

Monterey Bay Area Self Insurance Authority

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

**BAY ACTUARIAL CONSULTANTS
Moraga, California
March 15, 2023**

Bay Actuarial Consultants

March 15, 2023

Mr. Conor Boughey, ARM
Vice President
Alliant Insurance Services
560 Mission Street, 6th Floor
San Francisco, CA 94105

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.

Please call me at (925) 377-5269 if you have any questions.

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

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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 2023-24 Losses & Rates of Loss.** It includes a projection of the losses expected to be incurred during 2023-24. It also expresses this as a rate of loss per \$100 of payroll. Rates are based on projected 2023-24 payroll of **\$79,577,246**, a flat **5.0%** increase over the projected 2022-23 payroll of **\$75,787,853**.
- 2) **Unpaid Losses.** It includes an estimate of the Authority's liability for unpaid losses as of 12/31/22 and a projection to 6/30/23.
- 3) **Discounting.** The projected 2023-24 losses and the Authority's liabilities are discounted at **3.5%** 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) **Quantification of Uncertainty.** It includes an analysis of the rates of loss and of the liability 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.

Structure of the Report

The rest of this report comprises 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 2023-24 Losses Excluding 4850

Table I shows the MBASIA's projected losses for 2023-24 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 7/1/23 and 6/30/24.

Table I: Projected 2023-24 Undiscounted Losses (Includes All Benefits Except 4850)						
Probability Level	\$250,000 SIR	\$300,000 SIR	\$350,000 SIR	\$500,000 SIR	\$1,000,000 SIR	Unlimited Retention
Central Estimate	\$4,262,277	\$4,630,837	\$4,959,723	\$5,724,756	\$7,013,559	\$8,313,882
60%	4,464,403	4,853,053	5,199,640	6,004,604	7,354,714	8,705,788
70%	4,848,779	5,289,639	5,685,002	6,611,265	8,190,034	9,802,292
75%	\$5,070,717	5,542,170	5,966,178	6,963,932	8,678,352	10,446,792
80%	5,325,595	5,832,547	6,289,850	7,370,911	9,244,122	11,196,393
90%	6,036,122	6,643,893	7,196,030	8,515,414	10,846,520	13,333,960

At the \$250,000 SIR the central estimate of **\$4,262,277** is **1.9%** less than last year's projection for 2022-23, which was **\$4,345,226**. We project that "4850" benefits will total **\$390,000** in 2023-24. These 4850 losses are excluded from the projected losses in Table I because those benefits are paid directly by the members and not by the 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 **3.5%** appears reasonable in the current financial environment. At this interest rate the amount of discount on the \$250,000 central estimate losses would be **\$630,817**, **14.8%** of the **\$4,262,277** total.

The table shows "actuarial central estimates" plus estimates at higher probability

levels. For example, we estimate that there is a 75% probability that the actual 2023-24 \$250,000 SIR losses, excluding 4850, will be less than **\$5,070,717**.

Loss projections like those in this table 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 what is available, the total covered payroll, instead. The projected 2023-24 payroll assumes a **5.0%** increase from 2022-23.

We estimate that the actual exposure, as measured by total hours worked, increased by 1.0% in 2022-23. The projection is for another 1.0% increase in hours worked in 2023-24.

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 at a **3.5%** interest rate. The multiplicative present value factors for **3.5%** interest range between **0.817** and **0.852**.

All rates are based on projected 2023-24 payroll of **\$79,577,246**.

Table II: Projected 2023-24 Discounted Loss Rates (3.5% 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	\$5.75	\$6.21	\$6.61	\$7.54	\$9.11	\$10.75
60%	6.02	6.51	6.93	7.91	9.56	11.26
70%	6.54	7.09	7.58	8.71	10.64	12.68
75%	\$6.84	7.43	7.95	9.17	11.28	13.51
80%	7.18	7.82	8.38	9.71	12.01	14.48
90%	8.14	8.91	9.59	11.21	14.09	17.24
22-23 Central Estimate	\$5.76	\$6.22	\$6.58	\$7.39	\$8.66	\$9.91
Change in C.E.	-0.2%	-0.2%	+0.5%	+2.0%	+5.2%	+8.5%

The next to last row in Table I shows last year's projected 2022-23 central estimate rates. The bottom row shows the percentage changes. Last year the interest rate was **1.5%** and the payroll was lower, so meaningful comparisons are difficult. The changes in Table I are more meaningful where the changes ranged from a reduction of **1.9%** at the \$250,000 SIR to an increase of **9.2%** for the unlimited losses.

Projected 2023-24 Total Losses Including 4850

The central estimates in Table III each include the **\$390,000** of 4850 benefits that Table I excludes.

Table III: Projected 2023-24 Undiscounted Losses (Includes All Benefits Including 4850)						
Probability Level	\$250,000 SIR	\$300,000 SIR	\$350,000 SIR	\$500,000 SIR	\$1,000,000 SIR	Unlimited Retention
Central Estimate	\$4,652,277	\$5,020,837	\$5,349,723	\$6,114,756	\$7,403,559	\$8,703,882
60%	4,872,897	5,261,768	5,608,505	6,413,669	7,763,684	9,114,172
70%	5,292,444	5,735,122	6,132,033	7,061,658	8,645,454	10,262,112
75%	5,534,690	6,008,920	6,435,319	7,438,351	9,160,926	10,936,846
80%	5,812,889	6,323,752	6,784,443	7,873,056	9,758,156	11,721,610
90%	6,588,429	7,203,429	7,761,878	9,095,528	11,449,658	13,959,450

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

Table IV: Projected 2023-24 Discounted Loss Rates (3.5% interest rate – Full Rate including 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	\$6.27	\$6.73	\$7.13	\$8.05	\$9.62	\$11.26
60%	6.57	7.05	7.47	8.45	10.09	11.79
70%	7.14	7.69	8.17	9.30	11.23	13.27
75%	\$7.46	8.06	8.58	9.80	11.90	14.14
80%	7.84	8.48	9.04	10.37	12.68	15.16
90%	8.88	9.66	10.34	11.98	14.88	18.05
22-23 Central Estimate	\$6.09	\$6.55	\$6.91	\$7.72	\$8.98	\$10.23
Change in C.E.	+3.0%	+2.7%	+3.2%	+4.3%	+7.1%	+10.1%

Rate Change

The discounted 75% probability rate of **\$7.46** in Table IV is up **\$0.15** from last year.

Temporary Disability Benefits Data

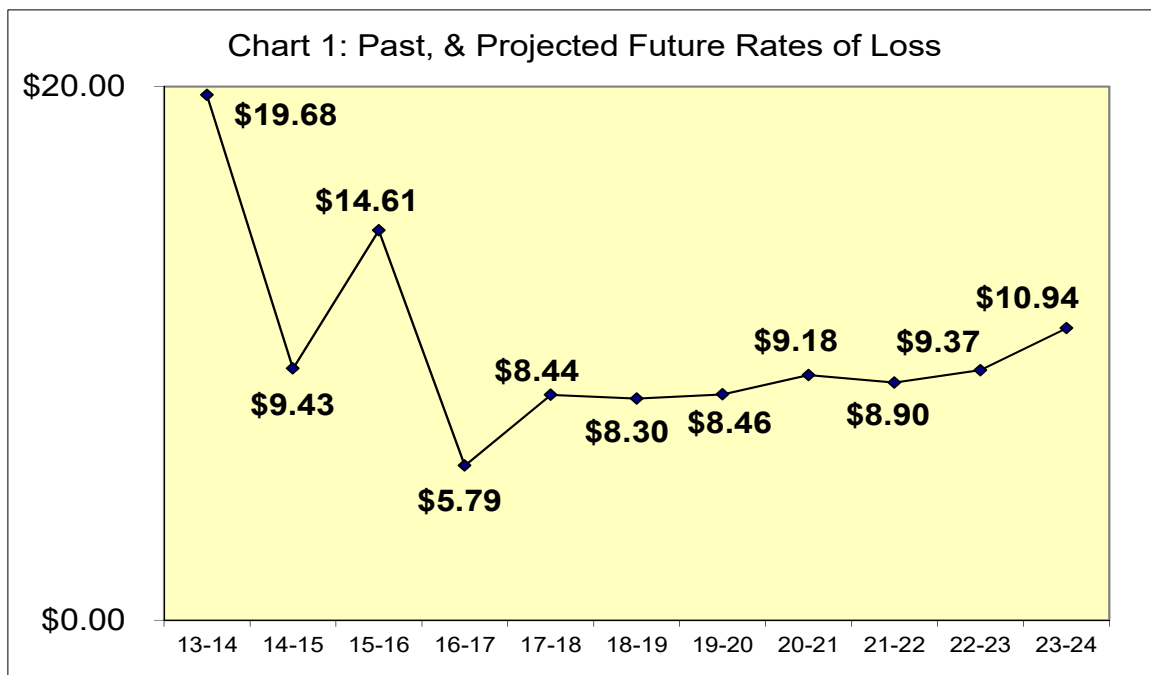
As management information we also provide Table V, which shows rates that exclude all TD and all 4850 benefits. These Table V rates are based on the assumption that TD will cost **\$790,000** in 2023-24 and that 4850 will cost **\$390,000**.

Table V: Projected 2023-24 Discounted Loss Rates (3.5% 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	\$4.68	\$5.15	\$5.56	\$6.50	\$8.09	\$9.73
60%	4.90	5.40	5.83	6.82	8.48	10.19
70%	5.33	5.88	6.37	7.50	9.44	11.47
75%	5.57	6.16	6.68	7.91	10.01	12.23
80%	5.85	6.49	7.05	8.37	10.66	13.10
90%	6.63	7.39	8.06	9.67	12.51	15.60

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

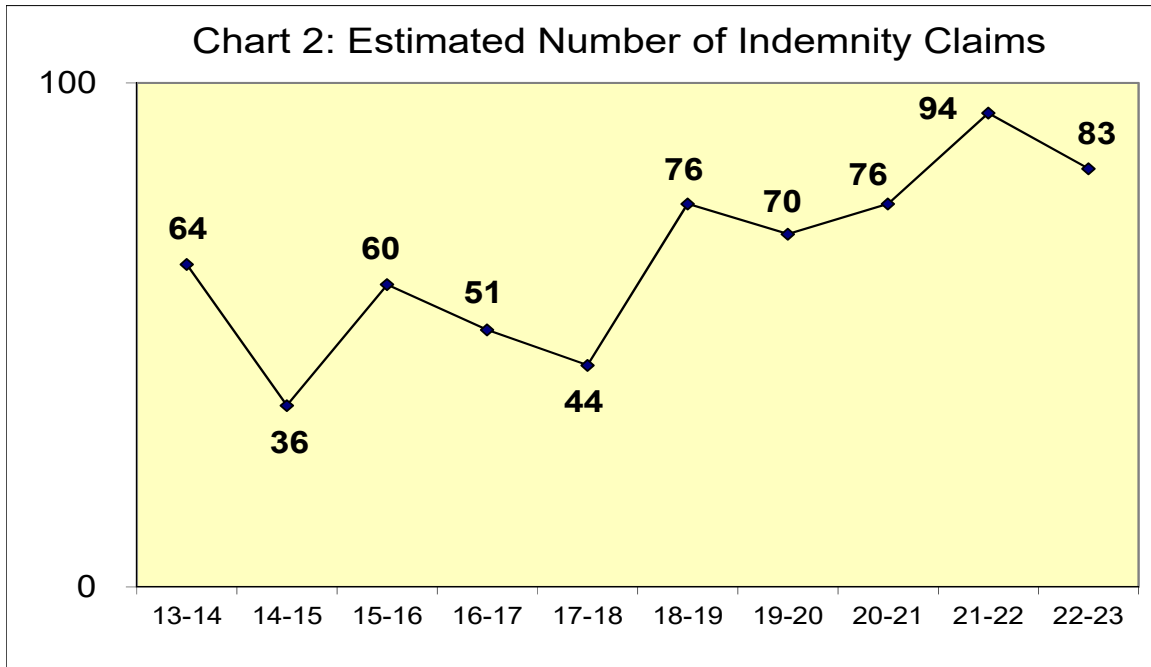
The Authority's Past Rates of Loss

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. **\$10.94** is the undiscounted central estimate unlimited rate for 2023-24. The rates in the chart include all 4850 and all TD.



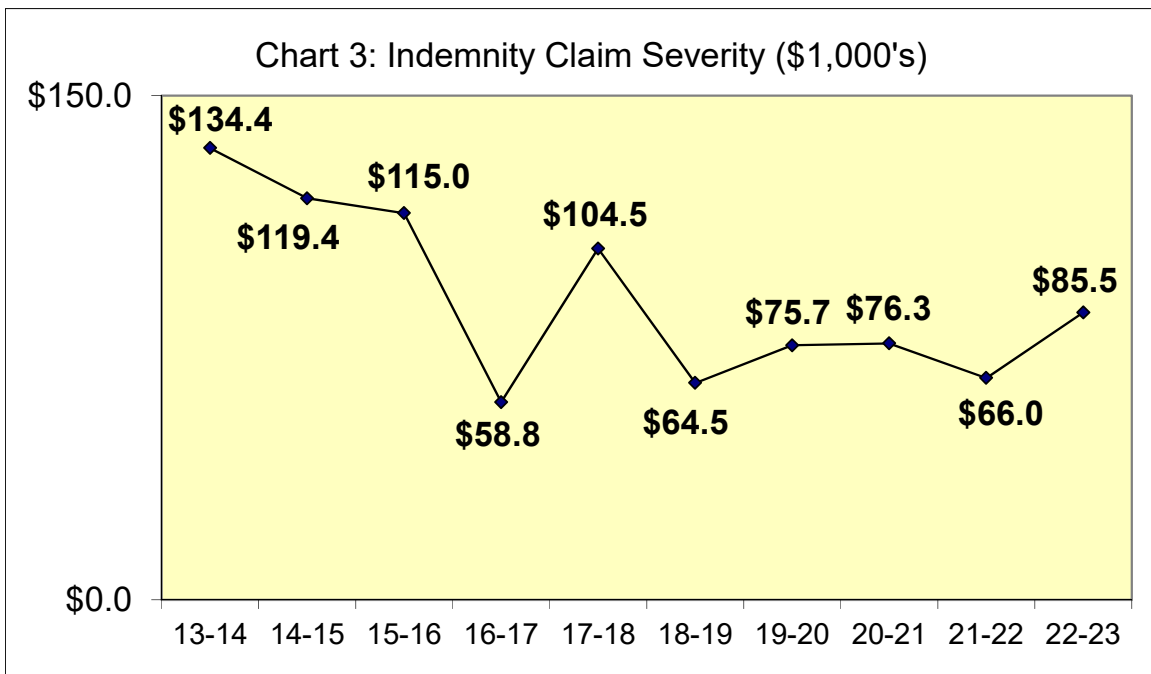
Estimated Number of Indemnity Claims

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

In the 2021 report the estimated liability, excluding 4850, was **\$14,599,631** on 12/31/21. The new undiscounted central estimate, as of 12/31/22, is **\$16,097,587**. Table VI reconciles these two amounts.

Table VI: Reconcile 12/31/21 & 12/31/22 Liabilities	
Estimated 12/31/21 Liability	\$14,599,631
Payments in Calendar 2022	-3,856,893
Change in estimates for 12/31/21 and Prior	+1,237,501
Estimated Losses in Calendar 2022	+4,117,348
Estimated 12/31/22 Liability	\$16,097,587

Table VII shows the new 12/31/22 central estimate of **\$16,097,587** and a range of estimates at different probability levels. The right-hand column shows these estimates discounted at **3.5%** interest. The discounted values are about 15.6% lower. This table does not include the unpaid 4850 benefits, which are a very small portion.

Table VII: Estimated Liability for Unpaid Losses @ 12/31/22		
Probability Level	Undiscounted Losses	Discounted at 3.5% Interest
10%	13,682,949	11,548,409
20%	14,487,828	12,227,727
30%	14,970,756	12,635,318
40%	15,453,683	13,042,909
50%	15,936,611	13,450,500
Central Estimate	\$16,097,587	\$13,586,363
60%	16,419,538	13,858,090
70%	17,063,442	14,401,545
75%	17,385,394	14,673,272
80%	17,707,345	14,944,999
90%	18,673,201	15,760,181
95%	19,639,056	16,575,363
98%	20,604,911	17,390,545

Table VIII shows the projection of the 6/30/23 liability.

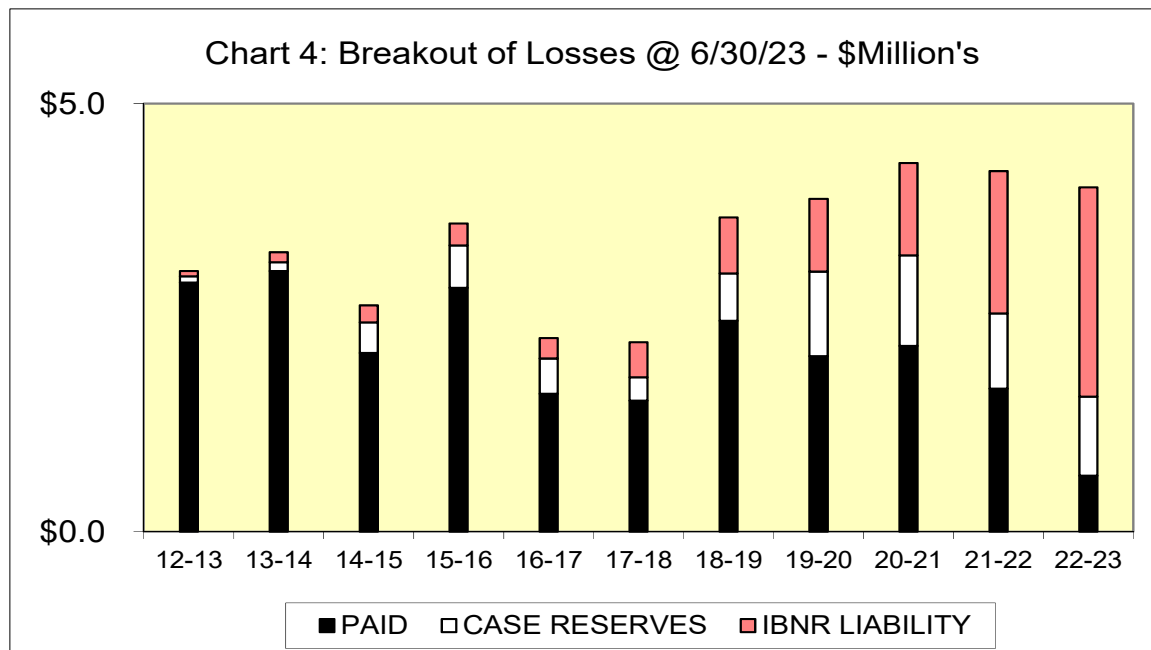
Table VIII: Projected 6/30/23 Liability	
12/31/22 Liability Central Estimate	\$16,097,587
Projected Payments 1/1/23 to 6/30/23	-1,815,676
Projected New Losses 1/1/23 to 6/30/23	+2,011,589
Projected 6/30/23 Central Estimate	\$16,293,500

Table IX shows the projected probability levels for the projected 6/30/23 liability. These probability levels are based on the assumption that the claims payments over the next six months and the new losses that will occur will match the projections shown in Table VIII.

Table IX: Projected Estimate of 6/30/23 Liability		
Probability Level	Undiscounted Losses	Discounted at 3.5% Interest
10%	13,849,475	11,688,957
20%	14,501,215	12,239,026
30%	15,152,955	12,789,094
40%	15,641,760	13,201,646
50%	16,130,565	13,614,197
Central Estimate	\$16,293,500	\$13,751,714
60%	16,619,370	14,026,749
70%	17,271,110	14,576,817
75%	17,596,980	14,851,851
80%	17,922,850	15,126,886
90%	18,900,460	15,951,989
95%	19,878,070	16,777,091
98%	20,855,680	17,602,194

Loss Breakout as of 6/30/23

The Authority's liability of **\$16,293,500** is projected to comprise **\$7,518,686** in case reserves for known claims and an IBNR liability of **\$8,774,814**. Chart 4 breaks out the estimated total program year losses for 2012-13 through 2022-23 into their components: losses paid, case reserves, and IBNR liability.



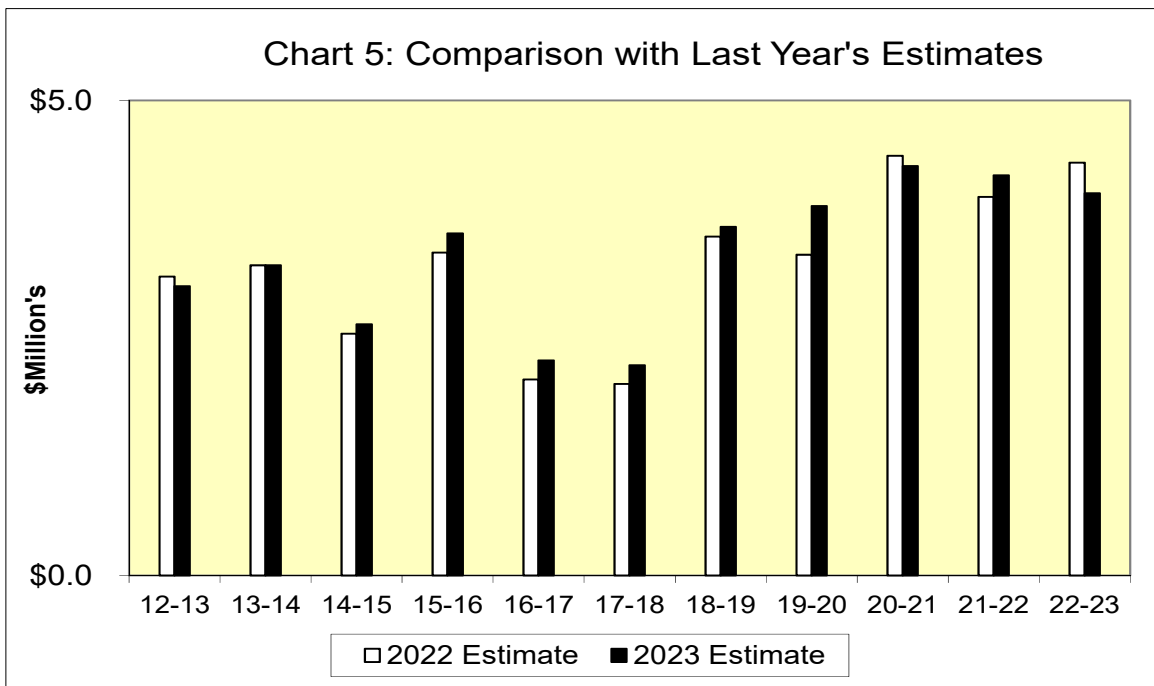
There is **\$1.17** of projected IBNR liability for every **\$1.00** of projected case reserves. Last year this ratio was **\$1.01**.

Short-Term Liability

Short-term liabilities are those expected to be expended within twelve months. The limited 6/30/23 liability comprises **\$3,017,299** in short-term and **\$13,276,202** 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 2022-23 was an increase of **\$1,000,867**.



Interest Rates

The rates in Tables II, IV, and V and liability estimates in Tables VII and IX are discounted at **3.5%** interest. Table X shows some possible adjustments:

Table X: Interest Rate Adjustments					
Interest Rate	0.0%	2.5%	3.0%	3.5%	3.88%
UNL Rate	+22.4%	+5.3%	+2.6%	+0.0%	-2.0%
250K Rate	+17.4%	+4.3%	+2.1%	+0.0%	-1.5%
6/30/23 Liability	+18.5%	+4.6%	+2.3%	+0.0%	-1.5%

Given the interest rates available on 3/15/23 MBASIA could fund the 2023-24 program losses and the 6/30/23 liability using US Treasuries alone and lock in an estimated yield to maturity of **3.88%**. Therefore **3.5%** is currently a very realistic interest rate.

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 liability for unpaid losses as of 12/31/22 and the projected 6/30/23 liability. Summary Exhibit 3 shows the projected rate for the 2023-24 program year, which runs from 7/1/23 to 6/30/24. Summary Exhibit 4 shows the projected unpaid losses as of 6/30/23 by program year on both discounted and non-discounted bases. Summary Exhibit 5 shows the projected ULAE liability.

Fiscal Year End Exhibits

These exhibits show the projected unpaid limited losses as of 6/30/23. Fiscal Year End Exhibit 10 shows limited unpaid losses including 4850 benefits. Fiscal Year End Exhibits 3 and 4 show the projected 2023-24 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 2023-24.

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 12/31/22, 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 12/31/22
Limited Self-Insured Losses Excluding 4850

(1) Estimated Unpaid Losses:	\$16,097,587
(2) Discounted Value of Unpaid Losses: (Assuming 3.5% Interest Rate)	\$13,586,363

Probability Levels			
Probability Level (3)	Probability Factor (4)	Undiscounted (5)	Discounted at 3.50% (6)
10%	0.85	\$13,682,949	\$11,548,409
20%	0.90	14,487,828	12,227,727
30%	0.93	14,970,756	12,635,318
40%	0.96	15,453,683	13,042,909
50%	0.99	15,936,611	13,450,500
Central Estimate	1.00	\$16,097,587	\$13,586,363
60%	1.02	16,419,538	13,858,090
70%	1.06	17,063,442	14,401,545
75%	1.08	17,385,394	14,673,272
80%	1.10	17,707,345	14,944,999
90%	1.16	18,673,201	15,760,181
95%	1.22	19,639,056	16,575,363
98%	1.28	20,604,911	17,390,545

Notes:

- (1) Page 25, Column (6).
- (2) (1), discounted at 3.50% interest.
- (3) Estimated probability that funding will be adequate.
- (4) Estimated by BAC.
- (5) (1) x (4).
- (6) (2) x (4).

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Projected 6/30/23 Estimate of Liability
Limited Self-Insured Losses Excluding 4850

(1) Estimated Unpaid Losses: 12/31/22 \$16,097,587

(2) Projected payments over next six months:	\$1,815,675
----------------------------------------------	-------------

(3) Projected new losses over next six months:	\$2,011,589
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(4) Projected Unpaid Losses: 6/30/23	\$16,293,500
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Probability Level (5)	Projected Estimate of 6/30/23 Probability Factor (6)	Undiscounted (7)	Discounted (8)
10%	0.85	13,849,475	11,688,957
20%	0.89	14,501,215	12,239,026
30%	0.93	15,152,955	12,789,094
40%	0.96	15,641,760	13,201,646
50%	0.99	16,130,565	13,614,197
Central Estimate	1.00	\$16,293,500	\$13,751,714
60%	1.02	16,619,370	14,026,749
70%	1.06	17,271,110	14,576,817
75%	1.08	17,596,980	14,851,851
80%	1.10	17,922,850	15,126,886
90%	1.16	18,900,460	15,951,989
95%	1.22	19,878,070	16,777,091
98%	1.28	20,855,680	17,602,194

Items (7) & (8) are useful to the extent that the projections in items (2) & (3) turn out to be accurate. Actual expenditures and actual new loss occurrences must match items (2) & (3).

Notes:

- (1) Page 18, Item (1).
- (2) Projected by BAC.
- (3) Projected by BAC.
- (4) (1) - (2) + (3).
- (5) Projected Probability on 6/30/23.
- (6) 12/31/22 projection of what the estimate will be on 6/30/23.
- (7) (4) x (6).
- (8) (7), discounted at 3.50% interest.

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Projected Loss Funding Rate for 2023-24

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

	<u>Loss Rates</u>
(1) Discounted Loss Rate: (as of 7/1/23, 3.5% interest rate)	\$4.98

Probability Levels		
Probability Level <u>(2)</u>	Probability Factor <u>(3)</u>	Discounted * Rate <u>(4)</u>
20%	0.73	\$3.64
30%	0.82	4.08
40%	0.89	4.43
50%	0.97	4.83
Central Estimate	1.00	\$4.98
60%	1.05	5.23
70%	1.14	5.68
80%	1.25	6.23
90%	1.42	7.07
* Multiply by 1.174 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

6/30/23 Summary
Limited Self-Insured Losses Excluding 4850

Program Year	Undiscounted	Discounted	Estimated Ultimate Losses (3)
	Claims Liabilities as of 6/30/23 (1)	(3.5% Interest) Claims Liabilities as of 6/30/23 (2)	
1987-88	\$3,635	\$3,399	\$135,000
1988-89	22,377	20,563	740,000
1989-90	7,594	6,859	747,000
1990-91	22,819	20,257	1,280,000
1991-92	12,240	10,680	1,470,000
1992-93	8,769	7,522	1,452,639
1993-94	22,367	18,864	1,148,561
1994-95	106,016	87,931	849,693
1995-96	16,528	13,484	865,727
1996-97	40,014	32,118	1,388,181
1997-98	33,890	26,772	1,082,837
1998-99	29,142	22,666	1,471,420
1999-00	42,253	32,368	1,506,757
2000-01	22,652	17,098	2,629,918
2001-02	99,666	77,174	2,041,203
2002-03	88,434	69,808	2,095,354
2003-04	90,286	72,323	1,936,776
2004-05	54,977	44,535	1,657,710
2005-06	183,189	149,673	1,459,559
2006-07	176,309	144,999	3,007,898
2007-08	183,097	151,337	1,445,596
2008-09	65,163	54,064	1,620,026
2009-10	350,325	291,476	3,320,153
2010-11	188,296	156,987	3,966,773
2011-12	339,038	283,064	2,608,577
2012-13	136,170	113,788	3,045,202
2013-14	220,149	184,037	3,263,657
2014-15	556,689	465,353	2,643,453
2015-16	751,070	629,842	3,599,115
2016-17	652,336	548,705	2,262,724
2017-18	680,556	570,686	2,211,872
2018-19	1,206,069	1,015,125	3,669,751
2019-20	1,836,001	1,548,544	3,888,626
2020-21	2,137,155	1,808,598	4,307,735
2021-22	2,538,855	2,160,718	4,211,519
2022-23	3,369,377	2,897,375	4,023,177
Total	\$16,293,500	\$13,758,792	\$79,054,192

Notes:

- (1) Page 63, Column (1).
- (2) Page 63, Column (3).
- (3) Page 24, 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 12/31/22:	\$30,496,432	\$1,619,946	\$32,116,378
(4) Estimated Unpaid ULAE as of 12/31/22:	\$1,829,786	\$194,394	\$2,024,180
(5) Discounted Unpaid ULAE as of 12/31/22: (3.5% interest rate)			\$1,708,408

We project that the ULAE liability will not change between 12/31/22 & 06/30/23.

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 6/30/23
Limited Self-Insured Losses Excluding 4850

Program Year	Estimated Ultimate Losses (1)	Limited Paid	Limited Case	Lim Reported	Limited IBNR	Projected
		Losses less 4850 Paid 6/30/23 (2)	Reserves less 4850 Case 6/30/23 (3)	less 4850 Reported 6/30/23 (4)	less 4850 IBNR 6/30/23 (5)	Unpaid Losses excluding 4850 6/30/23 (6)
1987-88	\$135,000	\$131,365	\$1,613	\$132,978	\$2,022	\$3,635
1988-89	740,000	717,623	17,699	735,322	4,678	22,377
1989-90	747,000	739,406	1,136	740,542	6,458	7,594
1990-91	1,280,000	1,257,181	15,129	1,272,310	7,690	22,819
1991-92	1,470,000	1,457,760	7,658	1,465,419	4,581	12,240
1992-93	1,452,639	1,443,870	3,836	1,447,707	4,932	8,769
1993-94	1,148,561	1,126,194	22,002	1,148,196	365	22,367
1994-95	849,693	743,677	88,675	832,352	17,341	106,016
1995-96	865,727	849,199	783	849,982	15,745	16,528
1996-97	1,388,181	1,348,168	30,147	1,378,315	9,867	40,014
1997-98	1,082,837	1,048,947	23,416	1,072,363	10,474	33,890
1998-99	1,471,420	1,442,278	19,923	1,462,201	9,219	29,142
1999-00	1,506,757	1,464,504	567	1,465,070	41,687	42,253
2000-01	2,629,918	2,607,267	2,866	2,610,132	19,786	22,652
2001-02	2,041,203	1,941,537	71,647	2,013,184	28,019	99,666
2002-03	2,095,354	2,006,920	51,491	2,058,411	36,943	88,434
2003-04	1,936,776	1,846,490	0	1,846,490	90,286	90,286
2004-05	1,657,710	1,602,734	7,228	1,609,962	47,748	54,977
2005-06	1,459,559	1,276,370	150,864	1,427,234	32,326	183,189
2006-07	3,007,898	2,831,589	102,116	2,933,706	74,192	176,309
2007-08	1,445,596	1,262,500	153,185	1,415,685	29,911	183,097
2008-09	1,620,026	1,554,863	33,217	1,588,080	31,946	65,163
2009-10	3,320,153	2,969,828	205,695	3,175,523	144,630	350,325
2010-11	3,966,773	3,778,476	126,855	3,905,331	61,442	188,296
2011-12	2,608,577	2,269,539	263,353	2,532,892	75,685	339,038
2012-13	3,045,202	2,909,031	73,117	2,982,148	63,053	136,170
2013-14	3,263,657	3,043,509	105,859	3,149,368	114,290	220,149
2014-15	2,643,453	2,086,765	359,445	2,446,210	197,243	556,689
2015-16	3,599,115	2,848,045	496,523	3,344,569	254,547	751,070
2016-17	2,262,724	1,610,388	413,194	2,023,582	239,142	652,336
2017-18	2,211,872	1,531,316	271,707	1,803,023	408,849	680,556
2018-19	3,669,751	2,463,682	553,960	3,017,643	652,108	1,206,069
2019-20	3,888,626	2,052,626	985,000	3,037,625	851,001	1,836,001
2020-21	4,307,735	2,170,580	1,057,392	3,227,972	1,079,763	2,137,155
2021-22	4,211,519	1,672,664	876,597	2,549,260	1,662,258	2,538,855
2022-23	4,023,177	653,801	924,789	1,578,589	2,444,588	3,369,377
Total	\$79,054,192	\$62,760,692	\$7,518,686	\$70,279,377	\$8,774,815	\$16,293,500

Notes:

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

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Estimated Unpaid Losses as of 12/31/22
Limited Self-Insured Losses - NO 4850

Program Year	Estimated Ultimate Losses (1)	Paid Losses as of 12/31/22 (2)	Case Reserves 12/31/22 (3)	Reported Losses as of 12/31/22 (4)	Estimated IBNR as of 12/31/22 (5)	Estimated Unpaid Losses as of 12/31/22 (6)
1987-88	\$135,000	\$130,922	\$0	\$130,922	\$4,078	\$4,078
1988-89	740,000	715,476	17,479	732,954	7,046	24,524
1989-90	747,000	738,804	0	738,804	8,196	8,196
1990-91	1,280,000	1,255,642	15,875	1,271,517	8,483	24,358
1991-92	1,470,000	1,457,040	8,166	1,465,206	4,794	12,960
1992-93	1,452,639	1,443,411	3,533	1,446,944	5,695	9,228
1993-94	1,148,561	1,125,137	22,998	1,148,135	427	23,424
1994-95	849,693	739,090	90,171	829,261	20,432	110,603
1995-96	865,727	848,537	0	848,537	17,190	17,190
1996-97	1,388,181	1,346,669	31,339	1,378,009	10,173	41,512
1997-98	1,082,837	1,047,750	24,018	1,071,768	11,069	35,087
1998-99	1,471,420	1,441,299	20,433	1,461,731	9,689	30,121
1999-00	1,506,757	1,463,143	0	1,463,143	43,614	43,614
2000-01	2,629,918	2,604,825	4,471	2,609,295	20,623	25,093
2001-02	2,041,203	1,930,926	81,406	2,012,332	28,871	110,277
2002-03	2,095,354	1,997,606	60,424	2,058,030	37,323	97,748
2003-04	1,936,776	1,837,072	0	1,837,072	99,705	99,705
2004-05	1,657,710	1,597,047	12,915	1,609,962	47,748	60,663
2005-06	1,459,559	1,257,569	168,789	1,426,358	33,202	201,991
2006-07	3,007,898	2,813,626	119,572	2,933,198	74,700	194,272
2007-08	1,445,596	1,243,978	171,419	1,415,396	30,200	201,619
2008-09	1,620,026	1,548,319	39,497	1,587,816	32,210	71,707
2009-10	3,320,153	2,934,916	239,876	3,174,793	145,360	385,237
2010-11	3,966,773	3,759,871	143,910	3,903,781	62,992	206,902
2011-12	2,608,577	2,236,365	288,605	2,524,970	83,607	372,211
2012-13	3,045,202	2,895,861	77,683	2,973,544	71,658	149,340
2013-14	3,263,657	3,022,511	117,722	3,140,233	123,425	241,147
2014-15	2,643,453	2,027,647	400,771	2,428,418	215,035	615,806
2015-16	3,599,115	2,767,094	551,590	3,318,684	280,431	832,022
2016-17	2,262,724	1,552,599	453,457	2,006,056	256,668	710,125
2017-18	2,211,872	1,456,700	292,103	1,748,803	463,068	755,172
2018-19	3,669,751	2,337,113	584,197	2,921,310	748,441	1,332,638
2019-20	3,888,626	1,847,217	1,063,958	2,911,175	977,452	2,041,410
2020-21	4,307,735	1,945,939	1,081,151	3,027,090	1,280,646	2,361,797
2021-22	4,211,519	1,303,694	821,686	2,125,380	2,086,139	2,907,825
2022-23	2,011,589	273,603	427,301	700,904	1,310,685	1,737,986
Total	\$77,042,603	\$60,945,017	\$7,436,514	\$68,381,530	\$8,661,073	\$16,097,587

Notes:

(1) Page 36 minus Page 31.

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Calculation of 4850 IBNR

Program Year	Total Case Reserves 12/31/22 (1)	4850 Case Reserves 12/31/22 (2)	4850 Case Reserves Percentage (3)	Total IBNR as of 12/31/22 (4)	4850 IBNR as of 12/31/22 (5)	IBNR Net of 4850 as of 12/31/22 (6)
1987-88	\$0	\$0	0.0%	\$4,078	\$0	\$4,078
1988-89	17,479	0	0.0%	7,046	0	7,046
1989-90	0	0	0.0%	8,196	0	8,196
1990-91	15,875	0	0.0%	8,483	0	8,483
1991-92	8,166	0	0.0%	4,794	0	4,794
1992-93	3,533	0	0.0%	5,695	0	5,695
1993-94	22,998	0	0.0%	427	0	427
1994-95	90,171	0	0.0%	20,432	0	20,432
1995-96	0	0	0.0%	17,190	0	17,190
1996-97	31,339	0	0.0%	10,173	0	10,173
1997-98	24,018	0	0.0%	11,069	0	11,069
1998-99	20,433	0	0.0%	9,689	0	9,689
1999-00	0	0	0.0%	43,614	0	43,614
2000-01	4,471	0	0.0%	20,623	0	20,623
2001-02	81,406	0	0.0%	28,871	0	28,871
2002-03	60,424	0	0.0%	37,323	0	37,323
2003-04	0	0	0.0%	99,705	0	99,705
2004-05	12,915	0	0.0%	47,748	0	47,748
2005-06	168,789	0	0.0%	33,202	0	33,202
2006-07	119,572	0	0.0%	74,700	0	74,700
2007-08	171,419	0	0.0%	30,200	0	30,200
2008-09	39,497	0	0.0%	32,210	0	32,210
2009-10	239,876	0	0.0%	145,360	0	145,360
2010-11	143,910	0	0.0%	62,992	0	62,992
2011-12	288,605	0	0.0%	83,607	0	83,607
2012-13	77,683	0	0.0%	71,658	0	71,658
2013-14	117,722	0	0.0%	123,425	0	123,425
2014-15	400,771	0	0.0%	215,035	0	215,035
2015-16	551,590	0	0.0%	280,431	0	280,431
2016-17	453,457	0	0.0%	256,668	0	256,668
2017-18	292,103	0	0.0%	463,068	0	463,068
2018-19	587,657	3,461	0.6%	748,441	0	748,441
2019-20	1,064,723	765	0.1%	977,452	0	977,452
2020-21	1,173,847	92,696	7.9%	1,280,646	5,056	1,275,589
2021-22	901,139	79,453	8.8%	2,086,139	27,590	2,058,549
2022-23	449,975	22,673	5.0%	1,310,685	19,813	1,290,872
Total	\$7,635,562	\$199,048		\$8,661,073	\$52,460	\$8,608,613

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 2022-23,
85% in 2021-22, & 95% in 2020-21.
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)
2012-13	\$354,798	\$4,900,000	7.2%
2013-14	636,343	8,600,000	7.4%
2014-15	156,547	4,300,000	3.6%
2015-16	200,885	6,900,000	2.9%
2016-17	137,276	3,000,000	4.6%
2017-18	88,128	4,600,000	1.9%
2018-19	230,249	4,900,000	4.7%
2019-20	211,374	5,300,000	4.0%
2020-21	492,265	5,800,000	8.5%
2021-22	488,481	6,200,000	7.9%
2022-23	176,823	7,100,000	2.5%
Average	\$288,470	\$5,600,000	5.2%
20-21 to 22-23	\$385,856	\$6,366,667	6.1%

Projected 2023-24 4850:	
(4)	\$390,000

(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)
2012-13	\$325,457	\$4,900,000	6.6%
2013-14	659,738	8,600,000	7.7%
2014-15	388,809	4,300,000	9.0%
2015-16	646,550	6,900,000	9.4%
2016-17	244,469	3,000,000	8.1%
2017-18	367,187	4,600,000	8.0%
2018-19	509,415	4,900,000	10.4%
2019-20	591,211	5,300,000	11.2%
2020-21	846,499	5,800,000	14.6%
2021-22	906,367	6,200,000	14.6%
2022-23	781,359	7,100,000	11.0%
Average	\$569,733	\$5,600,000	10.2%
19-20 to 22-23	\$781,359	\$6,100,000	12.8%

Projected 2023-24 TD:	
(4)	\$790,000

(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 6/30/23
4850 Only

Program Year	Estimated Ultimate 4850/TD (1)	Projected 4850/TD Paid as of 6/30/23 (2)	Projected 4850/TD Case Reserves as of 6/30/23 (3)	Projected 4850/TD Reported as of 6/30/23 (4)	Projected 4850/TD IBNR as of 6/30/23 (5)	Projected Unpaid Losses excluding 4850/TD 6/30/23 (6)
1987-88	\$0	\$0	\$0	\$0	\$0	\$0
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	231,273	231,273	0	231,273	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	260,082	260,082	0	260,082	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	462,290	462,290	0	462,290	0	0
2005-06	290,441	290,441	0	290,441	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	636,343	636,343	0	636,343	0	0
2014-15	156,547	156,547	0	156,547	0	0
2015-16	200,885	200,885	0	200,885	0	0
2016-17	137,276	137,276	0	137,276	0	0
2017-18	88,128	88,128	0	88,128	0	0
2018-19	230,249	228,525	1,724	230,249	0	1,724
2019-20	211,374	210,704	670	211,374	0	670
2020-21	492,265	442,735	49,530	492,265	0	49,530
2021-22	488,481	418,983	69,498	488,481	0	69,498
2022-23	176,823	102,321	35,765	138,086	38,737	74,502
Total	\$9,701,808	\$9,505,885	\$157,187	\$9,663,072	\$38,737	\$195,923

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 1/1/23 and 6/30/23
4850 Only

Program Year	Losses Paid as of 12/31/22 (1)	Projected Losses Paid 1/1/23 - 6/30/23 (2)	Projected Losses Paid as of 6/30/23 (3)	Losses Reported as of 12/31/22 (4)	Projected Losses Reported 1/1/23 - 6/30/23 (5)	Projected Losses Reported as of 6/30/23 (6)
1987-88	\$0	\$0	\$0	\$0	\$0	\$0
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	231,273	0	231,273	231,273	0	231,273
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	260,082	0	260,082	260,082	0	260,082
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	462,290	0	462,290	462,290	0	462,290
2005-06	290,441	0	290,441	290,441	0	290,441
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	636,343	0	636,343	636,343	0	636,343
2014-15	156,547	0	156,547	156,547	0	156,547
2015-16	200,885	0	200,885	200,885	0	200,885
2016-17	137,276	0	137,276	137,276	0	137,276
2017-18	88,128	0	88,128	88,128	0	88,128
2018-19	226,789	1,737	228,525	230,249	0	230,249
2019-20	210,609	95	210,704	211,374	0	211,374
2020-21	399,569	43,166	442,735	492,265	0	492,265
2021-22	409,028	9,955	418,983	488,481	0	488,481
2022-23	65,738	36,583	102,321	88,411	49,675	138,086
Total	\$9,414,349	\$91,536	\$9,505,885	\$9,613,397	\$49,675	\$9,663,072

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 12/31/22
4850 Only

Program Year	Estimated Ultimate 4850 (1)	4850 Paid as of 12/31/22 (2)	4850 Case Reserves as of 12/31/22 (3)	4850 Reported as of 12/31/22 (4)	4850 IBNR as of 12/31/22 (5)	Estimated Unpaid 4850 as of 12/31/22 (6)
1987-88	\$0	\$0	\$0	\$0	\$0	\$0
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	231,273	231,273	0	231,273	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	260,082	260,082	0	260,082	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	462,290	462,290	0	462,290	0	0
2005-06	290,441	290,441	0	290,441	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	636,343	636,343	0	636,343	0	0
2014-15	156,547	156,547	0	156,547	0	0
2015-16	200,885	200,885	0	200,885	0	0
2016-17	137,276	137,276	0	137,276	0	0
2017-18	88,128	88,128	0	88,128	0	0
2018-19	230,249	226,789	3,461	230,249	0	3,461
2019-20	211,374	210,609	765	211,374	0	765
2020-21	492,265	399,569	92,696	492,265	0	92,696
2021-22	488,481	409,028	79,453	488,481	0	79,453
2022-23	88,411	65,738	22,673	88,411	0	22,673
Total	\$9,613,397	\$9,414,349	\$199,048	\$9,613,397	\$0	\$199,048

Notes:

- | | |
|------------------------------------------------------------------------|--------------------------|
| (1) Page 32, Column (4). 2022-23
adjusted for partial program year. | (4) Page 30, Column (4). |
| (2) Page 32, Column (1). | (5) (1) - (4). |
| (3) (4) - (2). | (6) (1) - (2). |

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Paid 4850 Loss Development

Program Year	Cumulative Paid Losses as of 12/31/22 (1)	Paid Development Factor as of 12/31/22 (2)	Projected Ultimate Losses (3)	Selected Ultimate Losses (4)
1987-88	\$0	1.000	\$0	\$0
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	231,273	1.000	231,273	231,273
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	260,082	1.000	260,082	260,082
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	462,290	1.000	462,290	462,290
2005-06	290,441	1.000	290,441	290,441
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	636,343	1.000	636,343	636,343
2014-15	156,547	1.000	156,547	156,547
2015-16	200,885	1.000	200,885	200,885
2016-17	137,276	1.025	140,674	137,276
2017-18	88,128	1.025	90,310	88,128
2018-19	226,789	1.030	233,577	230,249
2019-20	210,609	1.019	214,686	211,374
2020-21	399,569	1.008	402,877	492,265
2021-22	409,028	1.101	450,528	488,481
2022-23	65,738	3.499	230,025	176,823
Total	\$9,414,349		\$9,639,889	\$9,701,808

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 12/31/22 (1)	Paid Development Factor as of 12/31/22 (2)	Projected Ultimate Losses (3)	Selected Ultimate Losses (4)
1987-88	\$50,855	1.000	\$50,855	\$50,855
1988-89	278,151	1.000	278,151	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	312,939	1.000	312,939	312,939
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	82,299	1.000	82,299	82,299
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	611,881	1.000	611,881	611,881
2011-12	319,083	1.000	319,083	319,083
2012-13	325,457	1.000	325,457	325,457
2013-14	659,638	1.000	659,638	659,738
2014-15	338,334	1.000	338,334	388,809
2015-16	646,550	1.000	646,550	646,550
2016-17	244,469	1.025	250,520	244,469
2017-18	367,056	1.025	376,141	367,187
2018-19	500,261	1.030	515,235	509,415
2019-20	532,583	1.019	542,894	591,211
2020-21	663,571	1.008	669,065	846,499
2021-22	667,374	1.101	735,086	906,367
2022-23	135,949	3.499	475,701	781,359
Total	\$8,851,752		\$9,305,132	\$10,042,929

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 6/30/23
Limited Self-Insured Losses Including 4850/TD

Program Year	Estimated Ultimate Losses (1)	Projected Paid Losses as of 6/30/23 (2)	Projected Case Reserves 6/30/23 (3)	Projected Reported Losses as of 6/30/23 (4)	Projected IBNR as of 6/30/23 (5)	Projected Unpaid Losses as of 6/30/23 (6)
1987-88	\$135,000	\$131,365	\$1,613	\$132,978	\$2,022	\$3,635
1988-89	740,000	717,623	17,699	735,322	4,678	22,377
1989-90	747,000	739,406	1,136	740,542	6,458	7,594
1990-91	1,280,000	1,257,181	15,129	1,272,310	7,690	22,819
1991-92	1,470,000	1,457,760	7,658	1,465,419	4,581	12,240
1992-93	1,480,000	1,471,231	3,836	1,475,068	4,932	8,769
1993-94	1,200,000	1,177,633	22,002	1,199,635	365	22,367
1994-95	1,000,000	893,984	88,675	982,659	17,341	106,016
1995-96	1,097,000	1,080,472	783	1,081,255	15,745	16,528
1996-97	1,570,000	1,529,986	30,147	1,560,133	9,867	40,014
1997-98	1,280,000	1,246,110	23,416	1,269,526	10,474	33,890
1998-99	1,590,000	1,560,858	19,923	1,580,781	9,219	29,142
1999-00	1,644,000	1,601,747	567	1,602,313	41,687	42,253
2000-01	2,890,000	2,867,348	2,866	2,870,214	19,786	22,652
2001-02	2,490,000	2,390,334	71,647	2,461,981	28,019	99,666
2002-03	2,550,000	2,461,566	51,491	2,513,057	36,943	88,434
2003-04	2,263,000	2,172,714	0	2,172,714	90,286	90,286
2004-05	2,120,000	2,065,023	7,228	2,072,252	47,748	54,977
2005-06	1,750,000	1,566,811	150,864	1,717,674	32,326	183,189
2006-07	3,570,000	3,393,691	102,116	3,495,808	74,192	176,309
2007-08	1,840,000	1,656,903	153,185	1,810,089	29,911	183,097
2008-09	2,150,000	2,084,837	33,217	2,118,054	31,946	65,163
2009-10	4,000,000	3,649,675	205,695	3,855,370	144,630	350,325
2010-11	4,600,000	4,411,704	126,855	4,538,558	61,442	188,296
2011-12	3,000,000	2,660,962	263,353	2,924,315	75,685	339,038
2012-13	3,400,000	3,263,830	73,117	3,336,947	63,053	136,170
2013-14	3,900,000	3,679,851	105,859	3,785,710	114,290	220,149
2014-15	2,800,000	2,243,311	359,445	2,602,757	197,243	556,689
2015-16	3,800,000	3,048,930	496,523	3,545,453	254,547	751,070
2016-17	2,400,000	1,747,664	413,194	2,160,858	239,142	652,336
2017-18	2,300,000	1,619,444	271,707	1,891,151	408,849	680,556
2018-19	3,900,000	2,692,208	555,684	3,247,892	652,108	1,207,792
2019-20	4,100,000	2,263,330	985,669	3,248,999	851,001	1,836,670
2020-21	4,800,000	2,613,315	1,106,921	3,720,237	1,079,763	2,186,685
2021-22	4,700,000	2,091,646	946,095	3,037,742	1,662,258	2,608,354
2022-23	4,200,000	756,121	960,554	1,716,675	2,483,325	3,443,879
Total	\$88,756,000	\$72,266,576	\$7,675,872	\$79,942,449	\$8,813,551	\$16,489,424

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 1/1/23 and 6/30/23
Limited Self-Insured Losses Including 4850

Program Year	Losses Paid as of 12/31/22 <u>(1)</u>	Projected Losses Paid 1/1/23 - 6/30/23 <u>(2)</u>	Projected Losses Paid as of 6/30/23 <u>(3)</u>	Losses Reported as of 12/31/22 <u>(4)</u>	Projected Losses Reported 1/1/23 - 6/30/23 <u>(5)</u>	Projected Losses Reported as of 6/30/23 <u>(6)</u>
1987-88	\$130,922	\$443	\$131,365	\$130,922	\$2,056	\$132,978
1988-89	715,476	2,147	717,623	732,954	2,368	735,322
1989-90	738,804	601	739,406	738,804	1,737	740,542
1990-91	1,255,642	1,539	1,257,181	1,271,517	793	1,272,310
1991-92	1,457,040	720	1,457,760	1,465,206	212	1,465,419
1992-93	1,470,772	459	1,471,231	1,474,305	762	1,475,068
1993-94	1,176,576	1,058	1,177,633	1,199,573	62	1,199,635
1994-95	889,397	4,587	893,984	979,568	3,091	982,659
1995-96	1,079,810	662	1,080,472	1,079,810	1,445	1,081,255
1996-97	1,528,488	1,498	1,529,986	1,559,827	306	1,560,133
1997-98	1,244,913	1,197	1,246,110	1,268,931	595	1,269,526
1998-99	1,559,879	979	1,560,858	1,580,311	470	1,580,781
1999-00	1,600,386	1,361	1,601,747	1,600,386	1,928	1,602,313
2000-01	2,864,907	2,442	2,867,348	2,869,377	837	2,870,214
2001-02	2,379,723	10,611	2,390,334	2,461,129	852	2,461,981
2002-03	2,452,252	9,314	2,461,566	2,512,677	381	2,513,057
2003-04	2,163,295	9,419	2,172,714	2,163,295	9,419	2,172,714
2004-05	2,059,337	5,687	2,065,023	2,072,252	0	2,072,252
2005-06	1,548,009	18,801	1,566,811	1,716,798	876	1,717,674
2006-07	3,375,728	17,963	3,393,691	3,495,300	507	3,495,808
2007-08	1,638,381	18,522	1,656,903	1,809,800	289	1,810,089
2008-09	2,078,293	6,544	2,084,837	2,117,790	264	2,118,054
2009-10	3,614,763	34,912	3,649,675	3,854,640	731	3,855,370
2010-11	4,393,098	18,605	4,411,704	4,537,008	1,550	4,538,558
2011-12	2,627,789	33,173	2,660,962	2,916,393	7,922	2,924,315
2012-13	3,250,660	13,170	3,263,830	3,328,342	8,604	3,336,947
2013-14	3,658,853	20,998	3,679,851	3,776,575	9,135	3,785,710
2014-15	2,184,194	59,117	2,243,311	2,584,965	17,792	2,602,757
2015-16	2,967,978	80,952	3,048,930	3,519,569	25,884	3,545,453
2016-17	1,689,875	57,789	1,747,664	2,143,332	17,526	2,160,858
2017-18	1,544,828	74,616	1,619,444	1,836,932	54,220	1,891,151
2018-19	2,563,901	128,306	2,692,208	3,151,559	96,333	3,247,892
2019-20	2,057,825	205,504	2,263,330	3,122,548	126,450	3,248,999
2020-21	2,345,507	267,808	2,613,315	3,519,354	200,883	3,720,237
2021-22	1,712,722	378,924	2,091,646	2,613,861	423,880	3,037,742
2022-23	339,341	416,781	756,121	789,315	927,360	1,716,675

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 12/31/22
Limited Self-Insured Losses Including 4850

Program Year	Estimated Ultimate Losses (1)	Paid Losses as of 12/31/22 (2)	Case Reserves 12/31/22 (3)	Reported Losses as of 12/31/22 (4)	Estimated IBNR as of 12/31/22 (5)	Estimated Unpaid Losses as of 12/31/22 (6)
1987-88	\$135,000	\$130,922	\$0	\$130,922	\$4,078	\$4,078
1988-89	740,000	715,476	17,479	732,954	7,046	24,524
1989-90	747,000	738,804	0	738,804	8,196	8,196
1990-91	1,280,000	1,255,642	15,875	1,271,517	8,483	24,358
1991-92	1,470,000	1,457,040	8,166	1,465,206	4,794	12,960
1992-93	1,480,000	1,470,772	3,533	1,474,305	5,695	9,228
1993-94	1,200,000	1,176,576	22,998	1,199,573	427	23,424
1994-95	1,000,000	889,397	90,171	979,568	20,432	110,603
1995-96	1,097,000	1,079,810	0	1,079,810	17,190	17,190
1996-97	1,570,000	1,528,488	31,339	1,559,827	10,173	41,512
1997-98	1,280,000	1,244,913	24,018	1,268,931	11,069	35,087
1998-99	1,590,000	1,559,879	20,433	1,580,311	9,689	30,121
1999-00	1,644,000	1,600,386	0	1,600,386	43,614	43,614
2000-01	2,890,000	2,864,907	4,471	2,869,377	20,623	25,093
2001-02	2,490,000	2,379,723	81,406	2,461,129	28,871	110,277
2002-03	2,550,000	2,452,252	60,424	2,512,677	37,323	97,748
2003-04	2,263,000	2,163,295	0	2,163,295	99,705	99,705
2004-05	2,120,000	2,059,337	12,915	2,072,252	47,748	60,663
2005-06	1,750,000	1,548,009	168,789	1,716,798	33,202	201,991
2006-07	3,570,000	3,375,728	119,572	3,495,300	74,700	194,272
2007-08	1,840,000	1,638,381	171,419	1,809,800	30,200	201,619
2008-09	2,150,000	2,078,293	39,497	2,117,790	32,210	71,707
2009-10	4,000,000	3,614,763	239,876	3,854,640	145,360	385,237
2010-11	4,600,000	4,393,098	143,910	4,537,008	62,992	206,902
2011-12	3,000,000	2,627,789	288,605	2,916,393	83,607	372,211
2012-13	3,400,000	3,250,660	77,683	3,328,342	71,658	149,340
2013-14	3,900,000	3,658,853	117,722	3,776,575	123,425	241,147
2014-15	2,800,000	2,184,194	400,771	2,584,965	215,035	615,806
2015-16	3,800,000	2,967,978	551,590	3,519,569	280,431	832,022
2016-17	2,400,000	1,689,875	453,457	2,143,332	256,668	710,125
2017-18	2,300,000	1,544,828	292,103	1,836,932	463,068	755,172
2018-19	3,900,000	2,563,901	587,657	3,151,559	748,441	1,336,099
2019-20	4,100,000	2,057,825	1,064,723	3,122,548	977,452	2,042,175
2020-21	4,800,000	2,345,507	1,173,847	3,519,354	1,280,646	2,454,493
2021-22	4,700,000	1,712,722	901,139	2,613,861	2,086,139	2,987,278
2022-23	2,100,000	339,341	449,975	789,315	1,310,685	1,760,659
Total	\$86,656,000	\$70,359,365	\$7,635,562	\$77,994,927	\$8,661,073	\$16,296,635

Notes:

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|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| (1) Page 38, Column (6).
2022-23 value adjusted for 6 month
exposure through 12/31/22. | (3) (4) - (2).
(4) Page 39, Column (1).
(5) (1) - (4).
(6) (3) + (5). |
| (2) Page 40, Column (1). | |

**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)
1987-88	\$130,948	\$131,450	\$130,922	\$130,922	\$131,393	\$135,000
1988-89	733,371	719,490	734,929	733,595	719,320	740,000
1989-90	739,485	743,721	738,804	739,456	743,368	747,000
1990-91	1,273,154	1,266,123	1,274,438	1,272,773	1,265,692	1,280,000
1991-92	1,466,811	1,468,411	1,466,553	1,466,677	1,468,806	1,470,000
1992-93	1,476,373	1,483,804	1,474,976	1,476,083	1,486,773	1,480,000
1993-94	1,202,062	1,189,033	1,205,230	1,201,621	1,186,816	1,200,000
1994-95	982,623	899,831	1,012,571	982,153	899,735	1,000,000
1995-96	1,083,646	1,092,425	1,079,810	1,085,622	1,097,247	1,097,000
1996-97	1,565,413	1,545,919	1,574,337	1,565,389	1,543,784	1,570,000
1997-98	1,273,757	1,259,575	1,280,508	1,273,599	1,258,918	1,280,000
1998-99	1,587,340	1,582,028	1,589,771	1,585,256	1,577,188	1,590,000
1999-00	1,608,634	1,628,544	1,600,386	1,608,759	1,628,856	1,644,000
2000-01	2,886,379	2,929,074	2,871,022	2,892,467	2,949,569	2,890,000
2001-02	2,479,833	2,451,744	2,489,214	2,475,819	2,432,973	2,490,000
2002-03	2,540,916	2,564,363	2,533,282	2,534,703	2,540,355	2,550,000
2003-04	2,205,987	2,351,463	2,163,295	2,206,292	2,344,335	2,263,000
2004-05	2,097,470	2,183,613	2,075,713	2,094,421	2,164,642	2,120,000
2005-06	1,739,764	1,657,045	1,759,164	1,736,137	1,646,190	1,750,000
2006-07	3,546,542	3,650,283	3,523,758	3,544,494	3,639,265	3,570,000
2007-08	1,837,391	1,793,062	1,845,969	1,833,119	1,772,076	1,840,000
2008-09	2,151,353	2,310,536	2,125,057	2,146,357	2,258,625	2,150,000
2009-10	3,918,862	4,088,930	3,894,220	3,933,949	4,189,756	4,000,000
2010-11	4,588,428	4,880,029	4,555,285	4,588,187	4,858,363	4,600,000
2011-12	2,959,944	2,978,522	2,957,663	2,949,439	2,887,751	3,000,000
2012-13	3,398,375	3,791,100	3,341,470	3,395,539	3,708,238	3,400,000
2013-14	3,907,117	4,420,556	3,804,946	3,866,625	4,128,205	3,900,000
2014-15	2,724,267	2,763,353	2,714,414	2,730,134	2,781,947	2,800,000
2015-16	3,746,621	3,912,606	3,704,352	3,700,588	3,683,151	3,800,000
2016-17	2,336,382	2,375,131	2,325,168	2,402,674	2,592,886	2,400,000
2017-18	2,143,608	2,407,259	2,031,181	2,302,418	2,710,171	2,300,000
2018-19	3,955,866	4,624,331	3,644,604	3,846,371	4,090,433	3,900,000
2019-20	4,146,063	4,263,358	4,094,640	4,002,643	3,899,968	4,100,000
2020-21	5,095,594	6,222,856	4,676,767	4,665,079	4,655,497	4,800,000
2021-22	4,929,723	6,950,329	4,105,246	4,410,046	4,594,261	4,700,000
2022-23	5,258,219	8,344,010	4,283,817	4,169,253	4,152,706	4,200,000
Total	\$89,718,321	\$98,923,907	\$86,683,484	\$87,548,661	\$89,689,260	\$88,756,000

Notes:

- (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 Losses as of 12/31/22 (1)	Reported Development Factor as of 12/31/22 (2)	Projected Ultimate Losses (3)
1987-88	\$130,922	1.000	\$130,948
1988-89	732,954	1.001	733,371
1989-90	738,804	1.001	739,485
1990-91	1,271,517	1.001	1,273,154
1991-92	1,465,206	1.001	1,466,811
1992-93	1,474,305	1.001	1,476,373
1993-94	1,199,573	1.002	1,202,062
1994-95	979,568	1.003	982,623
1995-96	1,079,810	1.004	1,083,646
1996-97	1,559,827	1.004	1,565,413
1997-98	1,268,931	1.004	1,273,757
1998-99	1,580,311	1.004	1,587,340
1999-00	1,600,386	1.005	1,608,634
2000-01	2,869,377	1.006	2,886,379
2001-02	2,461,129	1.008	2,479,833
2002-03	2,512,677	1.011	2,540,916
2003-04	2,163,295	1.020	2,205,987
2004-05	2,072,252	1.012	2,097,470
2005-06	1,716,798	1.013	1,739,764
2006-07	3,495,300	1.015	3,546,542
2007-08	1,809,800	1.015	1,837,391
2008-09	2,117,790	1.016	2,151,353
2009-10	3,854,640	1.017	3,918,862
2010-11	4,537,008	1.011	4,588,428
2011-12	2,916,393	1.015	2,959,944
2012-13	3,328,342	1.021	3,398,375
2013-14	3,776,575	1.035	3,907,117
2014-15	2,584,965	1.054	2,724,267
2015-16	3,519,569	1.065	3,746,621
2016-17	2,143,332	1.090	2,336,382
2017-18	1,836,932	1.167	2,143,608
2018-19	3,151,559	1.255	3,955,866
2019-20	3,122,548	1.328	4,146,063
2020-21	3,519,354	1.448	5,095,594
2021-22	2,613,861	1.886	4,929,723
2022-23	789,315	6.662	5,258,219

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 12/31/22 (1)	Paid Development Factor as of 12/31/22 (2)	Projected Ultimate Losses (3)
1987-88	\$130,922	1.004	\$131,450
1988-89	715,476	1.006	719,490
1989-90	738,804	1.007	743,721
1990-91	1,255,642	1.008	1,266,123
1991-92	1,457,040	1.008	1,468,411
1992-93	1,470,772	1.009	1,483,804
1993-94	1,176,576	1.011	1,189,033
1994-95	889,397	1.012	899,831
1995-96	1,079,810	1.012	1,092,425
1996-97	1,528,488	1.011	1,545,919
1997-98	1,244,913	1.012	1,259,575
1998-99	1,559,879	1.014	1,582,028
1999-00	1,600,386	1.018	1,628,544
2000-01	2,864,907	1.022	2,929,074
2001-02	2,379,723	1.030	2,451,744
2002-03	2,452,252	1.046	2,564,363
2003-04	2,163,295	1.087	2,351,463
2004-05	2,059,337	1.060	2,183,613
2005-06	1,548,009	1.070	1,657,045
2006-07	3,375,728	1.081	3,650,283
2007-08	1,638,381	1.094	1,793,062
2008-09	2,078,293	1.112	2,310,536
2009-10	3,614,763	1.131	4,088,930
2010-11	4,393,098	1.111	4,880,029
2011-12	2,627,789	1.133	2,978,522
2012-13	3,250,660	1.166	3,791,100
2013-14	3,658,853	1.208	4,420,556
2014-15	2,184,194	1.265	2,763,353
2015-16	2,967,978	1.318	3,912,606
2016-17	1,689,875	1.406	2,375,131
2017-18	1,544,828	1.558	2,407,259
2018-19	2,563,901	1.804	4,624,331
2019-20	2,057,825	2.072	4,263,358
2020-21	2,345,507	2.653	6,222,856
2021-22	1,712,722	4.058	6,950,329
2022-23	339,341	24.589	8,344,010

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)
1987-88	1.000	1.004	0.053	\$0	\$0	\$130,922
1988-89	1.001	1.006	0.113	17,479	1,975	734,929
1989-90	1.001	1.007	0.162	0	0	738,804
1990-91	1.001	1.008	0.184	15,875	2,921	1,274,438
1991-92	1.001	1.008	0.165	8,166	1,347	1,466,553
1992-93	1.001	1.009	0.190	3,533	671	1,474,976
1993-94	1.002	1.011	0.246	22,998	5,657	1,205,230
1994-95	1.003	1.012	0.366	90,171	33,003	1,012,571
1995-96	1.004	1.012	0.442	0	0	1,079,810
1996-97	1.004	1.011	0.463	31,339	14,510	1,574,337
1997-98	1.004	1.012	0.482	24,018	11,577	1,280,508
1998-99	1.004	1.014	0.463	20,433	9,460	1,589,771
1999-00	1.005	1.018	0.422	0	0	1,600,386
2000-01	1.006	1.022	0.368	4,471	1,645	2,871,022
2001-02	1.008	1.030	0.345	81,406	28,085	2,489,214
2002-03	1.011	1.046	0.341	60,424	20,605	2,533,282
2003-04	1.020	1.087	0.319	0	0	2,163,295
2004-05	1.012	1.060	0.268	12,915	3,461	2,075,713
2005-06	1.013	1.070	0.251	168,789	42,366	1,759,164
2006-07	1.015	1.081	0.238	119,572	28,458	3,523,758
2007-08	1.015	1.094	0.211	171,419	36,169	1,845,969
2008-09	1.016	1.112	0.184	39,497	7,267	2,125,057
2009-10	1.017	1.131	0.165	239,876	39,580	3,894,220
2010-11	1.011	1.111	0.127	143,910	18,277	4,555,285
2011-12	1.015	1.133	0.143	288,605	41,270	2,957,663
2012-13	1.021	1.166	0.169	77,683	13,128	3,341,470
2013-14	1.035	1.208	0.241	117,722	28,371	3,804,946
2014-15	1.054	1.265	0.323	400,771	129,449	2,714,414
2015-16	1.065	1.318	0.335	551,590	184,783	3,704,352
2016-17	1.090	1.406	0.401	453,457	181,836	2,325,168
2017-18	1.167	1.558	0.665	292,103	194,249	2,031,181
2018-19	1.255	1.804	0.839	587,657	493,045	3,644,604
2019-20	1.328	2.072	0.913	1,064,723	972,092	4,094,640
2020-21	1.448	2.653	0.986	1,173,847	1,157,413	4,676,767
2021-22	1.886	4.058	1.655	901,139	1,491,385	4,105,246
2022-23	6.662	24.589	7.766	449,975	3,494,502	4,283,817

Notes:

- (1) Page 39, Column (2).
- (2) Page 40, Column (2).
- (3) $[(1) - 1.000] \times (2) / [(2) - (1)]$.
- (4) $[\text{Page 39, Column (1)}] - [\text{Page 40, Column (1)}]$.
- (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 12/31/22 (5)	Estimated Ultimate Losses (6)
1987-88	\$117,680	1.000	0.0%	\$0	\$130,922	\$130,922
1988-89	640,665	1.001	0.1%	641	732,954	733,595
1989-90	652,063	1.001	0.1%	652	738,804	739,456
1990-91	1,256,243	1.001	0.1%	1,256	1,271,517	1,272,773
1991-92	1,470,691	1.001	0.1%	1,471	1,465,206	1,466,677
1992-93	1,777,834	1.001	0.1%	1,778	1,474,305	1,476,083
1993-94	1,024,042	1.002	0.2%	2,048	1,199,573	1,201,621
1994-95	861,512	1.003	0.3%	2,585	979,568	982,153
1995-96	1,453,044	1.004	0.4%	5,812	1,079,810	1,085,622
1996-97	1,390,565	1.004	0.4%	5,562	1,559,827	1,565,389
1997-98	1,167,064	1.004	0.4%	4,668	1,268,931	1,273,599
1998-99	1,236,326	1.004	0.4%	4,945	1,580,311	1,585,256
1999-00	1,674,687	1.005	0.5%	8,373	1,600,386	1,608,759
2000-01	3,848,293	1.006	0.6%	23,090	2,869,377	2,892,467
2001-02	1,836,204	1.008	0.8%	14,690	2,461,129	2,475,819
2002-03	2,002,351	1.011	1.1%	22,026	2,512,677	2,534,703
2003-04	2,263,000	1.020	1.9%	42,997	2,163,295	2,206,292
2004-05	1,847,453	1.012	1.2%	22,169	2,072,252	2,094,421
2005-06	1,487,590	1.013	1.3%	19,339	1,716,798	1,736,137
2006-07	3,513,831	1.015	1.4%	49,194	3,495,300	3,544,494
2007-08	1,554,598	1.015	1.5%	23,319	1,809,800	1,833,119
2008-09	1,785,467	1.016	1.6%	28,567	2,117,790	2,146,357
2009-10	4,956,834	1.017	1.6%	79,309	3,854,640	3,933,949
2010-11	4,652,651	1.011	1.1%	51,179	4,537,008	4,588,187
2011-12	2,203,064	1.015	1.5%	33,046	2,916,393	2,949,439
2012-13	3,199,849	1.021	2.1%	67,197	3,328,342	3,395,539
2013-14	2,728,792	1.035	3.3%	90,050	3,776,575	3,866,625
2014-15	2,846,443	1.054	5.1%	145,169	2,584,965	2,730,134
2015-16	2,967,522	1.065	6.1%	181,019	3,519,569	3,700,588
2016-17	3,124,606	1.090	8.3%	259,342	2,143,332	2,402,674
2017-18	3,255,149	1.167	14.3%	465,486	1,836,932	2,302,418
2018-19	3,422,718	1.255	20.3%	694,812	3,151,559	3,846,371
2019-20	3,563,139	1.328	24.7%	880,095	3,122,548	4,002,643
2020-21	3,707,849	1.448	30.9%	1,145,725	3,519,354	4,665,079
2021-22	3,821,670	1.886	47.0%	1,796,185	2,613,861	4,410,046
2022-23	3,976,397	6.662	85.0%	3,379,938	789,315	4,169,253

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) $(1) \times (3)$.
- (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 12/31/22 (5)	Estimated Ultimate Losses (6)
1987-88	\$117,680	1.004	0.4%	\$471	\$130,922	\$131,393
1988-89	640,665	1.006	0.6%	3,844	715,476	719,320
1989-90	652,063	1.007	0.7%	4,564	738,804	743,368
1990-91	1,256,243	1.008	0.8%	10,050	1,255,642	1,265,692
1991-92	1,470,691	1.008	0.8%	11,766	1,457,040	1,468,806
1992-93	1,777,834	1.009	0.9%	16,001	1,470,772	1,486,773
1993-94	1,024,042	1.011	1.0%	10,240	1,176,576	1,186,816
1994-95	861,512	1.012	1.2%	10,338	889,397	899,735
1995-96	1,453,044	1.012	1.2%	17,437	1,079,810	1,097,247
1996-97	1,390,565	1.011	1.1%	15,296	1,528,488	1,543,784
1997-98	1,167,064	1.012	1.2%	14,005	1,244,913	1,258,918
1998-99	1,236,326	1.014	1.4%	17,309	1,559,879	1,577,188
1999-00	1,674,687	1.018	1.7%	28,470	1,600,386	1,628,856
2000-01	3,848,293	1.022	2.2%	84,662	2,864,907	2,949,569
2001-02	1,836,204	1.030	2.9%	53,250	2,379,723	2,432,973
2002-03	2,002,351	1.046	4.4%	88,103	2,452,252	2,540,355
2003-04	2,263,000	1.087	8.0%	181,040	2,163,295	2,344,335
2004-05	1,847,453	1.060	5.7%	105,305	2,059,337	2,164,642
2005-06	1,487,590	1.070	6.6%	98,181	1,548,009	1,646,190
2006-07	3,513,831	1.081	7.5%	263,537	3,375,728	3,639,265
2007-08	1,554,598	1.094	8.6%	133,695	1,638,381	1,772,076
2008-09	1,785,467	1.112	10.1%	180,332	2,078,293	2,258,625
2009-10	4,956,834	1.131	11.6%	574,993	3,614,763	4,189,756
2010-11	4,652,651	1.111	10.0%	465,265	4,393,098	4,858,363
2011-12	2,203,064	1.133	11.8%	259,962	2,627,789	2,887,751
2012-13	3,199,849	1.166	14.3%	457,578	3,250,660	3,708,238
2013-14	2,728,792	1.208	17.2%	469,352	3,658,853	4,128,205
2014-15	2,846,443	1.265	21.0%	597,753	2,184,194	2,781,947
2015-16	2,967,522	1.318	24.1%	715,173	2,967,978	3,683,151
2016-17	3,124,606	1.406	28.9%	903,011	1,689,875	2,592,886
2017-18	3,255,149	1.558	35.8%	1,165,343	1,544,828	2,710,171
2018-19	3,422,718	1.804	44.6%	1,526,532	2,563,901	4,090,433
2019-20	3,563,139	2.072	51.7%	1,842,143	2,057,825	3,899,968
2020-21	3,707,849	2.653	62.3%	2,309,990	2,345,507	4,655,497
2021-22	3,821,670	4.058	75.4%	2,881,539	1,712,722	4,594,261
2022-23	3,976,397	24.589	95.9%	3,813,365	339,341	4,152,706

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)
1987-88	\$130,987	\$132,057	\$130,922			\$135,000
1988-89	734,054	724,712	735,279			740,000
1989-90	753,210	763,581	751,264			759,000
1990-91	1,421,797	1,388,854	1,428,449			1,430,000
1991-92	1,711,218	1,510,081	1,748,999			1,740,000
1992-93	2,110,635	2,065,302	2,120,373			2,120,000
1993-94	1,207,584	1,213,413	1,206,012			1,210,000
1994-95	991,017	919,571	1,019,071			1,010,000
1995-96	1,678,339	1,444,656	1,788,423			1,740,000
1996-97	1,705,321	1,715,002	1,700,588			1,710,000
1997-98	1,472,516	1,487,051	1,465,195			1,480,000
1998-99	1,613,563	1,641,801	1,599,819			1,620,000
1999-00	2,273,293	2,356,939	2,235,976			2,279,000
2000-01	5,503,671	5,750,773	5,407,276			5,460,000
2001-02	2,561,186	2,585,914	2,552,067			2,570,000
2002-03	2,562,263	2,644,523	2,534,611			2,590,000
2003-04	2,205,987	2,351,463	2,163,295			2,263,000
2004-05	2,232,837	2,256,277	2,226,758			2,240,000
2005-06	1,752,588	1,714,104	1,761,865			1,760,000
2006-07	4,163,478	4,209,145	4,153,175			4,180,000
2007-08	1,849,508	1,856,104	1,848,198			1,860,000
2008-09	2,164,210	2,392,524	2,125,492			2,150,000
2009-10	5,923,696	6,210,260	5,881,145			6,010,000
2010-11	7,028,116	7,227,978	7,000,749			7,100,000
2011-12	3,318,820	3,531,666	3,286,473			3,400,000
2012-13	4,811,522	4,999,032	4,778,193			4,900,000
2013-14	8,684,480	9,648,128	8,445,227	\$8,433,379	\$4,621,763	8,600,000
2014-15	4,144,433	3,699,072	4,291,134	4,166,092	2,737,149	4,300,000
2015-16	6,930,345	5,155,234	7,505,802	6,718,256	4,803,032	6,900,000
2016-17	2,877,184	2,853,546	2,885,506	3,139,337	4,298,358	3,000,000
2017-18	4,410,850	3,023,242	5,131,848	4,594,887	3,904,391	4,600,000
2018-19	4,705,915	5,651,844	4,197,135	4,971,298	7,100,395	4,900,000
2019-20	5,148,623	5,081,093	5,181,640	5,430,319	6,885,496	5,300,000
2020-21	5,492,295	6,736,213	4,985,151	5,844,751	7,870,802	5,800,000
2021-22	5,772,205	7,456,600	5,039,354	6,312,899	10,249,472	6,200,000
2022-23	5,746,243	8,895,749	4,701,844	7,072,547	9,528,400	7,100,000
Total	\$117,793,989	\$123,293,504	\$116,014,307			\$121,156,000
13/14-22/23	\$53,912,573	\$58,200,721	\$52,364,641	\$56,683,765	\$61,999,258	\$56,700,000

(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 12/31/22 (1)	Reported Development Factor as of 12/31/22 (2)	Projected Ultimate Losses (3)
1987-88	\$130,922	1.000	\$130,987
1988-89	732,954	1.001	734,054
1989-90	751,264	1.003	753,210
1990-91	1,417,288	1.003	1,421,797
1991-92	1,705,268	1.003	1,711,218
1992-93	2,100,646	1.005	2,110,635
1993-94	1,199,573	1.007	1,207,584
1994-95	981,626	1.010	991,017
1995-96	1,659,254	1.012	1,678,339
1996-97	1,684,699	1.012	1,705,321
1997-98	1,452,585	1.014	1,472,516
1998-99	1,589,398	1.015	1,613,563
1999-00	2,235,976	1.017	2,273,293
2000-01	5,405,421	1.018	5,503,671
2001-02	2,512,623	1.019	2,561,186
2002-03	2,512,677	1.020	2,562,263
2003-04	2,163,295	1.020	2,205,987
2004-05	2,189,626	1.020	2,232,837
2005-06	1,716,798	1.021	1,752,588
2006-07	4,074,031	1.022	4,163,478
2007-08	1,809,800	1.022	1,849,508
2008-09	2,117,790	1.022	2,164,210
2009-10	5,795,360	1.022	5,923,696
2010-11	6,868,041	1.023	7,028,116
2011-12	3,225,761	1.029	3,318,820
2012-13	4,634,543	1.038	4,811,522
2013-14	8,201,168	1.059	8,684,480
2014-15	3,800,244	1.091	4,144,433
2015-16	6,277,653	1.104	6,930,345
2016-17	2,525,091	1.139	2,877,184
2017-18	3,561,305	1.239	4,410,850
2018-19	3,510,244	1.341	4,705,915
2019-20	3,650,387	1.410	5,148,623
2020-21	3,562,494	1.542	5,492,295
2021-22	2,861,421	2.017	5,772,205
2022-23	789,315	7.280	5,746,243
Total	\$101,406,540		\$117,793,989

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 12/31/22 (1)	Paid Development Factor as of 12/31/22 (2)	Projected Ultimate Losses (3)
1987-88	\$130,922	1.009	\$132,057
1988-89	715,476	1.013	724,712
1989-90	751,264	1.016	763,581
1990-91	1,363,111	1.019	1,388,854
1991-92	1,477,503	1.022	1,510,081
1992-93	2,011,384	1.027	2,065,302
1993-94	1,176,576	1.031	1,213,413
1994-95	889,397	1.034	919,571
1995-96	1,394,563	1.036	1,444,656
1996-97	1,653,359	1.037	1,715,002
1997-98	1,428,566	1.041	1,487,051
1998-99	1,568,965	1.046	1,641,801
1999-00	2,235,976	1.054	2,356,939
2000-01	5,400,950	1.065	5,750,773
2001-02	2,412,256	1.072	2,585,914
2002-03	2,452,252	1.078	2,644,523
2003-04	2,163,295	1.087	2,351,463
2004-05	2,059,337	1.096	2,256,277
2005-06	1,548,009	1.107	1,714,104
2006-07	3,761,208	1.119	4,209,145
2007-08	1,638,381	1.133	1,856,104
2008-09	2,078,293	1.151	2,392,524
2009-10	5,305,160	1.171	6,210,260
2010-11	6,053,884	1.194	7,227,978
2011-12	2,899,352	1.218	3,531,666
2012-13	3,987,471	1.254	4,999,032
2013-14	7,440,859	1.297	9,648,128
2014-15	2,709,377	1.365	3,699,072
2015-16	3,619,322	1.424	5,155,234
2016-17	1,873,346	1.523	2,853,546
2017-18	1,780,643	1.698	3,023,242
2018-19	2,863,454	1.974	5,651,844
2019-20	2,248,141	2.260	5,081,093
2020-21	2,345,507	2.872	6,736,213
2021-22	1,712,722	4.354	7,456,600
2022-23	339,341	26.215	8,895,749
Total	\$85,489,622		\$123,293,504

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 12/31/22 (1)	Paid Development Factor as of 12/31/22 (2)	IBNR to Case Reserves Ratio (3)	Case Reserves 12/31/22 (4)	Estimated IBNR Losses as of 12/31/22 (5)	Estimated Ultimate Losses (6)
1987-88	1.000	1.009	0.062	\$0	\$0	\$130,922
1988-89	1.001	1.013	0.133	17,479	2,325	735,279
1989-90	1.003	1.016	0.191	0	0	751,264
1990-91	1.003	1.019	0.206	54,178	11,161	1,428,449
1991-92	1.003	1.022	0.192	227,766	43,731	1,748,999
1992-93	1.005	1.027	0.221	89,262	19,727	2,120,373
1993-94	1.007	1.031	0.280	22,998	6,439	1,206,012
1994-95	1.010	1.034	0.406	92,230	37,445	1,019,071
1995-96	1.012	1.036	0.488	264,691	129,169	1,788,423
1996-97	1.012	1.037	0.507	31,339	15,889	1,700,588
1997-98	1.014	1.041	0.525	24,018	12,610	1,465,195
1998-99	1.015	1.046	0.510	20,433	10,421	1,599,819
1999-00	1.017	1.054	0.470	0	0	2,235,976
2000-01	1.018	1.065	0.415	4,471	1,855	5,407,276
2001-02	1.019	1.072	0.393	100,366	39,444	2,552,067
2002-03	1.020	1.078	0.363	60,424	21,934	2,534,611
2003-04	1.020	1.087	0.319	0	0	2,163,295
2004-05	1.020	1.096	0.285	130,289	37,132	2,226,758
2005-06	1.021	1.107	0.267	168,789	45,067	1,761,865
2006-07	1.022	1.119	0.253	312,823	79,144	4,153,175
2007-08	1.022	1.133	0.224	171,419	38,398	1,848,198
2008-09	1.022	1.151	0.195	39,497	7,702	2,125,492
2009-10	1.022	1.171	0.175	490,201	85,785	5,881,145
2010-11	1.023	1.194	0.163	814,157	132,708	7,000,749
2011-12	1.029	1.218	0.186	326,409	60,712	3,286,473
2012-13	1.038	1.254	0.222	647,072	143,650	4,778,193
2013-14	1.059	1.297	0.321	760,309	244,059	8,445,227
2014-15	1.091	1.365	0.450	1,090,867	490,890	4,291,134
2015-16	1.104	1.424	0.462	2,658,331	1,228,149	7,505,802
2016-17	1.139	1.523	0.553	651,745	360,415	2,885,506
2017-18	1.239	1.698	0.882	1,780,661	1,570,543	5,131,848
2018-19	1.341	1.974	1.062	646,790	686,891	4,197,135
2019-20	1.410	2.260	1.092	1,402,246	1,531,253	5,181,640
2020-21	1.542	2.872	1.169	1,216,986	1,422,657	4,985,151
2021-22	2.017	4.354	1.896	1,148,699	2,177,933	5,039,354
2022-23	7.280	26.215	8.695	449,975	3,912,529	4,701,844
Total				\$15,916,918	\$14,607,767	\$116,014,307

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 12/31/22 (5)	Estimated Ultimate Losses (6)
2013-14	\$4,146,621	1.059	5.6%	\$232,211	\$8,201,168	\$8,433,379
2014-15	4,407,812	1.091	8.3%	365,848	3,800,244	4,166,092
2015-16	4,687,262	1.104	9.4%	440,603	6,277,653	6,718,256
2016-17	5,034,806	1.139	12.2%	614,246	2,525,091	3,139,337
2017-18	5,355,346	1.239	19.3%	1,033,582	3,561,305	4,594,887
2018-19	5,752,182	1.341	25.4%	1,461,054	3,510,244	4,971,298
2019-20	6,116,605	1.410	29.1%	1,779,932	3,650,387	5,430,319
2020-21	6,502,158	1.542	35.1%	2,282,257	3,562,494	5,844,751
2021-22	6,848,170	2.017	50.4%	3,451,478	2,861,421	6,312,899
2022-23	7,280,686	7.280	86.3%	6,283,232	789,315	7,072,547

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)
2013-14	\$9.61	0.629	\$686,232	\$4,146,621
2014-15	9.61	0.662	693,094	4,407,812
2015-16	9.61	0.697	700,025	4,687,262
2016-17	9.61	0.734	714,026	5,034,806
2017-18	9.61	0.773	721,166	5,355,346
2018-19	9.61	0.814	735,589	5,752,182
2019-20	9.61	0.857	742,945	6,116,605
2020-21	9.61	0.902	750,375	6,502,158
2021-22	9.61	0.950	750,375	6,848,170
2022-23	9.61	1.000	757,879	7,280,686

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)
2008-09	\$2,271,576	1.672	\$767,472	\$4.95
2009-10	6,057,277	1.621	744,448	13.19
2010-11	7,120,357	1.571	722,115	15.49
2011-12	3,416,280	1.523	700,451	7.43
2012-13	4,896,462	1.556	679,438	11.22
2013-14	9,117,681	1.590	686,232	21.12
2014-15	3,946,662	1.510	693,094	8.60
2015-16	6,277,653	1.434	700,025	12.86
2016-17	2,867,068	1.362	714,026	5.47
2017-18	3,825,566	1.294	721,166	6.86
2018-19	5,088,528	1.229	735,589	8.50
2019-20	5,122,674	1.167	742,945	8.05
2020-21	5,926,798	1.109	750,375	8.76
2021-22	6,305,544	1.053	750,375	8.85
2022-23	6,430,782	1.000	757,879	8.49
Average				\$9.99
08/09-21/22				\$10.10
			(5) Selected A Priori 2022-23 Loss Rate:	\$9.61

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 <u>(1)</u>	Paid Loss Projection <u>(2)</u>	<i>A Priori</i> Selection <u>(3)</u>
1987-88	\$130,987	\$132,057	\$131,520
1988-89	734,054	724,712	732,954
1989-90	753,210	763,581	758,360
1990-91	1,421,797	1,388,854	1,417,288
1991-92	1,711,218	1,510,081	1,705,268
1992-93	2,110,635	2,065,302	2,100,646
1993-94	1,207,584	1,213,413	1,210,464
1994-95	991,017	919,571	981,626
1995-96	1,678,339	1,444,656	1,659,254
1996-97	1,705,321	1,715,002	1,710,103
1997-98	1,472,516	1,487,051	1,479,687
1998-99	1,613,563	1,641,801	1,627,468
1999-00	2,273,293	2,356,939	2,314,360
2000-01	5,503,671	5,750,773	5,624,459
2001-02	2,561,186	2,585,914	2,573,239
2002-03	2,562,263	2,644,523	2,602,243
2003-04	2,205,987	2,351,463	2,276,403
2004-05	2,232,837	2,256,277	2,244,137
2005-06	1,752,588	1,714,104	1,734,128
2006-07	4,163,478	4,209,145	4,185,275
2007-08	1,849,508	1,856,104	1,852,637
2008-09	2,164,210	2,392,524	2,271,576
2009-10	5,923,696	6,210,260	6,057,277
2010-11	7,028,116	7,227,978	7,120,357
2011-12	3,318,820	3,531,666	3,416,280
2012-13	4,811,522	4,999,032	4,896,462
2013-14	8,684,480	9,648,128	9,117,681
2014-15	4,144,433	3,699,072	3,946,662
2015-16	6,930,345	5,155,234	6,277,653
2016-17	2,877,184	2,853,546	2,867,068
2017-18	4,410,850	3,023,242	3,825,566
2018-19	4,705,915	5,651,844	5,088,528
2019-20	5,148,623	5,081,093	5,122,674
2020-21	5,492,295	6,736,213	5,926,798
2021-22	5,772,205	7,456,600	6,305,544
2022-23	5,746,243	8,895,749	6,430,782
Total	\$117,793,989	\$123,293,504	\$119,592,427

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)
2013-14	\$114,800	0.629	64	\$4,621,763
2014-15	114,800	0.662	36	2,737,149
2015-16	114,800	0.697	60	4,803,032
2016-17	114,800	0.734	51	4,298,358
2017-18	114,800	0.773	44	3,904,391
2018-19	114,800	0.814	76	7,100,395
2019-20	114,800	0.857	70	6,885,496
2020-21	114,800	0.902	76	7,870,802
2021-22	114,800	0.950	94	10,249,472
2022-23	114,800	1.000	83	9,528,400

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)
2010-11	\$7,120,357	1.571	88	\$127,138
2011-12	3,416,280	1.523	72	72,284
2012-13	4,896,462	1.556	62	122,902
2013-14	9,117,681	1.590	64	226,474
2014-15	3,946,662	1.510	36	165,529
2015-16	6,277,653	1.434	60	150,046
2016-17	2,867,068	1.362	51	76,573
2017-18	3,825,566	1.294	44	112,482
2018-19	5,088,528	1.229	76	82,272
2019-20	5,122,674	1.167	70	85,409
2020-21	5,926,798	1.109	76	86,446
2021-22	6,305,544	1.053	94	70,626
Average				\$114,848
			(5) Selected Severity:	\$114,800

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 (1)	Bornhuetter- Ferguson Method (2)	Selected Claim Count (3)
1987-88	8		8
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	67		67
2005-06	53		53
2006-07	76		76
2007-08	59		59
2008-09	80		80
2009-10	58		58
2010-11	88		88
2011-12	72		72
2012-13	62		62
2013-14	64		64
2014-15	36		36
2015-16	60		60
2016-17	51		51
2017-18	44		44
2018-19	76		76
2019-20	70		70
2020-21	76		76
2021-22	94		94
2022-23	88	83	83

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 12/31/22 <u>(1)</u>	Development Factors as of 12/31/22 <u>(2)</u>	Projected Ultimate Indemnity Claims <u>(3)</u>
1987-88	8	1.000	8
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	67	1.000	67
2005-06	53	1.000	53
2006-07	76	1.000	76
2007-08	59	1.000	59
2008-09	80	1.000	80
2009-10	58	1.000	58
2010-11	88	1.000	88
2011-12	72	1.000	72
2012-13	62	1.000	62
2013-14	64	1.000	64
2014-15	36	1.000	36
2015-16	60	1.000	60
2016-17	51	1.002	51
2017-18	44	1.005	44
2018-19	75	1.013	76
2019-20	69	1.018	70
2020-21	74	1.034	76
2021-22	89	1.058	94
2022-23	33	2.655	88
Total	2,056		2,120

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 12/31/22 (5)	Projected Ultimate Claims (6)
2022-23	80	2.655	62.3%	50	33	83

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>
2013-14	64	\$68.6	0.93
2014-15	36	69.3	0.52
2015-16	60	70.0	0.86
2016-17	51	71.4	0.71
2016-17	51	71.4	0.71
2017-18	44	72.1	0.61
2018-19	76	73.6	1.03
2019-20	70	74.3	0.94
2020-21	76	75.0	1.01
2021-22	94	75.0	1.25
2022-23	88	75.8	1.16
Average			0.89
18/19-21/22			1.06
		(4) Selected Claim Frequency:	1.06
		(5) 2022-23 Trended Payroll (\$Millions):	\$75.8
		(6) 2022-23 A Priori Claim Count:	80

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 2023-24
Unlimited Losses Including 4850/TD

Program Year	2022-23 Level Loss Rate (1)	Expected Increase for 2023-24 (2)	Trended Payroll (\$00's) (3)	Projected Ultimate Losses (4)	Projected 2023-24 Unlimited Loss Rate (5)
2023-24	\$10.80	1.053	\$765,457	8,703,882	\$10.94
			(6) Projected 4850 :	\$390,000	
			(7) Projected TD :	\$790,000	
	<u>Full Rate</u>	<u>Excluding 4850 Only</u>	<u>Excluding TD Only</u>	<u>Excluding 4850 & TD</u>	
Unlimited	\$10.94	\$10.45	\$9.95	\$9.46	
\$1M Limit:	\$9.31	\$8.82	\$8.31	\$7.82	
\$750K Limit:	\$8.74	\$8.25	\$7.74	\$7.25	
\$500K Limit:	\$7.69	\$7.20	\$6.69	\$6.20	
\$350K Limit:	\$6.72	\$6.23	\$5.73	\$5.24	
\$250K Limit:	\$5.85	\$5.36	\$4.85	\$4.36	

Notes:

- (1) Page 61, Item (11).
- (2) 5.3% 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)
2009-10	\$6,010,000	1.621	\$744,448	\$13.08
2010-11	7,100,000	1.571	722,115	15.45
2011-12	3,400,000	1.523	700,451	7.39
2012-13	4,900,000	1.556	679,438	11.22
2013-14	8,600,000	1.590	686,232	19.92
2014-15	4,300,000	1.510	693,094	9.37
2015-16	6,900,000	1.434	700,025	14.14
2016-17	3,000,000	1.362	714,026	5.72
2017-18	4,600,000	1.294	721,166	8.25
2018-19	4,900,000	1.229	735,589	8.19
2019-20	5,300,000	1.167	742,945	8.33
2020-21	5,800,000	1.109	750,375	8.57

Average \$10.80

(5) Selected Loss Rate: \$10.80

Program Year	Largest Claim (6)	Severity Trend (7)	LDF (8)	Trended Developed Max Claim (9)
2009-10	\$1,497,867	1.571	1.023	\$2,408,445
2010-11	455,180	1.523	1.029	713,441
2011-12	689,234	1.556	1.038	1,113,553
2012-13	2,499,910	1.590	1.059	4,208,300
2013-14	950,964	1.510	1.091	1,565,899
2014-15	1,809,889	1.434	1.104	2,865,412
2015-16	433,197	1.362	1.139	672,335
2016-17	1,774,872	1.294	1.239	2,843,947
2017-18	409,853	1.229	1.341	675,161
2019-20	480,501	1.167	1.410	790,954

(10) Factor for Unlimited Retention: 1.000

(11) Unlimited 2022-23 Rate: **\$10.80**

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 2022-23.
- (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 6/30/23
Assuming a 3.5% Interest Rate
Limited Self-Insured Losses Excluding 4850

Program Year	Projected Unpaid Losses (1)	Discount Factor (2)	Discounted Unpaid Losses (3)
1987-88	\$3,635	0.935	\$3,399
1988-89	22,377	0.919	20,563
1989-90	7,594	0.903	6,859
1990-91	22,819	0.888	20,257
1991-92	12,240	0.873	10,680
1992-93	8,769	0.858	7,522
1993-94	22,367	0.843	18,864
1994-95	106,016	0.829	87,931
1995-96	16,528	0.816	13,484
1996-97	40,014	0.803	32,118
1997-98	33,890	0.790	26,772
1998-99	29,142	0.778	22,666
1999-00	42,253	0.766	32,368
2000-01	22,652	0.755	17,098
2001-02	99,666	0.774	77,174
2002-03	88,434	0.789	69,808
2003-04	90,286	0.801	72,323
2004-05	54,977	0.810	44,535
2005-06	183,189	0.817	149,673
2006-07	176,309	0.822	144,999
2007-08	183,097	0.827	151,337
2008-09	65,163	0.830	54,064
2009-10	350,325	0.832	291,476
2010-11	188,296	0.834	156,987
2011-12	339,038	0.835	283,064
2012-13	136,170	0.836	113,788
2013-14	220,149	0.836	184,037
2014-15	556,689	0.836	465,353
2015-16	751,070	0.839	629,842
2016-17	652,336	0.841	548,705
2017-18	680,556	0.839	570,686
2018-19	1,206,069	0.842	1,015,125
2019-20	1,836,001	0.843	1,548,544
2020-21	2,137,155	0.846	1,808,598
2021-22	2,538,855	0.851	2,160,718
2022-23	3,369,377	0.860	2,897,375
Total	\$16,293,500		\$13,758,792

(4) Indicated Discount Factor: 0.844

Notes:

- (1) Page 24, Column (6).
- (2) (3) / (1).
- (3) Based upon a 3.5% interest rate.
- (4) [Sum of Column (3)] / [Sum of Column (1)].

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Discounted Value of 2023-24 Losses as of 7/1/23
Assuming a 3.5% Interest rate

Unlimited Losses Including 4850/TD

Fiscal Year	Projected Loss Payments (1)	Discount Factor (2)	Discounted Value of Payments (3)
2023-24	\$1,073,886	0.983	\$1,055,572
2024-25	1,546,678	0.950	1,468,891
2025-26	1,040,710	0.918	954,946
2026-27	781,216	0.887	692,596
2027-28	619,284	0.857	530,467
2028-29	540,919	0.828	447,672
2029-30	368,599	0.800	294,742
2030-31	333,632	0.773	257,759
2031-32	281,923	0.746	210,444
2032-33	213,800	0.721	154,197
2033-34	193,149	0.697	134,592
2034-35	174,492	0.673	117,480
2035-36	157,638	0.650	102,543
2036-37	142,411	0.628	89,505
2037-38	128,655	0.607	78,126
2038-39	116,228	0.587	68,193
2039-40	105,002	0.567	59,522
2040-41	94,859	0.548	51,955
2041-42	85,697	0.529	45,349
2042-43	77,419	0.511	39,583
2043-44	69,941	0.494	34,551
2044-45	63,185	0.477	30,158
2045-46	57,082	0.461	26,323
2046-47	51,568	0.446	22,977
2047-48	46,587	0.430	20,055
48-49 to 52-53	339,320	0.352	119,402
Total	\$8,703,882		\$7,107,600

(4) Indicated Discount Factor: 0.817

Notes:

- (1) Based upon the observed payment pattern.
- (2) Based upon a 3.5% 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 2023-24 Losses as of 7/1/23
Assuming a 3.5% 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)
2023-24	\$913,452	0.983	\$897,874
2024-25	1,315,611	0.950	1,249,445
2025-26	885,233	0.918	812,281
2026-27	664,505	0.887	589,125
2027-28	526,766	0.857	451,217
2028-29	460,108	0.828	380,792
2029-30	313,532	0.800	250,709
2030-31	308,946	0.773	238,688
2031-32	260,805	0.746	194,681
2032-33	199,601	0.721	143,956
2033-34	178,620	0.697	124,468
2034-35	159,571	0.673	107,433
2035-36	142,342	0.650	92,593
2036-37	126,812	0.628	79,701
2037-38	112,852	0.607	68,529
2038-39	100,333	0.587	58,867
2039-40	89,129	0.567	50,525
2040-41	79,120	0.548	43,334
2041-42	70,189	0.529	37,143
2042-43	62,232	0.511	31,818
2043-44	55,148	0.494	27,243
2044-45	48,847	0.477	23,314
2045-46	43,247	0.461	19,944
2046-47	29,942	0.446	13,341
2047-48	27,491	0.430	11,835
48-49 to 52-53	229,124	0.347	79,549
Total	\$7,403,559		\$6,078,405

(4) Indicated Discount Factor: 0.821

Notes:

- (1) Based upon the observed payment pattern.
- (2) Based upon a 3.5% 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 2023-24 Losses as of 7/1/23
Assuming a 3.5% 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)
2023-24	\$778,325	0.983	\$765,052
2024-25	1,119,071	0.950	1,062,789
2025-26	751,498	0.918	689,568
2026-27	554,220	0.887	491,350
2027-28	436,297	0.857	373,724
2028-29	407,852	0.828	337,544
2029-30	283,006	0.800	226,299
2030-31	269,494	0.773	208,207
2031-32	224,738	0.746	167,758
2032-33	171,832	0.721	123,928
2033-34	150,768	0.697	105,060
2034-35	131,856	0.673	88,774
2035-36	115,001	0.650	74,808
2036-37	100,073	0.628	62,896
2037-38	86,918	0.607	52,781
2038-39	75,373	0.587	44,222
2039-40	65,274	0.567	37,002
2040-41	56,465	0.548	30,926
2041-42	48,798	0.529	25,823
2042-43	42,137	0.511	21,544
2043-44	36,358	0.494	17,961
2044-45	31,350	0.477	14,963
2045-46	27,014	0.461	12,458
2046-47	12,993	0.446	5,789
2047-48	12,220	0.430	5,260
48-49 to 52-53	125,826	0.340	42,797
Total	\$6,114,756		\$5,089,283

(4) Indicated Discount Factor: 0.832

Notes:

- (1) Based upon the observed payment pattern.
- (2) Based upon a 3.5% 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 2023-24 Losses as of 7/1/23
Assuming a 3.5% 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)
2023-24	\$713,721	0.983	\$701,549
2024-25	1,044,431	0.950	991,903
2025-26	675,493	0.918	619,826
2026-27	497,804	0.887	441,334
2027-28	380,420	0.857	325,860
2028-29	344,080	0.828	284,765
2029-30	235,569	0.800	188,368
2030-31	240,437	0.773	185,759
2031-32	198,055	0.746	147,840
2032-33	150,576	0.721	108,599
2033-34	129,971	0.697	90,567
2034-35	111,730	0.673	75,224
2035-36	95,732	0.650	62,273
2036-37	81,804	0.628	51,414
2037-38	69,750	0.607	42,355
2038-39	59,367	0.587	34,831
2039-40	50,456	0.567	28,602
2040-41	42,832	0.548	23,459
2041-42	36,324	0.529	19,222
2042-43	30,779	0.511	15,737
2043-44	26,060	0.494	12,874
2044-45	22,050	0.477	10,524
2045-46	18,644	0.461	8,598
2046-47	6,749	0.446	3,007
2047-48	6,476	0.430	2,788
48-49 to 52-53	80,414	0.334	26,883
Total	\$5,349,723		\$4,504,161

(4) Indicated Discount Factor: 0.842

Notes:

- (1) Based upon the observed payment pattern.
- (2) Based upon a 3.5% 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 2023-24 Losses as of 7/1/23
Assuming a 3.5% 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)
2023-24	\$660,549	0.983	\$649,285
2024-25	935,018	0.950	887,993
2025-26	617,878	0.918	566,959
2026-27	455,051	0.887	403,431
2027-28	353,151	0.857	302,502
2028-29	297,149	0.828	245,925
2029-30	202,574	0.800	161,984
2030-31	202,361	0.773	156,341
2031-32	163,855	0.746	122,311
2032-33	123,188	0.721	88,845
2033-34	104,469	0.697	72,797
2034-35	88,242	0.673	59,410
2035-36	74,302	0.650	48,333
2036-37	62,410	0.628	39,225
2037-38	52,321	0.607	31,771
2038-39	43,796	0.587	25,696
2039-40	36,617	0.567	20,757
2040-41	30,586	0.548	16,752
2041-42	25,528	0.529	13,509
2042-43	21,293	0.511	10,887
2043-44	17,750	0.494	8,769
2044-45	14,789	0.477	7,059
2045-46	12,314	0.461	5,679
2046-47	3,455	0.446	1,540
2047-48	3,378	0.430	1,454
48-49 to 52-53	50,251	0.329	16,538
Total	\$4,652,277		\$3,965,752

(4) Indicated Discount Factor: 0.852

Notes:

- (1) Based upon the observed payment pattern.
- (2) Based upon a 3.5% 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 12/31/22 - Unlimited

Program Year	Months of Development										
	<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	7,016
2012	586	1,659	2,086	2,501	2,742	2,972	3,170	3,349	3,137	3,121	3,277
2013	266	1,347	2,301	2,538	2,916	3,165	3,810	4,108	4,404	4,964	4,635
2014	400	1,704	2,849	3,714	4,357	5,318	11,077	7,843	7,904	8,201	
2015	79	822	1,038	1,382	2,353	2,887	3,069	3,238	3,800		
2016	464	1,118	1,848	3,145	4,321	4,680	5,506	6,278			
2017	278	775	1,300	2,218	2,262	2,260	2,525				
2018	161	1,229	1,544	2,272	2,447	3,561					
2019	239	1,092	2,742	3,531	3,510						
2020	324	1,798	2,677	3,650							
2021	1,140	2,777	3,562								
2022	964	2,861									
2023	789										
	<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	3.528	1.304	1.139	1.139	1.081	1.154	1.015	0.997	1.027	1.016	
REFERENCE	2.839	1.259	1.099	1.052	1.037	1.024	1.011	1.012	1.009	1.007	1.038
SELECTED	3.609	1.308	1.093	1.052	1.082	1.087	1.032	1.012	1.030	1.020	1.038
CUMULATIVE	7.280	2.017	1.542	1.410	1.341	1.239	1.139	1.104	1.091	1.059	1.038

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Cumulative Paid Losses (\$000's) as of 12/31/22 - 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	5,461
2012	192	728	1,366	1,855	2,059	2,215	2,375	2,491	2,589	2,746	2,831
2013	136	805	1,579	1,865	2,181	2,467	2,945	3,075	3,290	3,875	3,987
2014	161	1,145	2,099	2,673	3,320	3,675	4,116	6,780	7,140	7,441	
2015	23	475	772	1,150	1,376	1,801	2,161	2,453	2,709		
2016	156	751	1,329	2,234	2,558	2,826	3,333	3,619			
2017	154	576	854	1,016	1,283	1,411	1,873				
2018	71	505	966	1,437	1,598	1,781					
2019	86	722	1,488	2,418	2,863						
2020	150	828	1,766	2,248							
2021	239	1,155	2,346								
2022	297	1,713									
2023	339										
	<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	5.804	1.662	1.289	1.137	1.126	1.083	1.105	1.046	1.044	1.032	
REFERENCE	3.616	1.678	1.286	1.172	1.122	1.085	1.061	1.050	1.038	1.037	1.254
SELECTED	6.021	1.516	1.271	1.145	1.163	1.115	1.069	1.043	1.053	1.034	1.254
CUMULATIVE	26.215	4.354	2.872	2.260	1.974	1.698	1.523	1.424	1.365	1.297	1.254

Monterey Bay Area Self Insurance Authority
Workers' Compensation Program

Cumulative # of Indemnity Losses Reported as of 12/31/22 - Unlimited

Program	Months of Development											
	<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	57
2011	44	86	87	86	87	88	88	88	88	88	88	88
2012	25	66	68	69	71	73	73	73	73	72	72	72
2013	19	53	56	58	59	59	60	61	61	62	62	
2014	26	57	58	61	61	64	65	65	65	64		
2015	9	29	33	33	36	36	36	36	36			
2016	21	57	60	61	61	61	60	60				
2017	15	48	49	49	51	51	51					
2018	16	42	44	44	44	44						
2019	24	70	73	75	75							
2020	26	69	70	69								
2021	48	75	74									
2022	30	89										
2023	33											
	<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	2.420	1.032	1.010	1.011	1.009	1.080	1.003	1.000	0.998	1.000	1.002	
SELECTED	2.508	1.024	1.015	1.006	1.007	1.004	1.002	1.000	1.000	1.000	1.000	1.000
CUMULATIVE	2.655	1.058	1.034	1.018	1.013	1.005	1.002	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 2022-23 (\$00's) (3)
1987-88	\$250,000	\$0	\$0
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	687,904
1998-99	300,000	212,991	694,783
1999-00	300,000	267,420	701,730
2000-01	300,000	263,274	708,748
2001-02	350,000	297,462	715,835
2002-03	500,000	346,678	722,994
2003-04	10,000,000	401,995	730,224
2004-05	500,000	401,860	737,526
2005-06	500,000	429,640	744,901
2006-07	500,000	428,182	752,350
2007-08	500,000	437,000	759,874
2008-09	500,000	470,000	767,472
2009-10	500,000	455,000	744,448
2010-11	250,000	454,739	722,115
2011-12	250,000	454,479	700,451
2012-13	250,000	422,491	679,438
2013-14	250,000	436,959	686,232
2014-15	250,000	455,957	693,094
2015-16	250,000	472,388	700,025
2016-17	250,000	518,291	714,026
2017-18	250,000	545,055	721,166
2018-19	250,000	590,304	735,589
2019-20	250,000	626,389	742,945
2020-21	250,000	631,796	750,375
2021-22	250,000	696,371	750,375
2022-23	250,000	757,879	757,879
2023-24	?	795,772	765,457

Notes:

- (1) Provided by MBASIA.
- (2) Provided by MBASIA. 2023-24 estimated by BAC.
- (3) Estimated by BAC.