,276	3,600,000	3.8%
2017-18	66,360	3,200,000	2.1%
2018-19	96,564	3,800,000	2.5%
Average	\$357,767	\$5,026,364	7.1%
15-16 to 18-19	\$125,302	\$4,050,000	3.1%

Projected 2020-21 4850:	
(4)	\$130,000

(1) Page 32, Column (4).
 (2) Page 45, Column (6).
 (3) (1) / (2).
 (4) Projected by BAC.

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

TD as % of Total Losses

Program Year	Ultimate TD (1)	Estimated Ultimate Gross Loss (2)	TD Percentage (3)
2008-09	\$69,542	\$2,170,000	3.2%
2009-10	304,478	6,120,000	5.0%
2010-11	607,765	7,400,000	8.2%
2011-12	319,083	3,500,000	9.1%
2012-13	325,457	4,500,000	7.2%
2013-14	628,787	11,700,000	5.4%
2014-15	358,055	3,700,000	9.7%
2015-16	650,694	5,600,000	11.6%
2016-17	249,130	3,600,000	6.9%
2017-18	319,832	3,200,000	10.0%
2018-19	244,250	3,800,000	6.4%
Average	\$370,643	\$5,026,364	7.4%
14-15 to 18-19	\$364,392	\$3,980,000	9.2%

Projected 2020-21 TD:	
(4)	\$370,000

(1) Page 33, Column (4).
 (2) Page 45, Column (6).
 (3) (1) / (2).
 (4) Projected by BAC.

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Projected Unpaid Losses as of June 30, 2020

4850 Only

Program Year	Estimated Ultimate 4850/TD (1)	Projected 4850/TD Paid as of 6/30/20 (2)	Projected 4850/TD Case Reserves as of 6/30/20 (3)	Projected 4850/TD Reported as of 6/30/20 (4)	Projected 4850/TD IBNR as of 6/30/20 (5)	Projected Unpaid Losses excluding 4850/TD 6/30/20 (6)
1988-89	\$0	\$0	\$0	\$0	\$0	\$0
1989-90	0	0	0	0	0	0
1990-91	0	0	0	0	0	0
1991-92	0	0	0	0	0	0
1992-93	27,361	27,361	0	27,361	0	0
1993-94	51,439	51,439	0	51,439	0	0
1994-95	150,307	150,307	0	150,307	0	0
1995-96	220,482	220,482	0	220,482	0	0
1996-97	181,819	181,819	0	181,819	0	0
1997-98	197,163	197,163	0	197,163	0	0
1998-99	118,580	118,580	0	118,580	0	0
1999-00	137,243	137,243	0	137,243	0	0
2000-01	316,848	316,848	0	316,848	0	0
2001-02	448,797	448,797	0	448,797	0	0
2002-03	454,646	454,646	0	454,646	0	0
2003-04	326,224	326,224	0	326,224	0	0
2004-05	469,312	469,312	0	469,312	0	0
2005-06	294,210	294,210	0	294,210	0	0
2006-07	562,102	562,102	0	562,102	0	0
2007-08	394,404	394,404	0	394,404	0	0
2008-09	529,974	529,974	0	529,974	0	0
2009-10	679,847	679,847	0	679,847	0	0
2010-11	633,227	633,227	0	633,227	0	0
2011-12	391,423	391,423	0	391,423	0	0
2012-13	354,798	354,798	0	354,798	0	0
2013-14	684,241	684,241	0	684,241	0	0
2014-15	160,720	158,647	2,073	160,720	0	2,073
2015-16	201,009	200,893	116	201,009	0	116
2016-17	137,276	137,276	0	137,276	0	0
2017-18	66,360	66,360	0	66,360	0	0
2018-19	96,564	93,903	2,661	96,564	0	2,661
2019-20	100,067	64,681	4,795	69,476	30,590	35,385
Total	\$8,386,442	\$8,346,207	\$9,645	\$8,355,852	\$30,591	\$40,236

Notes:

- (1) Page 32, Column (4).
- (2) Page 30, Column (3).
- (3) (4) - (2).
- (4) Page 30, Column (6).
- (5) (1) - (4).
- (6) (1) - (2).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Projected Paid and Reported Losses between 1/1/20 and 6/30/20
4850 Only

Program Year	Losses Paid as of 12/31/19 <u>(1)</u>	Projected Losses Paid 1/1/20 - 6/30/20 <u>(2)</u>	Projected Losses Paid as of 6/30/20 <u>(3)</u>	Losses Reported as of 12/31/19 <u>(4)</u>	Projected Losses Reported 1/1/20 - 6/30/20 <u>(5)</u>	Projected Losses Reported as of 6/30/20 <u>(6)</u>
1988-89	\$0	\$0	\$0	\$0	\$0	\$0
1989-90	0	0	0	0	0	0
1990-91	0	0	0	0	0	0
1991-92	0	0	0	0	0	0
1992-93	27,361	0	27,361	27,361	0	27,361
1993-94	51,439	0	51,439	51,439	0	51,439
1994-95	150,307	0	150,307	150,307	0	150,307
1995-96	220,482	0	220,482	220,482	0	220,482
1996-97	181,819	0	181,819	181,819	0	181,819
1997-98	197,163	0	197,163	197,163	0	197,163
1998-99	118,580	0	118,580	118,580	0	118,580
1999-00	137,243	0	137,243	137,243	0	137,243
2000-01	316,848	0	316,848	316,848	0	316,848
2001-02	448,797	0	448,797	448,797	0	448,797
2002-03	454,646	0	454,646	454,646	0	454,646
2003-04	326,224	0	326,224	326,224	0	326,224
2004-05	469,312	0	469,312	469,312	0	469,312
2005-06	294,210	0	294,210	294,210	0	294,210
2006-07	562,102	0	562,102	562,102	0	562,102
2007-08	394,404	0	394,404	394,404	0	394,404
2008-09	529,974	0	529,974	529,974	0	529,974
2009-10	679,847	0	679,847	679,847	0	679,847
2010-11	633,227	0	633,227	633,227	0	633,227
2011-12	391,423	0	391,423	391,423	0	391,423
2012-13	354,798	0	354,798	354,798	0	354,798
2013-14	684,241	0	684,241	684,241	0	684,241
2014-15	156,547	2,100	158,647	160,720	0	160,720
2015-16	200,885	8	200,893	201,009	0	201,009
2016-17	137,276	0	137,276	137,276	0	137,276
2017-18	66,360	0	66,360	66,360	0	66,360
2018-19	91,167	2,736	93,903	96,564	0	96,564
2019-20	22,065	42,616	64,681	25,197	44,280	69,476
Total	\$8,298,746	\$47,460	\$8,346,207	\$8,311,572	\$44,280	\$8,355,852

Notes:

- (1) Page 32, Column (1).
- (2) Projected by BAC.
- (3) (1) + (2).
- (4) Provided by Aims.
- (5) Projected by BAC.
- (6) (4) + (5).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Estimated Unpaid Losses as of December 31, 2019

4850 Only

Program Year	Estimated Ultimate 4850/TD (1)	4850/TD Paid as of 12/31/19 (2)	4850/TD Case Reserves as of 12/31/19 (3)	4850/TD Reported as of 12/31/19 (4)	4850/TD IBNR as of 12/31/19 (5)	Estimated Unpaid Losses excluding 4850/TD 12/31/19 (6)
1988-89	\$0	\$0	\$0	\$0	\$0	\$0
1989-90	0	0	0	0	0	0
1990-91	0	0	0	0	0	0
1991-92	0	0	0	0	0	0
1992-93	27,361	27,361	0	27,361	0	0
1993-94	51,439	51,439	0	51,439	0	0
1994-95	150,307	150,307	0	150,307	0	0
1995-96	220,482	220,482	0	220,482	0	0
1996-97	181,819	181,819	0	181,819	0	0
1997-98	197,163	197,163	0	197,163	0	0
1998-99	118,580	118,580	0	118,580	0	0
1999-00	137,243	137,243	0	137,243	0	0
2000-01	316,848	316,848	0	316,848	0	0
2001-02	448,797	448,797	0	448,797	0	0
2002-03	454,646	454,646	0	454,646	0	0
2003-04	326,224	326,224	0	326,224	0	0
2004-05	469,312	469,312	0	469,312	0	0
2005-06	294,210	294,210	0	294,210	0	0
2006-07	562,102	562,102	0	562,102	0	0
2007-08	394,404	394,404	0	394,404	0	0
2008-09	529,974	529,974	0	529,974	0	0
2009-10	679,847	679,847	0	679,847	0	0
2010-11	633,227	633,227	0	633,227	0	0
2011-12	391,423	391,423	0	391,423	0	0
2012-13	354,798	354,798	0	354,798	0	0
2013-14	684,241	684,241	0	684,241	0	0
2014-15	160,720	156,547	4,173	160,720	0	4,173
2015-16	201,009	200,885	125	201,009	0	125
2016-17	137,276	137,276	0	137,276	0	0
2017-18	66,360	66,360	0	66,360	0	0
2018-19	96,564	91,167	5,397	96,564	0	5,397
2019-20	50,033	22,065	3,131	25,197	24,837	27,968
Total	\$8,336,409	\$8,298,746	\$12,826	\$8,311,572	\$24,837	\$37,663

Notes:

- (1) Page 32, Column (4). 2019-20 adjusted for incomplete program year.
- (2) Page 30, Column (1).
- (3) (4) - (2).
- (4) Page 30, Column (4).
- (5) (1) - (4).
- (6) (1) - (2).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Paid 4850 Loss Development

Program Year	Cumulative Paid Losses as of 12/31/19 (1)	Paid Development Factor as of 12/31/19 (2)	Projected Ultimate Losses (3)	Selected Ultimate Losses (4)
1988-89	\$0	1.000	\$0	\$0
1989-90	0	1.000	0	0
1990-91	0	1.000	0	0
1991-92	0	1.000	0	0
1992-93	27,361	1.000	27,361	27,361
1993-94	51,439	1.000	51,439	51,439
1994-95	150,307	1.000	150,307	150,307
1995-96	220,482	1.000	220,482	220,482
1996-97	181,819	1.000	181,819	181,819
1997-98	197,163	1.000	197,163	197,163
1998-99	118,580	1.000	118,580	118,580
1999-00	137,243	1.000	137,243	137,243
2000-01	316,848	1.000	316,848	316,848
2001-02	448,797	1.000	448,797	448,797
2002-03	454,646	1.000	454,646	454,646
2003-04	326,224	1.000	326,224	326,224
2004-05	469,312	1.000	469,312	469,312
2005-06	294,210	1.000	294,210	294,210
2006-07	562,102	1.000	562,102	562,102
2007-08	394,404	1.000	394,404	394,404
2008-09	529,974	1.000	529,974	529,974
2009-10	679,847	1.000	679,847	679,847
2010-11	633,227	1.000	633,227	633,227
2011-12	391,423	1.000	391,423	391,423
2012-13	354,798	1.000	354,798	354,798
2013-14	684,241	1.025	701,176	684,241
2014-15	156,547	1.025	160,421	160,720
2015-16	200,885	1.030	206,898	201,009
2016-17	137,276	1.019	139,934	137,276
2017-18	66,360	1.008	66,910	66,360
2018-19	91,167	1.101	100,417	96,564
2019-20	22,065	3.499	77,209	100,067
Total	\$8,298,746		\$8,393,170	\$8,386,442

Notes:

- (1) Provided by Aims.
- (2) Estimated by BAC.
- (3) (1) x (2), rounded.
- (4) Selected based upon (3) & case incurred values.

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Paid TD Loss Development

Program Year	Cumulative Paid Losses as of 12/31/19 (1)	Paid Development Factor as of 12/31/19 (2)	Projected Ultimate Losses (3)	Selected Ultimate Losses (4)
1988-89	\$283,506	1.000	\$283,506	\$283,506
1989-90	238,006	1.000	238,006	238,006
1990-91	168,259	1.000	168,259	168,259
1991-92	268,489	1.000	268,489	268,489
1992-93	171,461	1.000	171,461	171,461
1993-94	63,926	1.000	63,926	63,926
1994-95	31,068	1.000	31,068	31,068
1995-96	11,580	1.000	11,580	11,580
1996-97	95,869	1.000	95,869	95,869
1997-98	20,370	1.000	20,370	20,370
1998-99	124,288	1.000	124,288	124,288
1999-00	30,385	1.000	30,385	30,385
2000-01	204,583	1.000	204,583	297,774
2001-02	78,920	1.000	78,920	78,920
2002-03	102,049	1.000	102,049	102,049
2003-04	153,993	1.000	153,993	153,993
2004-05	77,378	1.000	77,378	77,378
2005-06	55,431	1.000	55,431	55,431
2006-07	82,352	1.000	82,352	84,091
2007-08	49,814	1.000	49,814	49,814
2008-09	69,542	1.000	69,542	69,542
2009-10	304,478	1.000	304,478	304,478
2010-11	607,765	1.000	607,765	607,765
2011-12	319,083	1.000	319,083	319,083
2012-13	325,457	1.000	325,457	325,457
2013-14	611,740	1.025	626,881	628,787
2014-15	338,334	1.025	346,708	358,055
2015-16	636,501	1.030	655,554	650,694
2016-17	244,469	1.019	249,202	249,130
2017-18	299,828	1.008	302,311	319,832
2018-19	228,067	1.101	251,207	244,250
2019-20	60,418	3.499	211,411	365,977
Total	\$6,357,406		\$6,581,322	\$6,849,705

Notes:

- (1) Provided by Aims.
- (2) Estimated by BAC.
- (3) (1) x (2), rounded.
- (4) Selected based upon (3) & case incurred values.

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Projected Unpaid Losses as of June 30, 2020

Limited Self-Insured Losses Including 4850/TD

Program Year	Estimated Ultimate Losses (1)	Projected Paid Losses as of 6/30/20 (2)	Projected Case Reserves 6/30/20 (3)	Projected Reported Losses as of 6/30/20 (4)	Projected IBNR as of 6/30/20 (5)	Projected Unpaid Losses as of 6/30/20 (6)
1988-89	\$730,000	\$710,201	\$10,631	\$720,832	\$9,168	\$19,799
1989-90	755,000	739,629	0	739,629	15,371	15,371
1990-91	1,280,000	1,252,207	15,016	1,267,224	12,776	27,793
1991-92	1,510,000	1,420,667	74,368	1,495,035	14,965	89,333
1992-93	1,510,000	1,471,203	23,652	1,494,856	15,144	38,797
1993-94	1,190,000	1,170,283	12,419	1,182,702	7,298	19,717
1994-95	1,010,000	873,240	114,033	987,273	22,727	136,760
1995-96	1,096,000	1,080,491	115	1,080,606	15,394	15,509
1996-97	1,650,000	1,523,394	112,390	1,635,783	14,217	126,606
1997-98	1,430,000	1,244,320	149,085	1,393,405	36,595	185,680
1998-99	1,680,000	1,549,599	97,935	1,647,534	32,466	130,401
1999-00	1,637,000	1,602,641	661	1,603,302	33,698	34,359
2000-01	2,898,000	2,858,169	798	2,858,967	39,033	39,831
2001-02	2,510,000	2,376,376	99,593	2,475,970	34,030	133,624
2002-03	2,540,000	2,442,704	34,569	2,477,273	62,727	97,296
2003-04	2,226,000	2,166,845	1,307	2,168,152	57,848	59,155
2004-05	2,160,000	2,050,811	51,829	2,102,640	57,360	109,189
2005-06	1,500,000	1,339,174	132,513	1,471,687	28,313	160,826
2006-07	3,510,000	3,250,931	158,648	3,409,579	100,421	259,069
2007-08	1,840,000	1,535,975	261,115	1,797,090	42,910	304,025
2008-09	2,170,000	2,084,791	37,044	2,121,835	48,165	85,209
2009-10	4,000,000	3,463,954	236,977	3,700,931	299,069	536,046
2010-11	4,800,000	4,289,656	363,028	4,652,684	147,316	510,344
2011-12	3,100,000	2,562,705	403,800	2,966,505	133,495	537,295
2012-13	3,100,000	2,662,378	295,952	2,958,330	141,670	437,622
2013-14	4,300,000	3,618,658	308,732	3,927,390	372,610	681,342
2014-15	2,500,000	1,757,699	336,790	2,094,489	405,511	742,301
2015-16	3,600,000	2,465,121	639,138	3,104,258	495,742	1,134,879
2016-17	2,800,000	1,208,798	923,370	2,132,168	667,832	1,591,202
2017-18	2,700,000	1,121,847	596,037	1,717,884	982,116	1,578,153
2018-19	2,900,000	979,730	488,612	1,468,342	1,431,658	1,920,270
2019-20	3,300,000	457,312	712,825	1,170,137	2,129,863	2,842,688
Total	\$73,932,000	\$59,331,511	\$6,692,984	\$66,024,495	\$7,907,505	\$14,600,489

Notes:

- (1) Page 38, Column (6).
- (2) Page 35, Column (3).
- (3) (4) - (2).
- (4) Page 35, Column (6).
- (5) (1) - (4).
- (6) (1) - (2).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Projected Paid and Reported Losses between 1/1/20 and 6/30/20

Limited Self-Insured Losses Including 4850

Program Year	Losses Paid as of 12/31/19 (1)	Projected Losses Paid 1/1/20 - 6/30/20 (2)	Projected Losses Paid as of 6/30/20 (3)	Losses Reported as of 12/31/19 (4)	Projected Losses Reported 1/1/20 - 6/30/20 (5)	Projected Losses Reported as of 6/30/20 (6)
1988-89	\$708,666	\$1,535	\$710,201	\$720,239	\$593	\$720,832
1989-90	738,579	1,049	739,629	738,579	1,049	739,629
1990-91	1,250,507	1,700	1,252,207	1,266,479	744	1,267,224
1991-92	1,415,700	4,968	1,420,667	1,494,199	837	1,495,035
1992-93	1,469,219	1,984	1,471,203	1,494,039	817	1,494,856
1993-94	1,169,346	936	1,170,283	1,182,320	382	1,182,702
1994-95	867,157	6,083	873,240	986,116	1,157	987,273
1995-96	1,079,840	651	1,080,491	1,079,840	766	1,080,606
1996-97	1,518,349	5,045	1,523,394	1,635,090	693	1,635,783
1997-98	1,231,505	12,815	1,244,320	1,391,650	1,755	1,393,405
1998-99	1,540,834	8,765	1,549,599	1,644,705	2,830	1,647,534
1999-00	1,600,386	2,255	1,602,641	1,600,386	2,916	1,603,302
2000-01	2,855,610	2,559	2,858,169	2,855,610	3,358	2,858,967
2001-02	2,367,956	8,420	2,376,376	2,473,058	2,912	2,475,970
2002-03	2,436,681	6,023	2,442,704	2,471,929	5,344	2,477,273
2003-04	2,163,242	3,603	2,166,845	2,163,242	4,910	2,168,152
2004-05	2,044,258	6,553	2,050,811	2,097,786	4,854	2,102,640
2005-06	1,329,654	9,520	1,339,174	1,469,298	2,390	1,471,687
2006-07	3,235,791	15,140	3,250,931	3,401,120	8,459	3,409,579
2007-08	1,515,817	20,158	1,535,975	1,793,482	3,608	1,797,090
2008-09	2,077,611	7,181	2,084,791	2,117,790	4,045	2,121,835
2009-10	3,415,081	48,873	3,463,954	3,669,725	31,206	3,700,931
2010-11	4,243,746	45,911	4,289,656	4,641,543	11,141	4,652,684
2011-12	2,484,530	78,176	2,562,705	2,952,548	13,957	2,966,505
2012-13	2,611,815	50,564	2,662,378	2,930,201	28,129	2,958,330
2013-14	3,538,939	79,719	3,618,658	3,870,917	56,473	3,927,390
2014-15	1,677,200	80,499	1,757,699	2,047,973	46,516	2,094,489
2015-16	2,349,614	115,507	2,465,121	3,033,801	70,457	3,104,258
2016-17	1,015,820	192,978	1,208,798	2,008,415	123,753	2,132,168
2017-18	965,704	156,142	1,121,847	1,484,715	233,169	1,717,884
2018-19	722,196	257,534	979,730	1,092,420	375,922	1,468,342
2019-20	149,567	307,745	457,312	324,097	846,041	1,170,137
Total	\$57,790,921	\$1,540,590	\$59,331,511	\$64,133,312	\$1,891,182	\$66,024,495

Notes:

- (1) Page 40, Column (1).
- (2) Projected by BAC.
- (3) (1) + (2).
- (4) Page 39, Column (1).
- (5) Projected by BAC.
- (6) (4) + (5).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Estimated Unpaid Losses as of December 31, 2019
Limited Self-Insured Losses Including 4850

Program Year	Estimated Ultimate Losses (1)	Paid Losses as of 12/31/19 (2)	Case Reserves 12/31/19 (3)	Reported Losses as of 12/31/19 (4)	Estimated IBNR as of 12/31/19 (5)	Estimated Unpaid Losses as of 12/31/19 (6)
1988-89	\$730,000	\$708,666	\$11,574	\$720,239	\$9,761	\$21,334
1989-90	755,000	738,579	0	738,579	16,421	16,421
1990-91	1,280,000	1,250,507	15,972	1,266,479	13,521	29,493
1991-92	1,510,000	1,415,700	78,499	1,494,199	15,801	94,300
1992-93	1,510,000	1,469,219	24,820	1,494,039	15,961	40,781
1993-94	1,190,000	1,169,346	12,974	1,182,320	7,680	20,654
1994-95	1,010,000	867,157	118,959	986,116	23,884	142,843
1995-96	1,096,000	1,079,840	0	1,079,840	16,160	16,160
1996-97	1,650,000	1,518,349	116,741	1,635,090	14,910	131,651
1997-98	1,430,000	1,231,505	160,146	1,391,650	38,350	198,495
1998-99	1,680,000	1,540,834	103,871	1,644,705	35,295	139,166
1999-00	1,637,000	1,600,386	0	1,600,386	36,614	36,614
2000-01	2,898,000	2,855,610	0	2,855,610	42,390	42,390
2001-02	2,510,000	2,367,956	105,101	2,473,058	36,942	142,044
2002-03	2,540,000	2,436,681	35,248	2,471,929	68,071	103,319
2003-04	2,226,000	2,163,242	0	2,163,242	62,758	62,758
2004-05	2,160,000	2,044,258	53,528	2,097,786	62,214	115,742
2005-06	1,500,000	1,329,654	139,643	1,469,298	30,702	170,346
2006-07	3,510,000	3,235,791	165,329	3,401,120	108,880	274,209
2007-08	1,840,000	1,515,817	277,664	1,793,482	46,518	324,183
2008-09	2,170,000	2,077,611	40,179	2,117,790	52,210	92,389
2009-10	4,000,000	3,415,081	254,644	3,669,725	330,275	584,919
2010-11	4,800,000	4,243,746	397,798	4,641,543	158,457	556,254
2011-12	3,100,000	2,484,530	468,018	2,952,548	147,452	615,470
2012-13	3,100,000	2,611,815	318,387	2,930,201	169,799	488,185
2013-14	4,300,000	3,538,939	331,978	3,870,917	429,083	761,061
2014-15	2,500,000	1,677,200	370,773	2,047,973	452,027	822,800
2015-16	3,600,000	2,349,614	684,187	3,033,801	566,199	1,250,386
2016-17	2,800,000	1,015,820	992,595	2,008,415	791,585	1,784,180
2017-18	2,700,000	965,704	519,011	1,484,715	1,215,285	1,734,296
2018-19	2,900,000	722,196	370,224	1,092,420	1,807,580	2,177,804
2019-20	1,650,000	149,567	174,529	324,097	1,325,903	1,500,433
Total	\$72,282,000	\$57,790,921	\$6,342,392	\$64,133,312	\$8,148,688	\$14,491,079

Notes:

- (1) Page 38, Column (6).
2019-20 value adjusted for 6 month exposure through 12/31/19.
- (2) Page 40, Column (1).
- (3) (4) - (2).
- (4) Page 39, Column (1).
- (5) (1) - (4).
- (6) (3) + (5).

**Monterey Bay Area Self Insurance Authority
Workers' Compensation Program**

**Actuarial Analysis of the
Workers' Compensation Program**

**Limited Loss Exhibits
Including 4850/TD**

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Selected Ultimate Losses
Limited Self-Insured Losses Including 4850

Program Year	Limited Reported Projection (1)	Limited Paid Projection (2)	Lim IBNR to Case Reserves Ratio (3)	B-F Limited Method Using Reported (4)	B-F Limited Method Using Paid (5)	Selected Ultimate Losses (6)
1988-89	\$721,319	\$716,036	\$722,207	\$720,838	\$714,657	\$730,000
1989-90	740,065	747,709	738,579	739,791	745,852	755,000
1990-91	1,270,467	1,269,963	1,270,600	1,270,170	1,268,961	1,280,000
1991-92	1,499,969	1,436,339	1,522,930	1,499,062	1,432,719	1,510,000
1992-93	1,500,741	1,490,973	1,504,984	1,500,090	1,491,911	1,510,000
1993-94	1,187,851	1,187,489	1,188,003	1,187,012	1,183,422	1,190,000
1994-95	990,948	882,286	1,033,343	990,141	880,844	1,010,000
1995-96	1,085,001	1,100,550	1,079,840	1,086,332	1,104,509	1,096,000
1996-97	1,643,404	1,551,470	1,671,396	1,641,811	1,546,577	1,650,000
1997-98	1,402,025	1,263,425	1,457,950	1,402,618	1,270,675	1,430,000
1998-99	1,661,299	1,586,894	1,699,237	1,656,915	1,576,244	1,680,000
1999-00	1,617,416	1,654,317	1,600,386	1,617,699	1,652,325	1,637,000
2000-01	2,887,252	2,966,559	2,855,610	2,894,025	2,984,823	2,898,000
2001-02	2,503,950	2,483,269	2,511,105	2,498,259	2,464,560	2,510,000
2002-03	2,518,869	2,607,531	2,485,922	2,510,562	2,570,879	2,540,000
2003-04	2,239,642	2,433,339	2,163,242	2,238,926	2,410,328	2,226,000
2004-05	2,140,696	2,232,645	2,114,487	2,136,483	2,206,787	2,160,000
2005-06	1,499,613	1,472,969	1,505,885	1,494,130	1,450,088	1,500,000
2006-07	3,472,205	3,638,861	3,438,650	3,466,471	3,598,488	3,510,000
2007-08	1,833,016	1,736,226	1,850,403	1,826,759	1,707,917	1,840,000
2008-09	2,171,991	2,425,487	2,126,268	2,161,454	2,327,368	2,170,000
2009-10	3,783,466	4,097,513	3,725,747	3,816,759	4,233,568	4,000,000
2010-11	4,797,142	4,950,491	4,758,496	4,727,151	4,626,305	4,800,000
2011-12	3,070,243	2,983,193	3,092,018	3,052,866	2,925,403	3,100,000
2012-13	3,065,714	3,381,442	3,006,932	3,044,732	3,205,293	3,100,000
2013-14	4,273,631	5,014,289	4,027,279	4,122,156	4,324,729	4,300,000
2014-15	2,399,074	2,519,960	2,336,434	2,448,244	2,592,889	2,500,000
2015-16	3,708,719	3,989,170	3,577,730	3,545,913	3,506,087	3,600,000
2016-17	2,756,019	2,030,459	3,186,625	2,795,009	2,467,101	2,800,000
2017-18	2,393,045	2,580,704	2,285,029	2,626,650	2,846,891	2,700,000
2018-19	2,283,932	3,063,872	1,888,401	2,731,349	3,120,935	2,900,000
2019-20	2,936,159	4,229,334	2,393,837	3,212,864	3,281,770	3,300,000
Total	\$72,054,883	\$75,724,764	\$70,819,555	\$72,663,241	\$73,720,906	\$73,932,000

- (1) Page 39, Column (3).
- (2) Page 40, Column (3).
- (3) Page 41, Column (6).
- (4) Page 42, Column (6).
- (5) Page 43, Column (6).
- (6) Selected on the basis of (1) - (5).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Reported Loss Development
Limited Self-Insured Losses Including 4850

Program Year	Cumulative	Reported	Projected
	Reported	Development	
	Losses as of	Factor	Ultimate
	12/31/19	as of	Losses
	(1)	12/31/19	(3)
		(2)	
1988-89	\$720,239	1.001	\$721,319
1989-90	738,579	1.002	740,065
1990-91	1,266,479	1.003	1,270,467
1991-92	1,494,199	1.004	1,499,969
1992-93	1,494,039	1.004	1,500,741
1993-94	1,182,320	1.005	1,187,851
1994-95	986,116	1.005	990,948
1995-96	1,079,840	1.005	1,085,001
1996-97	1,635,090	1.005	1,643,404
1997-98	1,391,650	1.007	1,402,025
1998-99	1,644,705	1.010	1,661,299
1999-00	1,600,386	1.011	1,617,416
2000-01	2,855,610	1.011	2,887,252
2001-02	2,473,058	1.012	2,503,950
2002-03	2,471,929	1.019	2,518,869
2003-04	2,163,242	1.035	2,239,642
2004-05	2,097,786	1.020	2,140,696
2005-06	1,469,298	1.021	1,499,613
2006-07	3,401,120	1.021	3,472,205
2007-08	1,793,482	1.022	1,833,016
2008-09	2,117,790	1.026	2,171,991
2009-10	3,669,725	1.031	3,783,466
2010-11	4,641,543	1.034	4,797,142
2011-12	2,952,548	1.040	3,070,243
2012-13	2,930,201	1.046	3,065,714
2013-14	3,870,917	1.104	4,273,631
2014-15	2,047,973	1.171	2,399,074
2015-16	3,033,801	1.222	3,708,719
2016-17	2,008,415	1.372	2,756,019
2017-18	1,484,715	1.612	2,393,045
2018-19	1,092,420	2.091	2,283,932
2019-20	324,097	9.060	2,936,159
Total	\$64,133,312		\$72,054,883

Notes:

- (1) Provided by Aims.
- (2) Page 46, Column (2), tempered for SIR.
- (3) (1) x (2), rounded.

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Paid Loss Development
Limited Self-Insured Losses Including 4850

Program Year	Cumulative Paid Losses as of 12/31/19 (1)	Paid Development Factor as of 12/31/19 (2)	Projected Ultimate Losses (3)
1988-89	\$708,666	1.010	\$716,036
1989-90	738,579	1.012	747,709
1990-91	1,250,507	1.016	1,269,963
1991-92	1,415,700	1.015	1,436,339
1992-93	1,469,219	1.015	1,490,973
1993-94	1,169,346	1.016	1,187,489
1994-95	867,157	1.017	882,286
1995-96	1,079,840	1.019	1,100,550
1996-97	1,518,349	1.022	1,551,470
1997-98	1,231,505	1.026	1,263,425
1998-99	1,540,834	1.030	1,586,894
1999-00	1,600,386	1.034	1,654,317
2000-01	2,855,610	1.039	2,966,559
2001-02	2,367,956	1.049	2,483,269
2002-03	2,436,681	1.070	2,607,531
2003-04	2,163,242	1.125	2,433,339
2004-05	2,044,258	1.092	2,232,645
2005-06	1,329,654	1.108	1,472,969
2006-07	3,235,791	1.125	3,638,861
2007-08	1,515,817	1.145	1,736,226
2008-09	2,077,611	1.167	2,425,487
2009-10	3,415,081	1.200	4,097,513
2010-11	4,243,746	1.167	4,950,491
2011-12	2,484,530	1.201	2,983,193
2012-13	2,611,815	1.295	3,381,442
2013-14	3,538,939	1.417	5,014,289
2014-15	1,677,200	1.502	2,519,960
2015-16	2,349,614	1.698	3,989,170
2016-17	1,015,820	1.999	2,030,459
2017-18	965,704	2.672	2,580,704
2018-19	722,196	4.242	3,063,872
2019-20	149,567	28.277	4,229,334
Total	\$57,790,921		\$75,724,764

Notes:

- (1) Provided by Aims.
- (2) Page 47, Column (2), tempered for SIR.
- (3) (1) x (2), rounded.

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

IBNR to Case Reserves Ratio Method
Limited Self-Insured Losses Including 4850

Program Year	Limited Reported LDF (1)	Limited Paid LDF (2)	Limited IBNR to Case Reserves Ratio (3)	Limited Case Reserves (4)	Estimated IBNR as of Reserves (5)	Estimated Ultimate Losses (6)
1988-89	1.001	1.010	0.170	\$11,574	\$1,968	\$722,207
1989-90	1.002	1.012	0.197	0	0	738,579
1990-91	1.003	1.016	0.258	15,972	4,121	1,270,600
1991-92	1.004	1.015	0.366	78,499	28,731	1,522,930
1992-93	1.004	1.015	0.441	24,820	10,945	1,504,984
1993-94	1.005	1.016	0.438	12,974	5,683	1,188,003
1994-95	1.005	1.017	0.397	118,959	47,227	1,033,343
1995-96	1.005	1.019	0.338	0	0	1,079,840
1996-97	1.005	1.022	0.311	116,741	36,306	1,671,396
1997-98	1.007	1.026	0.414	160,146	66,300	1,457,950
1998-99	1.010	1.030	0.525	103,871	54,532	1,699,237
1999-00	1.011	1.034	0.477	0	0	1,600,386
2000-01	1.011	1.039	0.414	0	0	2,855,610
2001-02	1.012	1.049	0.362	105,101	38,047	2,511,105
2002-03	1.019	1.070	0.397	35,248	13,993	2,485,922
2003-04	1.035	1.125	0.444	0	0	2,163,242
2004-05	1.020	1.092	0.312	53,528	16,701	2,114,487
2005-06	1.021	1.108	0.262	139,643	36,587	1,505,885
2006-07	1.021	1.125	0.227	165,329	37,530	3,438,650
2007-08	1.022	1.145	0.205	277,664	56,921	1,850,403
2008-09	1.026	1.167	0.211	40,179	8,478	2,126,268
2009-10	1.031	1.200	0.220	254,644	56,022	3,725,747
2010-11	1.034	1.167	0.294	397,798	116,953	4,758,496
2011-12	1.040	1.201	0.298	468,018	139,470	3,092,018
2012-13	1.046	1.295	0.241	318,387	76,731	3,006,932
2013-14	1.104	1.417	0.471	331,978	156,362	4,027,279
2014-15	1.171	1.502	0.778	370,773	288,461	2,336,434
2015-16	1.222	1.698	0.795	684,187	543,929	3,577,730
2016-17	1.372	1.999	1.187	992,595	1,178,210	3,186,625
2017-18	1.612	2.672	1.542	519,011	800,314	2,285,029
2018-19	2.091	4.242	2.150	370,224	795,981	1,888,401
2019-20	9.060	28.277	11.859	174,529	2,069,740	2,393,837
Total				\$6,342,392	\$6,686,243	\$70,819,555

Notes:

- (1) Page 39, Column (2).
- (2) Page 40, Column (2).
- (3) [(1) - 1.000] x (2) / [(2) - (1)].
- (4) [Page 39, Column (1)] - [Page 40, Column (1)].
- (5) (3) x (4), rounded.
- (6) (5) + Page 39, Column (1).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Bornhuetter-Ferguson Using Reported Losses
Limited Self-Insured Losses Including 4850

Program Year	<i>A Priori</i> Ultimate Losses (1)	Cumulative Reported Loss Development Factors (2)	Percentage of Losses Not Yet Reported (3)	Expected Unreported Losses (4)	Losses Reported as of 12/31/19 (5)	Estimated Ultimate Losses (6)
1988-89	\$599,088	1.001	0.1%	\$599	\$720,239	\$720,838
1989-90	606,115	1.002	0.2%	1,212	738,579	739,791
1990-91	1,230,241	1.003	0.3%	3,691	1,266,479	1,270,170
1991-92	1,215,673	1.004	0.4%	4,863	1,494,199	1,499,062
1992-93	1,512,792	1.004	0.4%	6,051	1,494,039	1,500,090
1993-94	938,432	1.005	0.5%	4,692	1,182,320	1,187,012
1994-95	805,097	1.005	0.5%	4,025	986,116	990,141
1995-96	1,298,356	1.005	0.5%	6,492	1,079,840	1,086,332
1996-97	1,344,178	1.005	0.5%	6,721	1,635,090	1,641,811
1997-98	1,566,816	1.007	0.7%	10,968	1,391,650	1,402,618
1998-99	1,221,033	1.010	1.0%	12,210	1,644,705	1,656,915
1999-00	1,573,920	1.011	1.1%	17,313	1,600,386	1,617,699
2000-01	3,492,240	1.011	1.1%	38,415	2,855,610	2,894,025
2001-02	2,100,086	1.012	1.2%	25,201	2,473,058	2,498,259
2002-03	2,033,296	1.019	1.9%	38,633	2,471,929	2,510,562
2003-04	2,226,000	1.035	3.4%	75,684	2,163,242	2,238,926
2004-05	1,934,867	1.020	2.0%	38,697	2,097,786	2,136,483
2005-06	1,241,583	1.021	2.0%	24,832	1,469,298	1,494,130
2006-07	3,267,541	1.021	2.0%	65,351	3,401,120	3,466,471
2007-08	1,512,602	1.022	2.2%	33,277	1,793,482	1,826,759
2008-09	1,746,555	1.026	2.5%	43,664	2,117,790	2,161,454
2009-10	4,901,118	1.031	3.0%	147,034	3,669,725	3,816,759
2010-11	2,675,236	1.034	3.2%	85,608	4,641,543	4,727,151
2011-12	2,639,956	1.040	3.8%	100,318	2,952,548	3,052,866
2012-13	2,602,972	1.046	4.4%	114,531	2,930,201	3,044,732
2013-14	2,672,756	1.104	9.4%	251,239	3,870,917	4,122,156
2014-15	2,741,582	1.171	14.6%	400,271	2,047,973	2,448,244
2015-16	2,813,802	1.222	18.2%	512,112	3,033,801	3,545,913
2016-17	2,902,561	1.372	27.1%	786,594	2,008,415	2,795,009
2017-18	3,005,091	1.612	38.0%	1,141,935	1,484,715	2,626,650
2018-19	3,139,710	2.091	52.2%	1,638,929	1,092,420	2,731,349
2019-20	3,245,806	9.060	89.0%	2,888,767	324,097	3,212,864
Total	\$66,807,103			\$8,529,929	\$64,133,312	\$72,663,241

Notes:

- (1) Page 50, Column (4), or Page 45, Column (6), adjusted for SIR.
- (2) Page 39, Column (2).
- (3) $100\% - [1.000 / (2)]$.
- (4) (1) x (3).
- (5) Page 39, Column (1).
- (6) (4) + (5).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Bornhuetter-Ferguson Using Paid Losses
Limited Self-Insured Losses Including 4850

Program Year	<i>A Priori</i> Ultimate Losses (1)	Cumulative Paid Loss Development Factors (2)	Percentage of Losses Not Yet Paid (3)	Expected Unpaid Losses (4)	Losses Paid as of 12/31/19 (5)	Estimated Ultimate Losses (6)
1988-89	\$599,088	1.010	1.0%	\$5,991	\$708,666	\$714,657
1989-90	606,115	1.012	1.2%	7,273	738,579	745,852
1990-91	1,230,241	1.016	1.5%	18,454	1,250,507	1,268,961
1991-92	1,215,673	1.015	1.4%	17,019	1,415,700	1,432,719
1992-93	1,512,792	1.015	1.5%	22,692	1,469,219	1,491,911
1993-94	938,432	1.016	1.5%	14,076	1,169,346	1,183,422
1994-95	805,097	1.017	1.7%	13,687	867,157	880,844
1995-96	1,298,356	1.019	1.9%	24,669	1,079,840	1,104,509
1996-97	1,344,178	1.022	2.1%	28,228	1,518,349	1,546,577
1997-98	1,566,816	1.026	2.5%	39,170	1,231,505	1,270,675
1998-99	1,221,033	1.030	2.9%	35,410	1,540,834	1,576,244
1999-00	1,573,920	1.034	3.3%	51,939	1,600,386	1,652,325
2000-01	3,492,240	1.039	3.7%	129,213	2,855,610	2,984,823
2001-02	2,100,086	1.049	4.6%	96,604	2,367,956	2,464,560
2002-03	2,033,296	1.070	6.6%	134,198	2,436,681	2,570,879
2003-04	2,226,000	1.125	11.1%	247,086	2,163,242	2,410,328
2004-05	1,934,867	1.092	8.4%	162,529	2,044,258	2,206,787
2005-06	1,241,583	1.108	9.7%	120,434	1,329,654	1,450,088
2006-07	3,267,541	1.125	11.1%	362,697	3,235,791	3,598,488
2007-08	1,512,602	1.145	12.7%	192,100	1,515,817	1,707,917
2008-09	1,746,555	1.167	14.3%	249,757	2,077,611	2,327,368
2009-10	4,901,118	1.200	16.7%	818,487	3,415,081	4,233,568
2010-11	2,675,236	1.167	14.3%	382,559	4,243,746	4,626,305
2011-12	2,639,956	1.201	16.7%	440,873	2,484,530	2,925,403
2012-13	2,602,972	1.295	22.8%	593,478	2,611,815	3,205,293
2013-14	2,672,756	1.417	29.4%	785,790	3,538,939	4,324,729
2014-15	2,741,582	1.502	33.4%	915,689	1,677,200	2,592,889
2015-16	2,813,802	1.698	41.1%	1,156,473	2,349,614	3,506,087
2016-17	2,902,561	1.999	50.0%	1,451,281	1,015,820	2,467,101
2017-18	3,005,091	2.672	62.6%	1,881,187	965,704	2,846,891
2018-19	3,139,710	4.242	76.4%	2,398,739	722,196	3,120,935
2019-20	3,245,806	28.277	96.5%	3,132,203	149,567	3,281,770
Total	\$66,807,103			\$15,929,985	\$57,790,921	\$73,720,906

Notes:

- (1) Page 42, Column (1).
- (2) Page 40, Column (2).
- (3) $100\% - [1.000 / (2)]$.
- (4) $(1) \times (3)$.
- (5) Page 40, Column (2).
- (6) $(4) + (5)$.

**Monterey Bay Area Self Insurance Authority
Workers' Compensation Program**

**Actuarial Analysis of the
Workers' Compensation Program**

Gross Loss Exhibits

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Selected Ultimate Losses
Unlimited Losses Including 4850/TD

Program Year	Reported Projection (1)	Paid Projection (2)	IBNR to Case Reserves Ratio (3)	B-F Method Using Reported (4)	Frequency Times Severity (5)	Selected Ultimate Losses (6)
1988-89	\$723,081	\$724,435	\$722,785			\$740,000
1989-90	755,177	771,482	751,039			757,000
1990-91	1,478,096	1,400,142	1,503,948			1,500,000
1991-92	1,537,961	1,463,849	1,575,675			1,560,000
1992-93	1,966,820	1,851,953	2,040,267			1,970,000
1993-94	1,198,746	1,211,824	1,190,649			1,210,000
1994-95	999,883	901,800	1,052,614			1,030,000
1995-96	1,616,029	1,286,401	1,764,893			1,700,000
1996-97	1,787,153	1,730,226	1,810,627			1,800,000
1997-98	2,141,669	1,506,578	2,500,746			2,150,000
1998-99	1,704,492	1,662,379	1,735,330			1,720,000
1999-00	2,305,982	2,413,620	2,235,976			2,278,000
2000-01	5,180,325	5,267,738	5,132,254			5,200,000
2001-02	2,881,099	2,635,574	2,998,834			2,940,000
2002-03	2,555,550	2,709,165	2,488,919			2,560,000
2003-04	2,239,642	2,433,339	2,163,242			2,226,000
2004-05	2,376,382	2,329,933	2,391,964			2,390,000
2005-06	1,520,300	1,541,568	1,514,403			1,520,000
2006-07	4,026,295	4,151,165	3,996,442			4,020,000
2007-08	1,857,505	1,825,697	1,864,286			1,870,000
2008-09	2,203,908	2,554,522	2,128,438			2,170,000
2009-10	6,005,252	6,418,891	5,914,055			6,120,000
2010-11	7,424,764	7,067,092	7,536,372	\$7,191,628	\$6,276,969	7,400,000
2011-12	3,406,108	3,551,217	3,362,599	3,457,956	5,342,464	3,500,000
2012-13	4,438,473	4,442,369	4,437,850	4,407,521	4,580,364	4,500,000
2013-14	12,737,521	6,322,097	15,226,057	11,622,158	5,007,661	11,700,000
2014-15	3,599,186	3,004,530	3,947,731	3,746,452	2,845,611	3,700,000
2015-16	5,687,257	4,819,236	6,170,903	5,401,014	5,028,241	5,600,000
2016-17	3,314,275	2,243,577	4,055,543	3,777,172	4,160,503	3,600,000
2017-18	2,678,061	2,749,259	2,631,272	3,643,046	3,980,769	3,200,000
2018-19	2,491,826	3,364,667	2,021,682	4,044,050	6,930,000	3,800,000
2019-20	3,170,223	4,473,941	2,601,527	5,275,728	6,364,800	5,300,000
Total	\$98,009,041	\$90,830,266	\$101,468,921			\$101,731,000
10/11-19/20	\$48,947,694	\$42,037,985	\$51,991,536	\$52,566,725	\$50,517,382	\$52,300,000

(1) Page 46, Column (3).

(2) Page 47, Column (3).

(3) Page 48, Column (6).

(4) Page 49, Column (6).

(5) Page 53, Column (4).

(6) Selected on the basis of (1) - (5).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Reported Loss Development
Unlimited Losses Including 4850/TD

Program Year	Cumulative Reported Losses as of 12/31/19 (1)	Reported Development Factor as of 12/31/19 (2)	Projected Ultimate Losses (3)
1988-89	\$720,239	1.004	\$723,081
1989-90	751,039	1.006	755,177
1990-91	1,466,527	1.008	1,478,096
1991-92	1,520,533	1.011	1,537,961
1992-93	1,939,934	1.014	1,966,820
1993-94	1,182,320	1.014	1,198,746
1994-95	986,116	1.014	999,883
1995-96	1,593,620	1.014	1,616,029
1996-97	1,759,961	1.015	1,787,153
1997-98	2,092,717	1.023	2,141,669
1998-99	1,653,791	1.031	1,704,492
1999-00	2,235,976	1.031	2,305,982
2000-01	5,021,784	1.032	5,180,325
2001-02	2,791,861	1.032	2,881,099
2002-03	2,471,929	1.034	2,555,550
2003-04	2,163,242	1.035	2,239,642
2004-05	2,295,854	1.035	2,376,382
2005-06	1,469,298	1.035	1,520,300
2006-07	3,892,027	1.034	4,026,295
2007-08	1,793,482	1.036	1,857,505
2008-09	2,117,790	1.041	2,203,908
2009-10	5,728,477	1.048	6,005,252
2010-11	6,905,754	1.075	7,424,764
2011-12	3,136,792	1.086	3,406,108
2012-13	4,108,246	1.080	4,438,473
2013-14	11,077,242	1.150	12,737,521
2014-15	2,886,815	1.247	3,599,186
2015-16	4,321,178	1.316	5,687,257
2016-17	2,217,767	1.494	3,314,275
2017-18	1,543,826	1.735	2,678,061
2018-19	1,092,420	2.281	2,491,826
2019-20	324,097	9.782	3,170,223
Total	\$85,262,653		\$98,009,041

Notes:

- (1) Provided by Aims.
- (2) Estimated by BAC.
- (3) (1) x (2), rounded.

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Paid Loss Projection
Unlimited Losses Including 4850/TD

Program Year	Cumulative Paid Losses as of 12/31/19 <u>(1)</u>	Paid Development Factor as of 12/31/19 <u>(2)</u>	Projected Ultimate Losses <u>(3)</u>
1988-89	\$708,666	1.022	\$724,435
1989-90	751,039	1.027	771,482
1990-91	1,357,108	1.032	1,400,142
1991-92	1,415,700	1.034	1,463,849
1992-93	1,788,373	1.036	1,851,953
1993-94	1,169,346	1.036	1,211,824
1994-95	867,157	1.040	901,800
1995-96	1,230,753	1.045	1,286,401
1996-97	1,643,220	1.053	1,730,226
1997-98	1,414,929	1.065	1,506,578
1998-99	1,549,920	1.073	1,662,379
1999-00	2,235,976	1.079	2,413,620
2000-01	4,837,360	1.089	5,267,738
2001-02	2,399,124	1.099	2,635,574
2002-03	2,436,681	1.112	2,709,165
2003-04	2,163,242	1.125	2,433,339
2004-05	2,044,258	1.140	2,329,933
2005-06	1,329,654	1.159	1,541,568
2006-07	3,519,115	1.180	4,151,165
2007-08	1,515,817	1.204	1,825,697
2008-09	2,077,611	1.230	2,554,522
2009-10	5,065,700	1.267	6,418,891
2010-11	5,363,900	1.318	7,067,092
2011-12	2,588,718	1.372	3,551,217
2012-13	3,075,003	1.445	4,442,369
2013-14	4,116,143	1.536	6,322,097
2014-15	1,800,923	1.668	3,004,530
2015-16	2,557,856	1.884	4,819,236
2016-17	1,015,820	2.209	2,243,577
2017-18	965,704	2.847	2,749,259
2018-19	722,196	4.659	3,364,667
2019-20	149,567	29.913	4,473,941
Total	\$65,876,580		\$90,830,266

Notes:

- (1) Provided by Aims.
- (2) Estimated by BAC.
- (3) (1) x (2), rounded.

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

IBNR to Case Reserves Ratio Method
Unlimited Losses Including 4850/TD

Program Year	Reported Development Factor as of 12/31/19 (1)	Paid Development Factor as of 12/31/19 (2)	IBNR to Case Reserves Ratio (3)	Case Reserves 12/31/19 (4)	Estimated IBNR Losses as of 12/31/19 (5)	Estimated Ultimate Losses (6)
1988-89	1.004	1.022	0.220	\$11,574	\$2,546	\$722,785
1989-90	1.006	1.027	0.261	0	0	751,039
1990-91	1.008	1.032	0.342	109,419	37,421	1,503,948
1991-92	1.011	1.034	0.526	104,833	55,142	1,575,675
1992-93	1.014	1.036	0.662	151,561	100,333	2,040,267
1993-94	1.014	1.036	0.642	12,974	8,329	1,190,649
1994-95	1.014	1.040	0.559	118,959	66,498	1,052,614
1995-96	1.014	1.045	0.472	362,867	171,273	1,764,893
1996-97	1.015	1.053	0.434	116,741	50,666	1,810,627
1997-98	1.023	1.065	0.602	677,789	408,029	2,500,746
1998-99	1.031	1.073	0.785	103,871	81,539	1,735,330
1999-00	1.031	1.079	0.702	0	0	2,235,976
2000-01	1.032	1.089	0.599	184,424	110,470	5,132,254
2001-02	1.032	1.099	0.527	392,738	206,973	2,998,834
2002-03	1.034	1.112	0.482	35,248	16,990	2,488,919
2003-04	1.035	1.125	0.444	0	0	2,163,242
2004-05	1.035	1.140	0.382	251,596	96,110	2,391,964
2005-06	1.035	1.159	0.323	139,643	45,105	1,514,403
2006-07	1.034	1.180	0.280	372,912	104,415	3,996,442
2007-08	1.036	1.204	0.255	277,664	70,804	1,864,286
2008-09	1.041	1.230	0.265	40,179	10,648	2,128,438
2009-10	1.048	1.267	0.280	662,777	185,578	5,914,055
2010-11	1.075	1.318	0.409	1,541,854	630,618	7,536,372
2011-12	1.086	1.372	0.412	548,075	225,807	3,362,599
2012-13	1.080	1.445	0.319	1,033,243	329,604	4,437,850
2013-14	1.150	1.536	0.596	6,961,099	4,148,815	15,226,057
2014-15	1.247	1.668	0.977	1,085,891	1,060,916	3,947,731
2015-16	1.316	1.884	1.049	1,763,322	1,849,725	6,170,903
2016-17	1.494	2.209	1.529	1,201,947	1,837,776	4,055,543
2017-18	1.735	2.847	1.881	578,121	1,087,446	2,631,272
2018-19	2.281	4.659	2.510	370,224	929,262	2,021,682
2019-20	9.782	29.913	13.049	174,529	2,277,430	2,601,527
Total				\$19,386,073	\$16,206,268	\$101,468,921

Notes:

- (1) Page 46, Column (2).
- (2) Page 47, Column (2).
- (3) $[(1) - 1.000] \times (2) / [(2) - (1)]$.
- (4) Page 46, Column (1) - Page 47, Column (1).
- (5) (3) x (4), rounded.
- (6) (5) + Page 46, Column (1).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Bornhuetter-Ferguson Using Reported Losses
Unlimited Losses Including 4850/TD

Program Year	<i>A Priori</i> Ultimate Losses (1)	Cumulative Reported Loss Development Factors (2)	Percentage of Losses Not Yet Reported (3)	Expected Unreported Losses (4)	Losses Reported as of 12/31/19 (5)	Estimated Ultimate Losses (6)
2010-11	\$4,083,910	1.075	7.0%	\$285,874	\$6,905,754	\$7,191,628
2011-12	4,065,367	1.086	7.9%	321,164	3,136,792	3,457,956
2012-13	4,044,260	1.080	7.4%	299,275	4,108,246	4,407,521
2013-14	4,191,659	1.150	13.0%	544,916	11,077,242	11,622,158
2014-15	4,341,601	1.247	19.8%	859,637	2,886,815	3,746,452
2015-16	4,499,318	1.316	24.0%	1,079,836	4,321,178	5,401,014
2016-17	4,711,192	1.494	33.1%	1,559,405	2,217,767	3,777,172
2017-18	4,950,991	1.735	42.4%	2,099,220	1,543,826	3,643,046
2018-19	5,252,011	2.281	56.2%	2,951,630	1,092,420	4,044,050
2019-20	5,514,066	9.782	89.8%	4,951,631	324,097	5,275,728
	\$45,654,375			\$14,952,588	\$37,614,137	\$52,566,725

Notes:

- (1) Page 50, Column (4).
- (2) Page 46, Column (2).
- (3) $100\% - [1.000 / (2)]$.
- (4) $(1) \times (3)$.
- (5) Page 46, Column (1).
- (6) $(4) + (5)$.

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

A Priori Losses for Bornhuetter-Ferguson
Unlimited Losses Including 4850/TD

Program Year	<i>A Priori</i> Loss Rate (1)	Factor to Remove Trend (2)	Trended Payroll (\$00's) (3)	<i>A Priori</i> Ultimate Losses (4)
2010-11	\$8.81	0.762	\$608,339	\$4,083,910
2011-12	8.81	0.782	590,088	4,065,367
2012-13	8.81	0.802	572,386	4,044,260
2013-14	8.81	0.823	578,110	4,191,659
2014-15	8.81	0.844	583,891	4,341,601
2015-16	8.81	0.866	589,730	4,499,318
2016-17	8.81	0.889	601,524	4,711,192
2017-18	8.81	0.925	607,539	4,950,991
2018-19	8.81	0.962	619,690	5,252,011
2019-20	8.81	1.000	625,887	5,514,066
Total			\$5,977,183	\$45,654,375

Notes:

- (1) Page 51, Item (5).
- (2) Estimated by BAC.
- (3) Page 73, Column (3).
- (4) (1) x (2) x (3).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

A Priori Loss Rate for Bornhuetter-Ferguson Method
Unlimited Losses Including 4850/TD

Program Year	<i>A Priori</i> Ultimate Losses (1)	Estimated Pure Premium Trend (2)	Trended Payroll (\$00's) (3)	Constant Dollar Loss Rate (4)
2005-06	\$1,530,330	1.388	\$627,535	\$3.38
2006-07	4,084,638	1.454	633,810	9.37
2007-08	1,842,799	1.417	640,148	4.08
2008-09	2,364,630	1.381	646,550	5.05
2009-10	6,192,527	1.346	627,153	13.29
2010-11	7,264,044	1.312	608,339	15.67
2011-12	3,470,221	1.279	590,088	7.52
2012-13	4,440,140	1.247	572,386	9.67
2013-14	11,077,242	1.215	578,110	23.28
2014-15	3,344,856	1.184	583,891	6.78
2015-16	5,330,272	1.154	589,730	10.43
2016-17	2,882,180	1.125	601,524	5.39
2017-18	2,705,018	1.082	607,539	4.82
2018-19	2,778,711	1.040	619,690	4.66
2019-20	3,491,494	1.000	625,887	5.58
Total	\$62,799,102		\$9,152,379	\$8.60
05/06-18/19	\$43,292,684		\$5,351,296	\$8.81
			(5) Selected A Priori 2019-20 Loss Rate:	\$8.81

Notes:

- (1) Page 52, Column (3).
- (2) Estimated by BAC.
- (3) Page 73, Column (3).
- (4) $(1) \times (2) / (3)$.
- (5) Selected on the basis of (4).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

A Priori Ultimate losses
Unlimited Losses Including 4850/TD

Program Year	Reported Loss Projection (1)	Paid Loss Projection (2)	<i>A Priori</i> Selection (3)
1988-89	\$723,081	\$724,435	\$723,752
1989-90	755,177	771,482	763,243
1990-91	1,478,096	1,400,142	1,466,527
1991-92	1,537,961	1,463,849	1,520,533
1992-93	1,966,820	1,851,953	1,939,934
1993-94	1,198,746	1,211,824	1,205,213
1994-95	999,883	901,800	986,116
1995-96	1,616,029	1,286,401	1,593,620
1996-97	1,787,153	1,730,226	1,759,961
1997-98	2,141,669	1,506,578	2,092,717
1998-99	1,704,492	1,662,379	1,683,855
1999-00	2,305,982	2,413,620	2,358,573
2000-01	5,180,325	5,267,738	5,222,849
2001-02	2,881,099	2,635,574	2,791,861
2002-03	2,555,550	2,709,165	2,629,565
2003-04	2,239,642	2,433,339	2,332,476
2004-05	2,376,382	2,329,933	2,354,275
2005-06	1,520,300	1,541,568	1,530,330
2006-07	4,026,295	4,151,165	4,084,638
2007-08	1,857,505	1,825,697	1,842,799
2008-09	2,203,908	2,554,522	2,364,630
2009-10	6,005,252	6,418,891	6,192,527
2010-11	7,424,764	7,067,092	7,264,044
2011-12	3,406,108	3,551,217	3,470,221
2012-13	4,438,473	4,442,369	4,440,140
2013-14	12,737,521	6,322,097	11,077,242
2014-15	3,599,186	3,004,530	3,344,856
2015-16	5,687,257	4,819,236	5,330,272
2016-17	3,314,275	2,243,577	2,882,180
2017-18	2,678,061	2,749,259	2,705,018
2018-19	2,491,826	3,364,667	2,778,711
2019-20	3,170,223	4,473,941	3,491,494
Total	\$98,009,041	\$90,830,266	\$96,224,172

Notes:

- (1) Page 46, Column (3).
- (2) Page 47, Column (3).
- (3) Selected on the basis of (1) and (2).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Frequency Times Severity Method

Program Year	Selected Claim Severity (1)	Factor to Remove Trend (2)	Selected Ultimate Claims (3)	Estimated Ultimate Losses (4)
2010-11	\$93,600	0.762	88	\$6,276,969
2011-12	93,600	0.782	73	5,342,464
2012-13	93,600	0.802	61	4,580,364
2013-14	93,600	0.823	65	5,007,661
2014-15	93,600	0.844	36	2,845,611
2015-16	93,600	0.866	62	5,028,241
2016-17	93,600	0.889	50	4,160,503
2017-18	93,600	0.925	46	3,980,769
2018-19	93,600	0.962	77	6,930,000
2019-20	93,600	1.000	68	6,364,800
Total				\$50,517,382

Notes:

- (1) Page 54, Item (5).
- (2) Estimated by BAC.
- (3) Page 55, Column (3).
- (4) (1) x (2) x (3).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Calculation of Expected Claim Severity
Frequency Times Severity Method
Unlimited Losses Including 4850/TD

Program Year	<i>A Priori</i> Ultimate Losses (1)	Estimated Severity Trend (2)	Selected Claim Count (3)	Trended Claim Severity (4)
2008-09	\$2,364,630	1.381	80	\$40,830
2009-10	6,192,527	1.346	57	146,269
2010-11	7,264,044	1.312	88	108,319
2011-12	3,470,221	1.279	73	60,798
2012-13	4,440,140	1.247	61	90,735
2013-14	11,077,242	1.215	65	207,049
2014-15	3,344,856	1.184	36	110,022
2015-16	5,330,272	1.154	62	99,222
2016-17	2,882,180	1.125	50	64,841
2017-18	2,705,018	1.082	46	63,603
2018-19	2,778,711	1.040	77	37,531
2019-20	3,491,494	1.000	68	51,346
Total	\$55,341,335		763	\$90,047
08/09-18/19	\$51,849,841		695	\$93,600
			(5) Selected Severity:	\$93,600

Notes:

- (1) Page 52, Column (3).
- (2) Estimated by BAC.
- (3) Page 55, Column (3).
- (4) $(1) \times (2) / (3)$.
- (5) Selected on the basis of (4).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Selected Claim Counts

Program Year	Reported Claim Count Projection <u>(1)</u>	Bornhuetter- Ferguson Method <u>(2)</u>	Selected Claim Count <u>(3)</u>
1988-89	22		22
1989-90	40		40
1990-91	49		49
1991-92	46		46
1992-93	37		37
1993-94	50		50
1994-95	45		45
1995-96	45		45
1996-97	54		54
1997-98	61		61
1998-99	55		55
1999-00	51		51
2000-01	63		63
2001-02	71		71
2002-03	75		75
2003-04	74		74
2004-05	68		68
2005-06	54		54
2006-07	76		76
2007-08	59		59
2008-09	80		80
2009-10	57		57
2010-11	88		88
2011-12	73		73
2012-13	61		61
2013-14	65		65
2014-15	36		36
2015-16	62		62
2016-17	50		50
2017-18	46		46
2018-19	77		77
2019-20	72	68	68
Total	1,862		1,858

Notes:

- (1) Page 56, Column (3).
- (2) Page 57, Column (6).
- (3) Selected on the basis of (1) and (2).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Projection of Ultimate # of Indemnity Claims

Program Year	Total Indemnity Claims Reported 12/31/19 (1)	Development Factors as of 12/31/19 (2)	Projected Ultimate Indemnity Claims (3)
1988-89	22	1.000	22
1989-90	40	1.000	40
1990-91	49	1.000	49
1991-92	46	1.000	46
1992-93	37	1.000	37
1993-94	50	1.000	50
1994-95	45	1.000	45
1995-96	45	1.000	45
1996-97	54	1.000	54
1997-98	61	1.000	61
1998-99	55	1.000	55
1999-00	51	1.000	51
2000-01	63	1.000	63
2001-02	71	1.000	71
2002-03	75	1.000	75
2003-04	74	1.000	74
2004-05	68	1.000	68
2005-06	54	1.000	54
2006-07	76	1.000	76
2007-08	59	1.000	59
2008-09	80	1.000	80
2009-10	57	1.000	57
2010-11	88	1.000	88
2011-12	73	1.000	73
2012-13	61	1.000	61
2013-14	65	1.004	65
2014-15	36	1.012	36
2015-16	61	1.018	62
2016-17	49	1.029	50
2017-18	44	1.043	46
2018-19	70	1.098	77
2019-20	26	2.780	72
Total	1,805		1,862

Notes:

- (1) Provided by Aims.
- (2) Estimated by BAC.
- (3) (1) x (2), rounded.

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Projection of Ultimate # of Indemnity Claims
Bornhuetter-Ferguson Method

Program Year	A Priori Claim Count (1)	Claim Development Factor (2)	Estimated Percentage of Claims Unreported (3)	Estimated Unreported Claims (4)	Reported Claims as of 12/31/19 (5)	Projected Ultimate Claims (6)
2019-20	66	2.780	64.0%	42	26	68

Notes:

- (1) Page 58, Item (6).
- (2) Page 56, Column (2).
- (3) $100\% - [1.000 / (2)]$.
- (4) $(1) \times (3)$.
- (5) Page 56, Column (1).
- (6) $(4) + (5)$.

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Calculation of Expected Claim Counts
A Priori Claim Count

Program Year	Projected Ultimate Claim Counts <u>(1)</u>	Trended Payroll (\$Millions) <u>(2)</u>	Indicated Claim Frequency <u>(3)</u>
2010-11	88	\$60.8	1.45
2011-12	73	59.0	1.24
2012-13	61	57.2	1.07
2013-14	65	57.8	1.12
2013-14	65	57.8	1.12
2014-15	36	58.4	0.62
2015-16	62	59.0	1.05
2016-17	50	60.2	0.83
2017-18	46	60.8	0.76
2018-19	77	62.0	1.24
2019-20	72	62.6	1.15
Total	695	\$655.5	1.06
10/11-18/19	623	\$592.9	1.05
	(4) Selected Claim Frequency:		1.05
	(5) 2019-20 Trended Payroll (\$Millions):		\$62.6
	(6) 2019-20 A Priori Claim Count:		66

Notes:

- (1) Page 56, Column (3).
- (2) Page 73, Column (3) / 10,000.
- (3) (1) / (2).
- (4) Selected on the basis of (3).
- (5) Page 73, Column (3) / 10,000.
- (6) (4) x (5).

**Monterey Bay Area Self Insurance Authority
Workers' Compensation Program**

**Actuarial Analysis of the
Workers' Compensation Program**

Future Loss Exhibits

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Projected Ultimate Unlimited Loss Rate for 2020-21
Unlimited Losses Including 4850/TD

Program Year	2019-20 Level Loss Rate (1)	Expected Increase for 2020-21 (2)	Trended Payroll (\$00's) (3)	Projected Ultimate Losses (4)	Projected 2020-21 Unlimited Loss Rate (5)
2020-21	\$10.07	1.040	\$632,146	6,620,339	\$9.98
			(6) Projected 4850 :	\$130,000	
			(7) Projected TD :	\$370,000	
	<u>Full Rate</u>	<u>Excluding 4850 Only</u>	<u>Excluding TD Only</u>	<u>Excluding 4850 & TD</u>	
Unlimited	\$9.98	\$9.78	\$9.42	\$9.23	
\$1M Limit:	\$8.88	\$8.68	\$8.32	\$8.12	
\$750K Limit:	\$8.47	\$8.28	\$7.92	\$7.72	
\$500K Limit:	\$7.72	\$7.53	\$7.17	\$6.97	
\$350K Limit:	\$6.94	\$6.75	\$6.39	\$6.19	
\$250K Limit:	\$6.12	\$5.92	\$5.56	\$5.36	

Notes:

- (1) Page 61, Item (11).
- (2) 4.0% Expected Increase Estimated by BAC.
- (3) Page 73, Column (2).
- (4) (1) x (2) x (3), rounded.
- (5) (4) / [Page 73, Column (2)], rounded.
- (6) Page 27, Item (4).
- (7) Page 28, Item (4).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Unlimited Losses Including 4850/TD

Projected Future Loss Rate

Program Year	Estimated Ultimate Losses (1)	Pure Premium Trend (2)	Trended Payroll (\$00's) (3)	Trended Loss Rate (4)
2007-08	\$1,870,000	1.417	\$640,148	\$4.14
2008-09	2,170,000	1.381	646,550	4.64
2009-10	6,120,000	1.346	627,153	13.14
2010-11	7,400,000	1.312	608,339	15.96
2011-12	3,500,000	1.279	590,088	7.59
2012-13	4,500,000	1.247	572,386	9.80
2013-14	11,700,000	1.215	578,110	24.59
2014-15	3,700,000	1.184	583,891	7.50
2015-16	5,600,000	1.154	589,730	10.96
2016-17	3,600,000	1.125	601,524	6.73
2017-18	3,200,000	1.082	607,539	5.70
2018-19	3,800,000	1.040	619,690	6.38
Total	\$53,120,000		\$5,978,450	\$9.76

(5) Selected Loss Rate: \$10.07

Program Year	Largest Claim (6)	Severity Trend (7)	LDF (8)	Trended Developed Max Claim (9)
2007-08	\$437,190	1.417	1.036	\$641,750
2008-09	430,181	1.381	1.041	618,405
2009-10	2,539,315	1.346	1.048	3,584,005
2010-11	1,634,746	1.312	1.075	2,306,377
2011-12	354,188	1.279	1.086	491,885
2012-13	749,833	1.247	1.080	1,009,829
2013-14	5,573,067	1.215	1.150	7,785,775
2014-15	722,929	1.184	1.247	1,067,294
2015-16	698,911	1.154	1.316	1,061,632
2016-17	393,814	1.125	1.494	662,008

(10) Factor for Unlimited Retention: 1.000

(11) Unlimited 2019-20 Rate: **\$10.07**

Notes:

- (1) Page 45, Column (6).
- (2) Page 51, Column (2).
- (3) Page 73, Column (3).
- (4) (1) x (2) / (3).
- (5) Based on Column (4).
- (6) Provided by Aims.
- (7) Page 54, Column (2). Indexed to 2019-20.
- (8) Page 46, Column (2).
- (9) (6) x (7) x (8).
- (10) Estimated by BAC.
- (11) (5) x (10).

**Monterey Bay Area Self Insurance Authority
Workers' Compensation Program**

**Actuarial Analysis of the
Workers' Compensation Program**

Discounting Exhibits

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Discounted Value of Unpaid Losses as of June 30, 2020
Assuming a 1.0% Interest Rate

Limited Self-Insured Losses Excluding 4850

Program Year	Projected Unpaid Losses (1)	Discount Factor (2)	Discounted Unpaid Losses (3)
1988-89	\$19,799	0.967	\$19,142
1989-90	15,371	0.962	14,792
1990-91	27,793	0.958	26,622
1991-92	89,333	0.953	85,177
1992-93	38,797	0.949	36,824
1993-94	19,717	0.945	18,630
1994-95	136,759	0.941	128,648
1995-96	15,509	0.937	14,525
1996-97	126,606	0.933	118,067
1997-98	185,680	0.929	172,426
1998-99	130,401	0.929	121,090
1999-00	34,359	0.928	31,898
2000-01	39,831	0.928	36,963
2001-02	133,624	0.927	123,936
2002-03	97,296	0.927	90,185
2003-04	59,155	0.926	54,793
2004-05	109,189	0.926	101,062
2005-06	160,826	0.925	148,739
2006-07	259,069	0.924	239,406
2007-08	304,025	0.923	280,721
2008-09	85,209	0.924	78,707
2009-10	536,046	0.926	496,485
2010-11	510,344	0.929	474,166
2011-12	537,295	0.931	500,450
2012-13	437,622	0.939	410,825
2013-14	681,342	0.942	641,755
2014-15	740,228	0.945	699,190
2015-16	1,134,763	0.946	1,073,511
2016-17	1,591,202	0.947	1,506,378
2017-18	1,578,153	0.949	1,497,427
2018-19	1,917,609	0.949	1,819,545
2019-20	2,807,302	0.952	2,671,654
Total	\$14,560,253		\$13,733,739

(4) Indicated Discount Factor: 0.943

Notes:

- (1) Page 25, Column (6).
- (2) (3) / (1).
- (3) Based upon a 1.0% interest rate.
- (4) [Sum of Column (3)] / [Sum of Column (1)].

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Discounted Value of 2020-21 Losses as of July 1, 2020
Assuming a 1.0% Interest rate

Unlimited Losses Including 4850/TD

Fiscal Year	Projected Loss Payments (1)	Discount Factor (2)	Discounted Value of Payments (3)
2020-21	\$804,341	0.995	\$800,349
2021-22	1,141,070	0.985	1,124,166
2022-23	772,196	0.975	753,224
2023-24	593,256	0.966	572,951
2024-25	453,004	0.956	433,168
2025-26	402,641	0.947	381,198
2026-27	284,563	0.937	266,741
2027-28	260,477	0.928	241,746
2028-29	226,966	0.919	208,559
2029-30	198,868	0.910	180,931
2030-31	178,749	0.901	161,016
2031-32	145,647	0.892	129,899
2032-33	99,880	0.883	88,199
2033-34	78,869	0.874	68,955
2034-35	74,223	0.866	64,251
2035-36	69,851	0.857	59,868
2036-37	65,737	0.849	55,784
2037-38	61,865	0.840	51,978
2038-39	58,221	0.832	48,432
2039-40	54,792	0.824	45,128
2040-41	51,565	0.815	42,050
2041-42	48,527	0.807	39,181
2042-43	45,669	0.799	36,508
2043-44	42,979	0.791	34,018
2044-45	40,448	0.784	31,697
45-46 to 52-53	365,935	0.735	269,120
Total	\$6,620,342		\$6,189,117

(4) Indicated Discount Factor: 0.935

Notes:

- (1) Based upon the observed payment pattern.
- (2) Based upon a 1.0% interest rate.
- (3) (1) x (2).
- (4) [Sum of Column (3)] / [Sum of Column (1)].

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Discounted Value of 2020-21 Losses as of July 1, 2020
Assuming a 1.0% Interest rate

\$1 Million SIR
Limited Self-Insured Losses Including 4850

Fiscal Year	Projected Loss Payments (1)	Discount Factor (2)	Discounted Value of Payments (3)
2020-21	\$716,256	0.995	\$712,701
2021-22	1,065,027	0.985	1,049,249
2022-23	635,601	0.975	619,984
2023-24	559,211	0.966	540,071
2024-25	371,323	0.956	355,063
2025-26	314,762	0.947	297,999
2026-27	282,612	0.937	264,912
2027-28	247,578	0.928	229,775
2028-29	217,554	0.919	199,910
2029-30	206,071	0.910	187,484
2030-31	170,745	0.901	153,806
2031-32	141,306	0.892	126,027
2032-33	121,551	0.883	107,335
2033-34	74,618	0.874	65,239
2034-35	69,103	0.866	59,819
2035-36	63,940	0.857	54,802
2036-37	59,116	0.849	50,165
2037-38	54,614	0.840	45,886
2038-39	50,420	0.832	41,942
2039-40	46,515	0.824	38,311
2040-41	42,885	0.815	34,972
2041-42	28,920	0.807	23,350
2042-43	27,664	0.799	22,115
2043-44	26,492	0.791	20,968
2044-45	25,396	0.784	19,902
45-46 to 52-53	268,470	0.731	196,133
Total	\$5,887,751		\$5,517,920

(4) Indicated Discount Factor: 0.937

Notes:

- (1) Based upon the observed payment pattern.
- (2) Based upon a 1.0% interest rate.
- (3) (1) x (2).
- (4) [Sum of Column (3)] / [Sum of Column (1)].

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Discounted Value of 2020-21 Losses as of July 1, 2020
Assuming a 1.0% Interest rate

\$500,000 SIR

Limited Self-Insured Losses Including 4850

Fiscal Year	Projected Loss Payments (1)	Discount Factor (2)	Discounted Value of Payments (3)
2020-21	\$627,358	0.995	\$624,245
2021-22	928,804	0.985	915,044
2022-23	553,700	0.975	540,096
2023-24	533,765	0.966	515,496
2024-25	328,649	0.956	314,258
2025-26	321,093	0.947	303,992
2026-27	257,796	0.937	241,650
2027-28	230,595	0.928	214,013
2028-29	204,973	0.919	188,350
2029-30	179,352	0.910	163,175
2030-31	163,648	0.901	147,413
2031-32	107,964	0.892	96,291
2032-33	75,576	0.883	66,737
2033-34	60,079	0.874	52,527
2034-35	54,978	0.866	47,591
2035-36	50,259	0.857	43,076
2036-37	45,903	0.849	38,953
2037-38	41,889	0.840	35,194
2038-39	38,193	0.832	31,772
2039-40	34,797	0.824	28,660
2040-41	31,679	0.815	25,833
2041-42	28,819	0.807	23,269
2042-43	26,198	0.799	20,943
2043-44	15,097	0.791	11,949
2044-45	14,616	0.784	11,454
45-46 to 52-53	168,558	0.731	123,199
Total	\$5,124,337		\$4,825,180

(4) Indicated Discount Factor: 0.942

Notes:

- (1) Based upon the observed payment pattern.
- (2) Based upon a 1.0% interest rate.
- (3) (1) x (2).
- (4) [Sum of Column (3)] / [Sum of Column (1)].

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Discounted Value of 2020-21 Losses as of July 1, 2020
Assuming a 1.0% Interest rate

\$350,000 SIR

Limited Self-Insured Losses Including 4850

Fiscal Year	Projected Loss Payments (1)	Discount Factor (2)	Discounted Value of Payments (3)
2020-21	\$570,752	0.995	\$567,919
2021-22	847,018	0.985	834,470
2022-23	506,436	0.975	493,993
2023-24	499,186	0.966	482,100
2024-25	338,990	0.956	324,146
2025-26	295,292	0.947	279,565
2026-27	258,414	0.937	242,230
2027-28	230,284	0.928	213,724
2028-29	209,314	0.919	192,339
2029-30	126,924	0.910	115,476
2030-31	109,638	0.901	98,761
2031-32	87,270	0.892	77,834
2032-33	60,938	0.883	53,811
2033-34	48,272	0.874	42,204
2034-35	43,834	0.866	37,945
2035-36	39,770	0.857	34,086
2036-37	36,052	0.849	30,594
2037-38	32,657	0.840	27,438
2038-39	29,560	0.832	24,590
2039-40	26,739	0.824	22,023
2040-41	24,170	0.815	19,710
2041-42	21,833	0.807	17,628
2042-43	19,709	0.799	15,755
2043-44	10,373	0.791	8,211
2044-45	10,099	0.784	7,914
45-46 to 52-53	122,155	0.730	89,180
Total	\$4,605,678		\$4,353,646

(4) Indicated Discount Factor: 0.945

Notes:

- (1) Based upon the observed payment pattern.
- (2) Based upon a 1.0% interest rate.
- (3) (1) x (2).
- (4) [Sum of Column (3)] / [Sum of Column (1)].

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Discounted Value of 2020-21 Losses as of July 1, 2020
Assuming a 1.0% Interest rate

\$250,000 SIR
Limited Self-Insured Losses Including 4850

Fiscal Year	Projected Loss Payments (1)	Discount Factor (2)	Discounted Value of Payments (3)
2020-21	\$518,852	0.995	\$516,277
2021-22	777,942	0.985	766,417
2022-23	467,412	0.975	455,928
2023-24	458,234	0.966	442,551
2024-25	315,601	0.956	301,781
2025-26	274,787	0.947	260,153
2026-27	239,037	0.937	224,066
2027-28	190,742	0.928	177,025
2028-29	185,511	0.919	170,466
2029-30	96,585	0.910	87,874
2030-31	82,654	0.901	74,454
2031-32	65,270	0.892	58,212
2032-33	45,270	0.883	39,976
2033-34	35,696	0.874	31,209
2034-35	32,316	0.866	27,974
2035-36	29,242	0.857	25,062
2036-37	26,448	0.849	22,443
2037-38	23,910	0.840	20,089
2038-39	21,607	0.832	17,974
2039-40	19,517	0.824	16,074
2040-41	17,621	0.815	14,370
2041-42	15,903	0.807	12,840
2042-43	14,345	0.799	11,468
2043-44	7,668	0.791	6,069
2044-45	7,449	0.784	5,838
45-46 to 52-53	88,716	0.730	64,791
Total	\$4,058,332		\$3,851,381

(4) Indicated Discount Factor: 0.949

Notes:

- (1) Based upon the observed payment pattern.
- (2) Based upon a 1.0% interest rate.
- (3) (1) x (2).
- (4) [Sum of Column (3)] / [Sum of Column (1)].

**Monterey Bay Area Self Insurance Authority
Workers' Compensation Program**

**Actuarial Analysis of the
Workers' Compensation Program**

Claims Data Exhibits

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Cumulative Reported Losses (\$000's) as of December 31, 2019 - Unlimited

Program Year	<u>Months of Development</u>										
	<u>6</u>	<u>18</u>	<u>30</u>	<u>42</u>	<u>54</u>	<u>66</u>	<u>78</u>	<u>90</u>	<u>102</u>	<u>114</u>	<u>126</u>
1994										1,070	1,053
1995									746	747	767
1996								841	838	849	855
1997							1,502	1,656	1,665	1,676	1,682
1998						1,124	1,054	1,035	1,027	1,028	1,086
1999					1,161	1,279	1,290	1,286	1,356	1,441	1,451
2000				1,082	1,243	1,263	1,230	1,277	1,471	1,557	1,970
2001			1,697	2,579	2,857	2,668	3,101	3,477	3,769	4,114	4,088
2002		1,239	1,886	2,196	2,336	2,291	2,328	2,367	2,375	2,354	2,361
2003	644	2,163	2,625	2,510	2,494	2,445	2,452	2,452	2,440	2,440	2,415
2004	676	1,643	1,676	1,757	1,803	1,906	1,862	1,788	1,781	1,852	1,998
2005	882	1,861	1,899	2,025	2,284	1,955	2,133	2,183	2,166	2,146	2,257
2006	507	1,453	1,896	2,268	1,889	1,664	1,672	1,683	1,644	1,320	1,331
2007	696	3,220	4,322	3,231	3,180	3,579	3,866	3,789	3,785	3,789	3,832
2008	317	1,879	1,778	1,423	1,428	1,526	1,620	2,071	1,772	1,820	1,882
2009	488	1,618	2,060	1,916	1,940	2,331	2,207	2,334	2,203	2,196	2,227
2010	657	2,758	3,500	3,588	5,609	5,938	6,019	6,056	5,641	5,691	5,728
2011	1,155	4,758	4,564	4,256	5,135	5,490	5,466	7,107	6,557	6,906	
2012	586	1,659	2,086	2,501	2,742	2,972	3,170	3,349	3,137		
2013	266	1,347	2,301	2,538	2,916	3,165	3,810	4,108			
2014	400	1,704	2,849	3,714	4,357	5,318	11,077				
2015	79	822	1,038	1,382	2,353	2,887					
2016	464	1,118	1,848	3,145	4,321						
2017	278	775	1,300	2,218							
2018	161	1,229	1,544								
2019	239	1,092									
2020	324										
	<u>6 - 18</u>	<u>18 - 30</u>	<u>30 - 42</u>	<u>42 - 54</u>	<u>54 - 66</u>	<u>66 - 78</u>	<u>78 - 90</u>	<u>90 - 102</u>	<u>102 - 114</u>	<u>114 - 126</u>	<u>126 - Ult.</u>
ALL YR VOL	3.660	1.254	1.100	1.161	1.064	1.159	1.072	0.975	1.017	1.025	
REFERENCE	2.831	1.266	1.109	1.056	1.036	1.023	1.010	1.013	1.010	1.006	1.048
SELECTED	4.288	1.315	1.161	1.135	1.056	1.084	1.064	0.995	1.010	1.026	1.048
CUMULATIVE	9.782	2.281	1.735	1.494	1.316	1.247	1.150	1.080	1.086	1.075	1.048

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Cumulative Paid Losses (\$000's) as of December 31, 2019 - Unlimited

Program Year	<u>Months of Development</u>										
	<u>6</u>	<u>18</u>	<u>30</u>	<u>42</u>	<u>54</u>	<u>66</u>	<u>78</u>	<u>90</u>	<u>102</u>	<u>114</u>	<u>126</u>
1994										1,022	1,027
1995									738	743	747
1996								838	838	839	843
1997							1,345	1,420	1,467	1,505	1,522
1998						882	932	968	989	999	1,011
1999					988	1,102	1,188	1,232	1,338	1,361	1,382
2000				688	774	846	931	1,029	1,136	1,254	1,684
2001			863	1,708	2,057	2,279	2,518	2,758	2,905	3,162	3,385
2002		654	1,162	1,499	1,859	2,047	2,128	2,155	2,183	2,213	2,248
2003	238	991	1,485	1,906	2,111	2,271	2,276	2,279	2,282	2,379	2,381
2004	116	726	1,078	1,264	1,557	1,653	1,667	1,693	1,742	1,764	1,998
2005	229	1,059	1,332	1,459	1,532	1,585	1,714	1,819	1,842	1,866	1,894
2006	123	646	1,005	1,124	1,211	1,254	1,262	1,269	1,272	1,275	1,277
2007	224	1,357	2,048	2,507	2,751	3,107	3,160	3,248	3,329	3,355	3,375
2008	65	797	1,117	1,190	1,236	1,294	1,369	1,511	1,546	1,608	1,644
2009	156	891	1,433	1,593	1,719	1,820	1,831	1,988	1,996	2,036	2,078
2010	174	1,675	2,265	2,775	3,033	4,299	4,410	4,544	4,869	5,034	5,066
2011	376	2,001	3,230	3,761	3,999	4,420	4,640	4,839	5,166	5,364	
2012	192	728	1,366	1,855	2,059	2,215	2,375	2,491	2,589		
2013	136	805	1,579	1,865	2,181	2,467	2,945	3,075			
2014	161	1,145	2,099	2,673	3,320	3,675	4,116				
2015	23	475	772	1,150	1,376	1,801					
2016	156	751	1,329	2,234	2,558						
2017	154	576	854	1,016							
2018	71	505	966								
2019	86	722									
2020	150										
	<u>6 - 18</u>	<u>18 - 30</u>	<u>30 - 42</u>	<u>42 - 54</u>	<u>54 - 66</u>	<u>66 - 78</u>	<u>78 - 90</u>	<u>90 - 102</u>	<u>102 - 114</u>	<u>114 - 126</u>	<u>126 - Ult.</u>
ALL YR VOL	5.827	1.581	1.265	1.130	1.122	1.054	1.044	1.039	1.030	1.041	
REFERENCE	3.589	1.674	1.289	1.172	1.121	1.086	1.063	1.053	1.041	1.040	1.267
SELECTED	6.420	1.636	1.289	1.172	1.129	1.086	1.063	1.053	1.041	1.040	1.267
CUMULATIVE	29.913	4.659	2.847	2.209	1.884	1.668	1.536	1.445	1.372	1.318	1.267

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Cumulative # of Indemnity Losses Reported as of December 31, 2019 - Unlimited

Program	<u>Months of Development</u>											
	<u>6</u>	<u>18</u>	<u>30</u>	<u>42</u>	<u>54</u>	<u>66</u>	<u>78</u>	<u>90</u>	<u>102</u>	<u>114</u>	<u>126</u>	<u>138</u>
2006		52	53	54	54	53	53	53	53	53	53	54
2007	32	69	74	74	74	74	75	75	75	75	75	76
2008	22	56	58	59	59	60	60	60	60	60	60	59
2009	30	78	79	78	78	79	79	80	80	80	80	80
2010	25	53	55	56	56	56	57	57	57	57	57	
2011	44	86	87	86	87	88	88	88	88	88		
2012	25	66	68	69	71	73	73	73	73			
2013	19	53	56	58	59	59	60	61				
2014	26	57	58	61	61	64	65					
2015	9	29	33	33	36	36						
2016	21	57	60	61	61							
2017	15	48	49	49								
2018	16	42	44									
2019	24	70										
2020	26											
	<u>6 - 18</u>	<u>18 - 30</u>	<u>30 - 42</u>	<u>42 - 54</u>	<u>54 - 66</u>	<u>66 - 78</u>	<u>78 - 90</u>	<u>90 - 102</u>	<u>102 - 114</u>	<u>114 - 126</u>	<u>126 - 138</u>	<u>138 - Ult.</u>
ALL YR VOL	2.481	1.038	1.090	1.010	1.011	1.007	1.004	1.000	1.000	1.000	1.004	
SELECTED	2.531	1.053	1.014	1.010	1.006	1.008	1.004	1.000	1.000	1.000	1.000	1.000
CUMULATIVE	2.780	1.098	1.043	1.029	1.018	1.012	1.004	1.000	1.000	1.000	1.000	1.000

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Program Information

Program Year	Self-Insured Retention (SIR) (1)	Payroll (\$00's) (2)	Payroll Trended to 2019-20 (\$00's) (3)
1988-89	\$250,000	\$0	\$0
1989-90	250,000	0	0
1990-91	300,000	0	0
1991-92	250,000	0	0
1992-93	250,000	0	0
1993-94	275,000	0	0
1994-95	300,000	0	0
1995-96	300,000	0	0
1996-97	300,000	0	0
1997-98	300,000	204,799	579,518
1998-99	300,000	212,991	585,313
1999-00	300,000	267,420	591,166
2000-01	300,000	263,274	597,078
2001-02	350,000	297,462	603,049
2002-03	500,000	346,678	609,079
2003-04	10,000,000	401,995	615,170
2004-05	500,000	401,860	621,321
2005-06	500,000	429,640	627,535
2006-07	500,000	428,182	633,810
2007-08	500,000	437,000	640,148
2008-09	500,000	470,000	646,550
2009-10	500,000	455,000	627,153
2010-11	250,000	454,739	608,339
2011-12	250,000	454,479	590,088
2012-13	250,000	422,491	572,386
2013-14	250,000	436,959	578,110
2014-15	250,000	455,957	583,891
2015-16	250,000	472,388	589,730
2016-17	250,000	518,291	601,524
2017-18	250,000	545,055	607,539
2018-19	250,000	590,304	619,690
2019-20	250,000	625,887	625,887
2020-21	?	663,615	632,146

Notes:

- (1) Provided by MBASIA.
- (2) Provided by MBASIA. 2020-21 estimated by BAC.
- (3) Estimated by BAC.