



Actuarial Review of the Self-Insured Excess Liability Program

Funding guidelines for program year 2022-23
Outstanding Liabilities as of June 30, 2022

Presented to
Authority for California Cities Excess Liability

March 18, 2022

A decorative graphic at the bottom of the page consists of two curved, overlapping bands, one blue and one green, that sweep across the page from left to right.



Friday, March 18, 2022

Authority for California Cities Excess Liability
c/o Alliant Insurance Services
Attn: Conor Boughey, Pool Administrator
560 Mission Street, 6th Floor
San Francisco, California 94105

Re: Actuarial Review of the Funding Requirements for the Excess Liability Program

Dear Mr. Boughey:

As you requested, we have completed our actuarial review of the funding requirements for the Authority for California Cities Excess Liability's (ACCEL, the Authority) excess liability program. Our conclusions are documented in the text and exhibits that follow.

At the undiscounted expected level, we estimate the program's liability for outstanding loss and allocated loss adjustment expenses (ALAE) to be approximately \$64,584,000 as of June 30, 2022. We understand the Authority has chosen to record its liability with recognition of investment income at 2% per year. Discounted for anticipated investment income, we estimate the program's liability for outstanding loss and ALAE will be \$60,423,000 as of that date. Further, we recommend the Authority fund a risk margin for potential adverse experience. Including a margin for adverse experience at the 90% confidence level, the Authority's required funding as of June 30, 2022 is projected to be \$89,668,000.

Historically, ACCEL's outstanding liability has been comprised the liabilities of two separately funded pools:

- The first pool covered the layer from \$500,000 to \$1,000,000 per occurrence (the \$500K pool) and operated during program years 1986-87 to 1989-90. This pool was funded by those members with \$500,000 self-insured retentions during that period. All claims for this pool have been closed and there are no unpaid losses remaining.
- The second pool is for the layer above \$1,000,000 per occurrence (the \$1,000K pool) and is funded by all members.

The tables below show our estimates of the program's claims liabilities as of December 31, 2021 and June 30, 2022, on both undiscounted and discounted bases for various confidence levels:

**Outstanding Liability as of December 31, 2021
at Various Confidence Levels
\$500K and \$1,000K Pools Combined**

Confidence Level	Undiscounted	Discounted
Expected	\$62,841,000	\$59,333,000
70%	71,765,000	67,759,000
75%	75,661,000	71,438,000
80%	80,186,000	75,710,000
85%	85,841,000	81,050,000
90%	93,257,000	88,050,000
95%	105,511,000	99,621,000
98%	133,662,000	126,202,000

**Outstanding Liability as of June 30, 2022
at Various Confidence Levels
\$500K and \$1,000K pools combined**

Confidence Level	Undiscounted	Discounted
Expected	\$64,583,000	\$60,423,000
70%	73,754,000	69,003,000
75%	77,758,000	72,749,000
80%	82,408,000	77,099,000
85%	88,221,000	82,537,000
90%	95,842,000	89,668,000
95%	108,435,000	101,450,000
98%	137,367,000	128,518,000

Our funding guidelines for the program's outstanding liabilities do not include any provision for reinsurance premiums, claims administration fees, and other administrative costs associated with the ACCEL program.

According to the accounting regulations of the Governmental Accounting Standards Board, unallocated loss adjustment expenses (ULAE) associated with the claims should be recognized as part of the program's claims liability. ULAE is the additional cost to administer all claims to final settlement, which may be years into the future (e.g. claims adjusters' salaries, taxes, etc.). Our undiscounted expected estimate of unpaid ULAE is \$1,749,000 as of June 30, 2022. This estimate is 3.5% of the sum of all IBNR reserves and half of case reserves as of June 30, 2022.

We present funding recommendations for claims incurred during program year 2022-23 at several confidence levels in the table below. Our recommendations are displayed as rates per \$100 of payroll for various layers. The recommended funding includes anticipated investment income at 2% per year.

Funding Guidelines for Discounted Claims Incurred in 2022-2023

Layer	Expected	75%	80%	85%	90%
\$1M-2M	\$0.393	\$0.487	\$0.520	\$0.561	\$0.616
\$1M-3M	0.634	0.785	0.839	0.905	0.993
\$1M-4M	0.760	0.941	1.005	1.085	1.191
\$1M-5M	0.864	1.070	1.143	1.234	1.354
\$1M-\$10M	1.211	1.499	1.602	1.729	1.898
\$5M-\$10M	0.347	0.430	0.459	0.496	0.544
\$1M-\$15M	1.407	1.742	1.861	2.009	2.205
\$10M-\$15M	0.196	0.243	0.259	0.280	0.307

The following table details the calculation of our funding guidelines in dollars at various confidence levels for the program’s 2022-23 claims by different layers:

Funding Amount Guidelines for Discounted Claims Incurred in 2022-2023

Layer	Expected	75%	80%	85%	90%
\$1M-2M	\$5,599,000	\$6,938,000	\$7,408,000	\$7,992,000	\$8,775,000
\$1M-3M	9,032,000	11,183,000	11,952,000	12,892,000	14,146,000
\$1M-4M	10,827,000	13,405,000	14,317,000	15,457,000	16,967,000
\$1M-5M	12,308,000	15,243,000	16,283,000	17,579,000	19,289,000
\$1M-\$10M	17,252,000	21,355,000	22,822,000	24,631,000	27,039,000
\$5M-\$10M	4,943,000	6,126,000	6,539,000	7,066,000	7,750,000
\$1M-\$15M	20,044,000	24,816,000	26,512,000	28,620,000	31,412,000
\$10M-\$15M	2,792,000	3,462,000	3,690,000	3,989,000	4,373,000

We have assumed that payrolls for 2022-23 will be approximately \$1,424,584,000 based upon information provided by ACCEL.

As with the program’s outstanding claims, the Authority should fund a margin for adverse experience in addition to the expected cost of claims. We would recommend funding excess liability programs at the 80% to 90% confidence level.

The analysis which made it possible for us to draw our conclusions is based on the data provided by the Authority’s program manager Alliant Insurance Services (Alliant). We have accepted all of this information without audit.

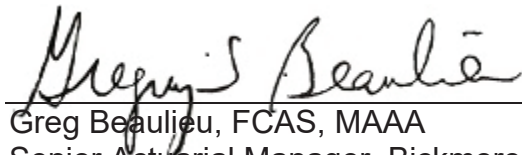
All actuarial estimates of liability claims costs are subject to uncertainty because of the complexity of the process that determines the costs. This is especially true of excess liability claims costs. For this reason, sound management practices suggest that actual funding should be in excess of expected claim activity. We generally recommend funding at the 80% to 90% confidence levels for excess liability programs, after recognition of investment income.

The first section of the attached report outlines the scope of our study, its background, and our conclusions, recommendations, detailed funding recommendations, assumptions, and approach to the project. The entire report has been developed for the internal use of the ACCEL, its auditors, and the representatives of its members. It is not intended for general circulation.

We appreciate the opportunity to be of service to ACCEL in preparing this report. Please feel free to call Greg Beaulieu at (916) 290-4632, Mike Harrington at (916) 244-1162 or David Kim at (916) 244-1166 with any questions you may have concerning this report.

Sincerely,

Bickmore Actuarial



Greg Beaulieu, FCAS, MAAA
Senior Actuarial Manager, Bickmore Actuarial
Fellow, Casualty Actuarial Society
Member, American Academy of Actuaries



Mike Harrington, FCAS, MAAA
President and Principal, Bickmore Actuarial
Fellow, Casualty Actuarial Society
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David Kim, MA
Senior Actuarial Analyst, Bickmore Actuarial

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I. BACKGROUND AND PURPOSE OF STUDY

The Authority for California Cities Excess Liability (ACCEL, the Authority) began operations on April 1, 1986. Its purpose is to provide excess liability coverage and to purchase commercial excess insurance on a group basis for California cities. The Authority provides coverage above each member's self-insured retention (SIR), subject to an upper pool limit. Currently the pool covers the layer from \$1,000,000 to \$5,000,000 for each of its members.

The program currently includes twelve members: Anaheim, Bakersfield, Burbank, Modesto, Monterey, Mountain View, Ontario, Palo Alto, Santa Barbara, Santa Cruz, Santa Monica, and Visalia.

ACCEL provided an optional coverage of \$500,000 excess of \$500,000 per occurrence (the \$500K pool) and operated during program years 1986-87 to 1989-90. This pool was funded by those members with \$500,000 self-insured retentions during that period. This coverage is no longer available.

Prior to July 1, 1990, the Authority pooled losses incurred by its members up to \$10,000,000. Effective July 1, 1990, ACCEL created a reinsurance pool within the \$9,000,000 excess of \$1,000,000 layer by purchasing \$5,000,000 excess of \$5,000,000 coverage. On July 1, 1997, ACCEL further reduced its exposure and purchased coverage of \$17,000,000 excess of \$3,000,000 coverage.

Due to favorable market conditions, ACCEL purchased coverage of \$19,000,000 excess of \$1,000,000 effective July 1, 1998. Six members with an SIR of \$500,000 purchased additional coverage of \$500,000 excess of \$500,000. On July 1, 2000, nine members purchased insurance of \$19,500,000 excess of \$500,000 and two members had coverage of \$19,000,000 excess of \$1,000,000. The ACCEL layer was fully insured with these limits through June 30, 2003.

Effective July 1, 2003, ACCEL purchased reinsurance covering \$20,000,000 excess of \$2,000,000 and pooled losses in the layer \$1,000,000 excess of \$1,000,000. All members had an SIR of \$1,000,000. Effective July 1, 2004, ACCEL pooled losses in the layer \$2,000,000 excess of \$1,000,000. ACCEL pooled losses in the layer \$4,000,000 excess of \$1,000,000 for the period between 2005-06 and 2015-16 years. For the 2016-17 year, ACCEL pooled losses in the layer \$2,000,000 excess of \$1,000,000.

For 2020-21 program year, ACCEL created a corridor deductible of \$2,000,000 on top of their retention whereby the pool retains the first \$2,000,000 of any amounts that would normally be ceded to their reinsurers. For the 2021-22 program year, ACCEL pools losses in the layer \$9,000,000 excess of \$1,000,000.

The purpose of this study is to provide a guide to ACCEL in evaluating the adequacy of its established funding for its outstanding claims liabilities as of June 30, 2022 and in determining its contribution level for the 2022-23 fiscal year.

II. CONCLUSIONS AND RECOMMENDATIONS

A. LIABILITY FOR OUTSTANDING CLAIMS

At the undiscounted expected level, we estimate the program's liability for outstanding loss and allocated loss adjustment expenses (ALAE) to be approximately \$64,584,000 as of June 30, 2022. We understand the Authority has chosen to record its liability with recognition of investment income at 2% per year. Discounted for anticipated investment income, we estimate the program's liability for outstanding loss and ALAE will be \$60,423,000 as of that date. Further, we recommend the Authority fund a risk margin for potential adverse experience. Including a margin for adverse experience at the 90% confidence level, the Authority's required funding as of June 30, 2022 is projected to be \$89,668,000.

Historically, ACCEL's outstanding liability has been comprised the liabilities of two separately funded pools:

- The first pool covered the layer from \$500,000 to \$1,000,000 per occurrence (the \$500K pool) and operated during program years 1986-87 to 1989-90. This pool was funded by those members with \$500,000 self-insured retentions during that period. All claims for this pool have been closed and there are no unpaid losses remaining.
- The second pool is for the layer above \$1,000,000 per occurrence (the \$1,000K pool) and is funded by all members.

Our estimates of the program's expected claims liabilities, on both undiscounted and discounted bases, by program year are displayed in the following tables as of December 31, 2021 and June 30, 2022:

**Outstanding Liability at the Expected Level
as of December 31, 2021 - \$1,000K pool**

Program Year	Undiscounted	Discounted
Prior	\$0	\$0
2010-2011	0	0
2011-2012	0	0
2012-2013	0	0
2013-2014	0	0
2014-2015	0	0
2015-2016	2,400,000	2,272,800
2016-2017	7,266,337	6,910,286
2017-2018	8,049,524	7,679,246
2018-2019	11,763,923	11,205,137
2019-2020	9,410,000	8,906,565
2020-2021	15,805,077	14,856,772
2021-2022	8,146,500	7,502,927
All Years	\$62,841,361	\$59,333,733

**Outstanding Liability at the Expected Level
as of June 30, 2022 - \$1,000K pool**

Program Year	Undiscounted	Discounted
Prior	\$0	\$0
2010-2011	0	0
2011-2012	0	0
2012-2013	0	0
2013-2014	0	0
2014-2015	0	0
2015-2016	1,958,400	1,858,522
2016-2017	5,892,999	5,616,028
2017-2018	6,576,461	6,280,520
2018-2019	10,222,849	9,711,707
2019-2020	8,516,050	8,030,635
2020-2021	15,188,679	14,125,471
2021-2022	16,227,828	14,799,779
All Years	\$64,583,267	\$60,422,662

Note that the \$1,000K pool has no outstanding liability associated with the 1998-99 through 2002-03 program years. Due to favorable market conditions, ACCEL purchased complete reinsurance for its members during that time.

The tables below show our estimates of the program's claims liabilities as of December 31, 2021 and June 30, 2022, on both undiscounted and discounted bases for various confidence levels:

**Outstanding Liability as of December 31, 2021
at Various Confidence Levels
\$500K and \$1,000K Pools Combined**

Confidence Level	Undiscounted	Discounted
Expected	\$62,841,000	\$59,333,000
70%	71,765,000	67,759,000
75%	75,661,000	71,438,000
80%	80,186,000	75,710,000
85%	85,841,000	81,050,000
90%	93,257,000	88,050,000
95%	105,511,000	99,621,000
98%	133,662,000	126,202,000

**Outstanding Liability as of June 30, 2022
at Various Confidence Levels
\$500K and \$1,000K Pools Combined**

Confidence Level	Undiscounted	Discounted
Expected	\$64,583,000	\$60,423,000
70%	73,754,000	69,003,000
75%	77,758,000	72,749,000
80%	82,408,000	77,099,000
85%	88,221,000	82,537,000
90%	95,842,000	89,668,000
95%	108,435,000	101,450,000
98%	137,367,000	128,518,000

The estimated program outstanding liabilities shown above do not include any provision for claims administration fees associated with the ACCEL program.

According to the accounting regulations of the Governmental Accounting Standards Board, unallocated loss adjustment expenses (ULAE) associated with the claims should be recognized as part of the program's claims liability. ULAE is the additional cost to administer all claims to final settlement, which may be years into the future (e.g. claims adjusters' salaries, taxes, etc.). Our undiscounted expected estimate of unpaid ULAE is \$1,749,000 as of June 30, 2022. This estimate is 3.5% of the sum of all IBNR reserves and half of case reserves as of June 30, 2022.

B. FUNDING RATES FOR FUTURE CLAIMS

Our funding guidelines are displayed as rates per \$100 of payroll and dollars for various layers. The funding guidelines include anticipated investment income at 2% per year.

Funding Rate Guidelines for Discounted Claims Incurred in 2022-2023

Layer	Expected	75%	80%	85%	90%
\$1M-2M	\$0.393	\$0.487	\$0.520	\$0.561	\$0.616
\$1M-3M	0.634	0.785	0.839	0.905	0.993
\$1M-4M	0.760	0.941	1.005	1.085	1.191
\$1M-5M	0.864	1.070	1.143	1.234	1.354
\$1M-\$10M	1.211	1.499	1.602	1.729	1.898
\$5M-\$10M	0.347	0.430	0.459	0.496	0.544
\$1M-\$15M	1.407	1.742	1.861	2.009	2.205
\$10M-\$15M	0.196	0.243	0.259	0.280	0.307

Funding Amount Guidelines for Discounted Claims Incurred in 2022-2023

Layer	Expected	75%	80%	85%	90%
\$1M-2M	\$5,599,000	\$6,938,000	\$7,408,000	\$7,992,000	\$8,775,000
\$1M-3M	9,032,000	11,183,000	11,952,000	12,892,000	14,146,000
\$1M-4M	10,827,000	13,405,000	14,317,000	15,457,000	16,967,000
\$1M-5M	12,308,000	15,243,000	16,283,000	17,579,000	19,289,000
\$1M-\$10M	17,252,000	21,355,000	22,822,000	24,631,000	27,039,000
\$5M-\$10M	4,943,000	6,126,000	6,539,000	7,066,000	7,750,000
\$1M-\$15M	20,044,000	24,816,000	26,512,000	28,620,000	31,412,000
\$10M-\$15M	2,792,000	3,462,000	3,690,000	3,989,000	4,373,000

We have assumed that payrolls for 2022-23 will be approximately \$1,424,584,000 based upon information provided by ACCEL.

The estimated program costs shown above do not include any provision for reinsurance premiums, claims administration fees, and other administrative costs associated with the ACCEL program.

C. FUNDING GUIDELINES

We generally recommend funding of excess liability programs to the 85% confidence level, with a recommended range of the 80% to 90% confidence levels. We generally consider funding to the 75% confidence level to be marginally acceptable, and to the 95% confidence level to be conservative. However, these should only be considered general guidelines, as we also strongly believe that the confidence level to which any future year is funded should be evaluated in light of the relative certainty of the underlying assumptions, the other budgetary constraints of those contributing to the program, and the relative risk it is believed appropriate to assume at a particular point in time. This means formulating both short-term and long-term funding goals, which may be the same in some years and different in others.

In general, we recommend considerable conservatism in refunding excess contributions, especially in light of the hardship imposed upon the members when assessments are necessary. It is always possible to refund excess contributions later, but contributions that appear to be excess that are refunded too soon may prove to be very difficult to re-collect later. For years for which assessments have not yet been levied, we recommend a staggered schedule of returns that begins when a year reaches a certain level of maturity. For example, the Authority might develop a guideline returning excess contributions on a year five to six years old that is funded above the 90% confidence level, on a year seven to nine years old that is funded above the 85% confidence level, and on a year ten or more years old that is funded above the 80% confidence level. Refunds are made at the discretion of the Board.

We understand the program's outstanding loss and loss adjustment expense liabilities are funded at the 90% discounted confidence level. This target applies to the outstanding liabilities in total, not on an individual program year basis. Funding in excess of the 90% discounted confidence level is available for dividends at the Board's discretion.

D. COMPARISON WITH PRIOR RESULTS

The following tables detail the changes in our estimates of the Authority's ultimate losses by program year from those of the prior report based upon losses valued as of 12/31/20:

Comparison with Prior \$500K and \$1,000 Pools Combined Undiscounted Estimated Ultimate Losses (Prior Based upon Losses Valued at December 31, 2020)			
Program Year	Prior Report 12/31/20	Current Report	Change
Prior	\$51,038,000	\$49,038,000	(\$2,000,000)
2007-2008	4,851,000	4,851,000	0
2008-2009	3,188,000	3,188,000	0
2009-2010	0	0	0
2010-2011	494,000	375,000	(119,000)
2011-2012	160,000	2,000	(158,000)
2012-2013	4,663,000	4,207,000	(456,000)
2013-2014	10,624,000	12,963,000	2,339,000
2014-2015	11,520,000	5,680,000	(5,840,000)
2015-2016	3,105,000	3,976,000	871,000
2016-2017	16,650,000	16,684,000	34,000
2017-2018	10,400,000	13,111,000	2,711,000
2018-2019	11,406,000	15,381,000	3,975,000
2019-2020	10,171,000	9,410,000	(761,000)
2020-2021	11,608,000	15,805,000	4,197,000
All Years	\$149,878,000	\$154,671,000	\$4,793,000

As shown, overall we have increased our estimates of the program's ultimate losses by \$4,793,000 from those displayed in our prior actuarial report dated March 9, 2021. The increase is mainly due to adverse loss development in the 2017-18, 2018-19 and 2020-21 program years.

At the time of the prior report (based upon losses valued at 12/31/20), we estimated the liability for outstanding claims as of June 30, 2021 to be \$51,084,000 at the discounted, expected level. Our current estimate as of June 30, 2022, is \$60,423,000, an increase in our assessment of the Authority's outstanding liabilities, as shown below:

**Comparison with Prior
\$500K and \$1,000 Pools Combined
Outstanding Claim Liabilities for Loss and ALAE
(Prior Based upon Losses Valued at December 31, 2020)**

	Prior Report at June 30, 2021	Current Report at June 30, 2022	Change
Case Reserves:	\$32,032,000	\$29,214,000	(\$2,818,000)
IBNR Reserves:	22,468,000	35,369,000	12,901,000
Total Reserves:	\$54,500,000	\$64,583,000	\$10,083,000
Offset for Investment Income:	(3,416,000)	(4,160,000)	(744,000)
Total Outstanding Claim Liabilities:	\$51,084,000	\$60,423,000	\$9,339,000

As shown, our estimate of outstanding claims liabilities at the discounted, expected level has increased between June 30, 2020 and June 30, 2021 as reflected in our prior and current reports respectively.

Estimated case reserves have decreased by \$2,818,000 since the prior evaluation while our estimate of IBNR reserves have increased by \$12,901,000. The overall result is an increase of \$10,083,000 in total claim reserves. This increase in reserves leads to a greater offset for investment income. The net change due to the above factors is an overall increase of \$9,339,000 in our estimate of outstanding claim liabilities for loss and ALAE. It should be noted that the introduction of the \$5M x \$5M layer to the pool starting with 2021-22 is driving much of the increase.

The following tables detail the changes in our estimates of the Authority's ultimate losses by program year from those of the prior report based upon losses valued as of 6/30/21:

**Comparison with Prior
\$500K and \$1,000 Pools Combined
Undiscounted Estimated Ultimate Losses
(Prior Based upon Losses Valued at June 30, 2021)**

Program Year	Prior Report 6/30/21	Current Report	Change
Prior	\$49,038,000	\$49,038,000	\$0
2007-2008	4,851,000	4,851,000	0
2008-2009	3,188,000	3,188,000	0
2009-2010	0	0	0
2010-2011	482,000	375,000	(107,000)
2011-2012	141,000	2,000	(139,000)
2012-2013	4,622,000	4,207,000	(415,000)
2013-2014	10,330,000	12,963,000	2,633,000
2014-2015	11,397,000	5,680,000	(5,717,000)
2015-2016	3,007,000	3,976,000	969,000
2016-2017	16,587,000	16,684,000	97,000
2017-2018	9,785,000	13,111,000	3,326,000
2018-2019	11,539,000	15,381,000	3,842,000
2019-2020	5,938,000	9,410,000	3,472,000
2020-2021	11,413,000	15,805,000	4,392,000
All Years	\$142,318,000	\$154,671,000	\$12,353,000

As shown, overall we have increased our estimates of the program's ultimate losses by \$12,353,000 from those displayed in our prior actuarial report dated June 1, 2021. The increase is mainly due to adverse loss development in the latest four program years.

At the time of the prior report (based upon losses valued at 6/30/21), we estimated the liability for outstanding claims as of June 30, 2021 to be \$46,993,000 at the discounted, expected level. Our current estimate as of June 30, 2022, is \$60,423,000, an increase in our assessment of the Authority's outstanding liabilities, as shown below:

**Comparison with Prior
\$500K and \$1,000 Pools Combined
Outstanding Claim Liabilities for Loss and ALAE
(Prior Based upon Losses Valued at June 30, 2021)**

	Prior Report at June 30, 2021	Current Report at June 30, 2022	Change
Case Reserves:	\$27,622,988	\$29,214,000	\$1,591,012
IBNR Reserves:	22,467,012	35,369,000	12,901,988
Total Reserves:	\$50,090,000	\$64,583,000	\$14,493,000
Offset for Investment Income:	(3,097,000)	(4,160,000)	(1,063,000)
Total Outstanding Claim Liabilities:	\$46,993,000	\$60,423,000	\$13,430,000

As shown, our estimate of outstanding claims liabilities at the discounted, expected level has increased between June 30, 2021 and June 30, 2022 as reflected in our prior and current reports respectively.

Estimated case reserves have increased by \$1,591,000 while our estimate of IBNR reserves also increased by \$10,902,000 due to adverse loss development. The overall result is an increase of \$14,493,000 in total claim reserves. This increase in reserves leads to a larger offset for investment income. The net change due to the above factors is an overall increase of \$13,430,000 in our estimate of outstanding claim liabilities for loss and ALAE.

The following table displays a comparison of the Authority’s projected funding rates from current and prior reports valued at 12/31/20 by various layers.

**Comparison with Prior
Undiscounted Expected Funding Rates**

Layer	Prior Report 2021-22	Current Report 2022-23	Percent Change
\$1M-2M	\$0.380	\$0.427	12.4%
\$1M-3M	\$0.608	\$0.688	13.2%
\$1M-4M	\$0.718	\$0.825	14.9%
\$1M-5M	\$0.798	\$0.938	17.5%
\$1M-10M	\$1.109	\$1.315	18.6%
\$5M-10M	\$0.311	\$0.377	21.4%
\$1M-\$15M	\$1.281	\$1.528	19.3%
\$10M-\$15M	\$0.173	\$0.213	23.4%

As you can see, our projected funding rates for the 2022-23 program year have increased for all layers.

These increases, though substantial, are driven by the experience of the Authority over the past year. This is very similar to the increases other excess pools in the industry are receiving.

E. ASSUMPTIONS AND LIMITATIONS

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

- Our analysis is based on loss experience, exposure data, and other general and specific information you have provided to us. We have accepted all of this information without audit and relied on its accuracy in preparing our estimates for this report. As always, the accuracy and relevance of our conclusions and recommendations are highly dependent on the accuracy and relevance of the underlying data.
- In ACCEL's case, we were provided a list of claims with incurred losses greater than \$25,000 as of December 31, 2021 from individual member cities. This file included ground up losses and allocated loss adjustment expenses reported separately for each claimant. We were also provided with pool loss runs as of December 31, 2021.
- We were provided with payrolls by City for the 1986-87 through 2020-21 program years. The estimated payroll for 2021-22 and 2022-23 was calculated using a 0.0% trend per year.
- We have assumed that the future development of incurred and paid losses can be reasonably predicted on the basis of the development of such losses in the recent past. We have also assumed that the historical development patterns for a large group of California public entities with a self-insured excess liability program in the aggregate form a reasonable basis of comparison to the patterns from the Authority's data.
- We have assumed that there is a continuing relationship between past and future loss costs and between loss costs and payroll. These assumptions can be tenuous in a changing legal and social environment such as we face today.
- It is not possible to predict future claims costs precisely. Most of the cost of liability claims arises from a small number of incidents involving serious injury. Thus, changes in the circumstances surrounding these claims can have large effects on total costs. Therefore, the actual costs of the covered liability claims could differ significantly from our estimates.
- We cannot predict and have not attempted to predict the impact of future law changes and court rulings on liability claims costs. This is one major reason

why we believe our funding recommendations are reasonable now, but should not be extrapolated into the future.

- At your instruction, we have assumed that funds held for investment will generate an annual return of 2% in the long run.
- We estimate that the costs associated with liability claims in the \$100,000 to \$1,000,000 per occurrence layer are increasing at 4% per year after changes in exposure. It should be noted that actual future investment returns may vary significantly from this assumption, depending upon the prevailing investment market conditions.
- The claims costs we have estimated include indemnity payments and allocated loss adjustment expenses. We have not provided estimates for claims adjustment expenses not allocated to particular cases, reinsurance premiums, and Authority administrative expenses.
- We have assumed that all reinsurance coverage purchased by the Authority will prove to be valid and fully collectible.
- Our funding recommendations do not include provision for catastrophic events not in the program's history, such as earthquakes, flooding, fire or mass civil disorder.

F. OVERALL ANALYTICAL APPROACH

The approach we have taken in developing this analysis is firmly grounded in the Authority's loss and exposure data. Our approach to the problem of estimating the program's ultimate pooled loss costs is a multi-step process. We estimated the cost of the \$100,000 to \$1 million layer. We then constructed a mathematical equation for the distribution of the Authority's losses by size by trending and developing the Authority's individual claims from the 2007-08 through 2017-18 program years.

Next, using the loss distribution, the \$100,000 – \$1,000,000 ultimate loss rate, and our selected loss development patterns, we then estimated the ultimate losses of the excess layers for which the Authority is responsible.

The following actuarial techniques were applied to ACCEL's loss data to estimate the ultimate cost of claims in the \$100,000 - \$1,000,000 layer:

- ◆ Incurred Loss Development
- ◆ Paid Loss Development
- ◆ Bornhuetter-Ferguson Based on Incurred Losses
- ◆ Bornhuetter-Ferguson Based on Paid Losses
- ◆ Frequency Times Severity

Actuarial judgment was used to select among the ultimate losses indicated by the above methods.

The following actuarial techniques were applied to ACCEL's loss data to estimate the ultimate losses in the program's actual pooled layers:

- ◆ Incurred Loss Development
- ◆ Paid Loss Development
- ◆ Bornhuetter-Ferguson

Again, actuarial judgment was used to select among the ultimate losses indicated by the above methods, with heavy emphasis applied to the two methods based on incurred losses.

Authority for California Cities Excess Liability

Projected 2022-23 Funding Guidelines

Layer	Estimated 2022-23 Payroll (A)	Expected Ultimate Losses (B)	Discount Factor (C)	Discounted Expected Ultimate Losses (D)	70% Confidence Level (E)	75% Confidence Level (E)	80% Confidence Level (E)	85% Confidence Level (E)	90% Confidence Level (E)	95% Confidence Level (E)
\$1M-2M	\$14,245,840	\$6,082,974	92.1%	\$5,598,615	\$6,524,595	\$6,937,724	\$7,407,837	\$7,991,916	\$8,775,437	\$10,057,563
\$1M-3M	14,245,840	9,801,138	92.1%	9,031,863	10,527,676	11,182,984	11,952,260	12,892,485	14,146,119	16,226,012
\$1M-4M	14,245,840	11,752,818	92.1%	10,826,838	12,607,568	13,405,335	14,317,069	15,456,736	16,966,795	19,445,572
\$1M-5M	14,245,840	13,362,598	92.1%	12,308,406	14,345,561	15,243,049	16,282,995	17,579,367	19,288,867	22,109,544
\$1M-\$10M	14,245,840	18,733,280	92.1%	17,251,712	20,100,880	21,354,514	22,821,836	24,631,057	27,038,604	30,984,702
\$5M-\$10M	14,245,840	5,370,682	92.1%	4,943,306	5,755,319	6,125,711	6,538,841	7,065,937	7,749,737	8,875,158
\$1M-15M	14,245,840	21,767,644	92.1%	20,043,897	23,348,932	24,816,253	26,511,508	28,619,893	31,412,077	35,999,238
\$10M-15M	14,245,840	3,034,364	92.1%	2,792,185	3,248,052	3,461,739	3,689,673	3,988,835	4,373,473	5,014,536

- (A) Provided by ACCEL.
- (B) (A) times funding rates from Exhibit 1, Page 2, (A).
- (C) From Exhibit 3.
- (D) (A) times funding rates from Exhibit 1, Page 2, (C).
- (E) (A) times funding rates from Exhibit 1, Page 2, (D).

Authority for California Cities Excess Liability

Projected 2022-23 Funding Guidelines
Loss Rates per \$100 of Payroll

Layer	Expected Loss Rate Per \$100 of Payroll (A)	Discount Factor (B)	Discounted Expected Loss Rate Per \$100 of Payroll						
			(C)	70% Confidence Level (D)	75% Confidence Level (D)	80% Confidence Level (D)	85% Confidence Level (D)	90% Confidence Level (D)	95% Confidence Level (D)
\$1M-2M	\$0.427	92.1%	\$0.393	\$0.458	\$0.487	\$0.520	\$0.561	\$0.616	\$0.706
\$1M-3M	0.688	92.1%	0.634	0.739	0.785	0.839	0.905	0.993	1.139
\$1M-4M	0.825	92.1%	0.760	0.885	0.941	1.005	1.085	1.191	1.365
\$1M-5M	0.938	92.1%	0.864	1.007	1.070	1.143	1.234	1.354	1.552
\$1M-\$10M	1.315	92.1%	1.211	1.411	1.499	1.602	1.729	1.898	2.175
\$5M-\$10M	0.377	92.1%	0.347	0.404	0.430	0.459	0.496	0.544	0.623
\$1M-15M	1.528	92.1%	1.407	1.639	1.742	1.861	2.009	2.205	2.527
\$10M-15M	0.213	92.1%	0.196	0.228	0.243	0.259	0.280	0.307	0.352

- Notes:
- (A) From Exhibit 1, Page 3 and members' loss distribution.
 - (B) From Exhibit 3.
 - (C) (A) * (B)
 - (D) (C) times Confidence Level Factor from Exhibit 4.

Authority for California Cities Excess Liability
ACCEL Pooled Layer

Selected Base Loss Rate (\$100K - \$1M Layer)

(A) Estimated based on \$1M Ultimate Less \$100K Ultimate	N/A
(B) Estimated based on \$100K - \$1M Analysis:	\$1.612
(C) Selected Base Loss Rate (\$100K - \$1M Layer):	\$1.612

Authority for California Cities Excess Liability
ACCEL Pooled Layer

Funding Guidelines for Outstanding Losses
as of December 31, 2021 and June 30, 2022

	<u>December 31, 2021</u>	<u>June 30, 2022</u>
(A) Estimated Ultimate Losses Incurred as of:	\$163,318,000	\$171,465,000
(B) Estimated Paid Losses as of:	100,477,000	106,881,000
(C) Estimated Liability for Claims Outstanding as of:	\$62,841,000	\$64,584,000
(D) Outstanding Liability Discount Factor:	94.4%	93.6%
(E) Discounted Outstanding Liability for Claims as of:	\$59,333,000	\$60,423,000
(F) Risk Margin at 90% Confidence Level:	28,717,000	29,245,000
(G) Required Funding at the 90% confidence Level:	\$88,050,000	\$89,668,000

Notes:

- (A) From Appendix A, Page 1, Column (A).
- (B) Provided by ACCEL
- (C) (A) - (B)
- (D) From Exhibit 3
- (E) (C) * (D)
- (F) (E) * Confidence Level Factor from Exhibit 4
- (G) (E) + (F)

Authority for California Cities Excess Liability
ACCEL Pooled Layer

Discount Factors

Accident Year	Age	Discount Factors				
		Paid Loss Development Factor	Payment Pattern	Full Value Reserve	2.0% Discounted Reserve	Discount Factor
1988-1989	34.0	1.000	0.0%	0.0%	0.0%	100.0%
1989-1990	33.0	1.000	0.0%	0.0%	0.0%	100.0%
1990-1991	32.0	1.000	0.0%	0.0%	0.0%	100.0%
1991-1992	31.0	1.000	0.0%	0.0%	0.0%	100.0%
1992-1993	30.0	1.000	0.0%	0.0%	0.0%	100.0%
1993-1994	29.0	1.000	0.0%	0.0%	0.0%	100.0%
1994-1995	28.0	1.000	0.0%	0.0%	0.0%	100.0%
1995-1996	27.0	1.000	0.0%	0.0%	0.0%	92.6%
1996-1997	26.0	1.000	0.0%	0.0%	0.0%	83.4%
1997-1998	25.0	1.000	0.0%	0.1%	0.1%	83.4%
1998-1999	24.0	1.001	0.0%	0.1%	0.1%	90.1%
1999-2000	23.0	1.001	0.0%	0.1%	0.1%	90.1%
2000-2001	22.0	1.001	0.1%	0.2%	0.2%	95.2%
2001-2002	21.0	1.002	0.1%	0.3%	0.3%	93.6%
2002-2003	20.0	1.003	0.1%	0.4%	0.4%	92.9%
2003-2004	19.0	1.004	0.2%	0.6%	0.6%	93.9%
2004-2005	18.0	1.006	0.3%	0.9%	0.8%	94.2%
2005-2006	17.0	1.009	0.4%	1.3%	1.2%	94.3%
2006-2007	16.0	1.013	0.5%	1.8%	1.7%	94.0%
2007-2008	15.0	1.018	0.2%	2.0%	1.8%	92.8%
2008-2009	14.0	1.020	0.0%	2.0%	1.8%	90.8%
2009-2010	13.0	1.020	0.0%	2.0%	1.8%	89.2%
2010-2011	12.0	1.020	1.0%	2.9%	2.7%	91.3%
2011-2012	11.0	1.030	0.9%	3.8%	3.5%	91.8%
2012-2013	10.0	1.040	1.9%	5.7%	5.4%	93.1%
2013-2014	9.0	1.061	3.6%	9.3%	8.8%	94.2%
2014-2015	8.0	1.103	4.3%	13.6%	12.9%	94.5%
2015-2016	7.0	1.158	7.9%	21.5%	20.4%	94.9%
2016-2017	6.0	1.274	13.1%	34.6%	33.0%	95.3%
2017-2018	5.0	1.529	20.0%	54.6%	52.1%	95.5%
2018-2019	4.0	2.202	19.5%	74.1%	70.4%	95.0%
2019-2020	3.0	3.854	17.3%	91.4%	86.1%	94.3%
2020-2021	2.0	11.562	7.8%	99.1%	92.2%	93.0%
2021-2022	1.0	115.620	0.9%	100.0%	91.2%	91.2%

Discount Factor for Future Funding: 0.921

Accident Year	Accident Year Paid Loss Development Factor	Full Value Reserve	2.0% Discounted Reserve	12/31/21 Outstanding Loss	Discount Factor	12/31/21 Outstanding Loss		Discount Factor	6/30/22 Discounted Outstanding Loss
						Discounted	Outstanding		
1986-1988	1.000	0.00%	0.00%	0	100.0%	0	0	100.0%	0
1988-1989	1.000	0.00%	0.00%	0	100.0%	0	0	100.0%	0
1989-1990	1.000	0.00%	0.00%	0	100.0%	0	0	100.0%	0
1990-1991	1.000	0.00%	0.00%	0	96.3%	0	0	92.6%	0
1986-1988	1.000	0.00%	0.00%	0	100.0%	0	0	100.0%	0
1988-1989	1.000	0.00%	0.00%	0	100.0%	0	0	100.0%	0
1989-1990	1.000	0.00%	0.01%	0	100.0%	0	0	100.0%	0
1990-1991	1.000	0.01%	0.01%	0	96.3%	0	0	92.6%	0
1991-1992	1.000	0.01%	0.01%	0	88.0%	0	0	83.4%	0
1992-1993	1.000	0.02%	0.02%	0	83.4%	0	0	83.4%	0
1993-1994	1.000	0.04%	0.04%	0	86.8%	0	0	90.1%	0
1994-1995	1.001	0.06%	0.06%	0	90.1%	0	0	90.1%	0
1995-1996	1.001	0.10%	0.10%	0	92.7%	0	0	95.2%	0
1996-1997	1.001	0.10%	0.09%	0	94.4%	0	0	93.6%	0
1997-1998	1.002	0.20%	0.19%	0	93.3%	0	0	92.9%	0
2003-2004	1.003	0.30%	0.29%	0	93.4%	0	0	93.9%	0
2004-2005	1.004	0.40%	0.38%	0	94.1%	0	0	94.2%	0
2005-2006	1.006	0.60%	0.57%	0	94.3%	0	0	94.3%	0
2006-2007	1.009	0.89%	0.85%	0	94.2%	0	0	94.0%	0
2007-2008	1.018	1.77%	1.70%	0	93.4%	0	0	92.8%	0
2008-2009	1.020	1.96%	1.86%	0	91.8%	0	0	90.8%	0
2009-2010	1.020	1.96%	1.82%	0	90.0%	0	0	89.2%	0
2010-2011	1.020	1.96%	1.79%	0	90.3%	0	0	91.3%	0
2011-2012	1.030	2.91%	2.69%	0	91.6%	0	0	91.8%	0
2012-2013	1.040	3.85%	3.56%	0	92.5%	0	0	93.1%	0
2013-2014	1.061	5.75%	5.38%	0	93.7%	0	0	94.2%	0
2014-2015	1.103	9.34%	8.83%	0	94.4%	0	0	94.5%	0
2015-2016	1.158	13.64%	12.92%	2,400,000	94.7%	2,272,800	1,958,400	94.9%	1,858,522
2016-2017	1.274	21.51%	20.45%	7,266,337	95.1%	6,910,286	5,892,999	95.3%	5,616,028
2017-2018	1.529	34.60%	33.01%	8,049,524	95.4%	7,679,246	6,576,461	95.5%	6,280,520
2018-2019	2.202	54.59%	52.15%	11,763,923	95.3%	11,205,137	10,222,849	95.0%	9,711,707
2019-2020	3.854	74.05%	70.40%	9,410,000	94.7%	8,906,565	8,516,050	94.3%	8,030,635
2020-2021	11.562	91.35%	86.15%	15,805,077	94.0%	14,856,772	15,188,679	93.0%	14,125,471
2021-2022	115.620	99.14%	92.17%	8,146,500	92.1%	7,502,927	16,227,828	91.2%	14,799,779
Total				62,841,361		59,333,733	64,583,267		60,422,662

Discount Factor for Outstanding: 94.4%

93.6%

Authority for California Cities Excess Liability
ACCEL Pooled Layer

Confidence Level Factors

Probability	Projected Funding Factor	Outstanding Liability Factor
95	1.796	1.679
90	1.567	1.484
85	1.428	1.366
80	1.323	1.276
75	1.238	1.204
70	1.165	1.142
65	1.101	1.087
60	1.042	1.037
55	0.989	0.991
50	0.937	0.947
45	0.888	0.905
40	0.840	0.864
35	0.792	0.823
30	0.743	0.781
25	0.692	0.737

Authority for California Cities Excess Liability
ACCEL Pooled Layer

Large Losses in the Pool Layer as of 12/31/21

Member (A)	Date of Loss (B)	Fiscal Year (C)	Status (D)	Paid Losses (E)	Reported Incurred Losses (F)
Santa Monica	12/1/86	1986-1987	Closed	9,000,000	9,000,000
Burbank	4/1/05	2004-2005	Closed	3,732,201	3,732,201
Santa Monica	9/5/07	2007-2008	Closed	584,023	584,023
Ontario	3/20/08	2007-2008	Closed	515,035	515,035
Ontario	4/26/08	2007-2008	Closed	1,243,490	1,243,490
Anaheim	10/28/08	2008-2009	Closed	857,009	857,009
Burbank	5/15/09	2008-2009	Closed	989,618	989,618
Anaheim	7/21/12	2012-2013	Closed	1,449,645	1,449,645
Burbank	9/26/12	2012-2013	Closed	1,641,201	1,641,201
Santa Monica	11/20/12	2012-2013	Closed	137,133	137,133
Anaheim	1/31/13	2012-2013	Closed	978,765	978,765
Santa Monica	9/24/13	2013-2014	Closed	1,966,510	1,966,510
Anaheim	10/11/13	2013-2014	Closed	3,025,672	3,025,672
Bakersfield	1/28/14	2013-2014	Closed	4,000,000	4,000,000
Santa Monica	4/10/14	2013-2014	Closed	3,970,883	3,970,883
Anaheim	9/17/14	2014-2015	Closed	2,930,000	2,930,000
Bakersfield	5/17/15	2014-2015	Open	2,750,000	2,750,000
Anaheim	7/10/15	2015-2016	Closed	502,543	502,543
Modesto	9/21/15	2015-2016	Open	0	700,000
Mountain View	2/5/16	2015-2016	Open	0	500,000
Santa Barbara	3/15/16	2015-2016	Closed	213,055	213,055
Ontario	5/8/16	2015-2016	ReOpened	0	1,200,000
Anaheim	6/24/16	2015-2016	Closed	860,854	860,854
Anaheim	7/2/16	2016-2017	Open	0	2,000,000
Ontario	8/15/16	2016-2017	ReOpened	0	2,000,000
Burbank	10/4/16	2016-2017	Closed	1,203,430	1,203,430
Ontario	10/5/16	2016-2017	Closed	2,000,000	2,000,000
Santa Cruz	10/16/16	2016-2017	Closed	741,710	741,710
Santa Monica	11/10/16	2016-2017	Closed	531,443	531,443
Anaheim	11/19/16	2016-2017	Closed	919,639	919,639
Modesto	12/10/16	2016-2017	Open	0	2,000,000
Santa Monica	3/22/17	2016-2017	Closed	2,000,000	2,000,000
Santa Monica	4/13/17	2016-2017	Open	2,000,000	2,000,000
Santa Barbara	6/27/17	2016-2017	Closed	21,442	21,442
Bakersfield	7/5/17	2017-2018	Closed	1,750,000	1,750,000
Santa Cruz	11/14/17	2017-2018	Open	0	2,000,000
Palo Alto	12/3/17	2017-2018	Open	0	2,000,000
Santa Barbara	2/26/18	2017-2018	Closed	32,264	32,264
Anaheim	3/2/18	2017-2018	Closed	1,774,500	2,000,000
Anaheim	3/27/18	2017-2018	Open	1,504,712	1,504,712
Santa Cruz	6/11/18	2017-2018	Open	0	2,500,000
Anaheim	7/21/18	2018-2019	Closed	1,905,350	1,905,350
Santa Monica	8/10/18	2018-2019	Open	0	500,000
Burbank	10/12/18	2018-2019	Open	0	3,200,000
Anaheim	10/27/18	2018-2019	Open	0	4,000,000
Santa Monica	1/9/19	1991-1992	Closed	2,000,000	2,000,000
Salinas	3/1/19	2018-2019	Open	0	2,000,000
Anaheim	4/4/19	2018-2019	Closed	1,711,727	1,711,727
Santa Monica	7/14/19	2019-2020	Open	0	1,000,000
Anaheim	12/12/19	2019-2020	Open	0	1,500,000
Santa Monica	5/31/20	2019-2020	Open	0	1,000,000
Modesto	12/29/20	2020-2021	Open	0	4,000,000

Authority for California Cities Excess Liability
ACCEL Layer

Outstanding Liability at December 31, 2021

Accident Year	Ultimate Losses With Corridor (A)	12/31/21 Reported Loss (B)	12/31/21 IBNR (C)	12/31/21 Paid Loss (D)	12/31/21 Case Reserves (E)	12/31/21 Outstanding Loss (F)
1986-1987	0	0	0	0	0	0
1987-1988	500,000	500,000	0	500,000	0	0
1988-1989	0	0	0	0	0	0
1989-1990	0	0	0	0	0	0
Totals	\$500,000	\$500,000	\$0	\$500,000	\$0	\$0
1986-1988	9,724,542	9,724,542	0	9,724,542	0	0
1988-1989	0	0	0	0	0	0
1989-1990	0	0	0	0	0	0
1990-1991	0	0	0	0	0	0
1991-1992	2,501,191	2,501,191	0	2,501,191	0	0
1992-1993	10,538,558	10,538,558	0	10,538,558	0	0
1993-1994	877,168	877,168	0	877,168	0	0
1994-1995	1,439,192	1,439,192	0	1,439,192	0	0
1995-1996	912,141	912,141	0	912,141	0	0
1996-1997	2,388,970	2,388,970	0	2,388,970	0	0
1997-1998	2,083,463	2,083,463	0	2,083,463	0	0
2003-2004	3,526,085	3,526,085	0	3,526,085	0	0
2004-2005	9,967,624	9,967,624	0	9,967,624	0	0
2005-2006	4,457,753	4,457,753	0	4,457,753	0	0
2006-2007	621,098	621,098	0	621,098	0	0
2007-2008	4,851,132	4,851,132	0	4,851,132	0	0
2008-2009	3,187,935	3,187,935	0	3,187,935	0	0
2009-2010	0	0	0	0	0	0
2010-2011	375,159	375,159	0	375,159	0	0
2011-2012	2,274	2,274	0	2,274	0	0
2012-2013	4,206,743	4,206,743	0	4,206,743	0	0
2013-2014	12,963,065	12,963,065	0	12,963,065	0	0
2014-2015	5,680,000	5,680,000	0	5,680,000	0	0
2015-2016	3,976,452	3,976,452	0	1,576,452	2,400,000	2,400,000
2016-2017	16,684,000	15,417,663	1,266,337	9,417,663	6,000,000	7,266,337
2017-2018	13,111,000	11,786,976	1,324,024	5,061,476	6,725,500	8,049,524
2018-2019	15,381,000	13,317,077	2,063,923	3,617,077	9,700,000	11,763,923
2019-2020	9,410,000	3,500,000	5,910,000	0	3,500,000	9,410,000
2020-2021	15,805,077	4,000,000	11,805,077	0	4,000,000	15,805,077
2021-2022	8,146,500	0	8,146,500	0	0	8,146,500
Totals	\$162,818,122	\$132,302,261	\$30,515,861	\$99,976,761	\$32,325,500	\$62,841,361
Grand Totals	\$163,318,122	\$132,802,261	\$30,515,861	\$100,476,761	\$32,325,500	\$62,841,361

Notes:

- (A) From Appendix A, Page 3, Column (G).
- (B) Provided by ACCEL
- (C) (A) - (B)
- (D) Provided by ACCEL
- (F) (B) - (D)
- (F) (D) - (A)

Authority for California Cities Excess Liability
ACCEL Layer

Outstanding Liability at June 30, 2022

Accident Year	Ultimate Losses (A)	6/30/2022 Reported Loss (B)	6/30/2022 IBNR (C)	6/30/2022 Paid Loss (D)	6/30/2022 Case Reserves (E)	6/30/2022 Outstanding Loss (F)
1986-1987	0	0	0	0	0	0
1987-1988	500,000	500,000	0	500,000	0	0
1988-1989	0	0	0	0	0	0
1989-1990	0	0	0	0	0	0
Totals	\$500,000	\$500,000	\$0	\$500,000	\$0	\$0
1986-1988	9,724,542	9,724,542	0	9,724,542	0	0
1988-1989	0	0	0	0	0	0
1989-1990	0	0	0	0	0	0
1990-1991	0	0	0	0	0	0
1991-1992	2,501,191	2,501,191	0	2,501,191	0	0
1992-1993	10,538,558	10,538,558	0	10,538,558	0	0
1993-1994	877,168	877,168	0	877,168	0	0
1994-1995	1,439,192	1,439,192	0	1,439,192	0	0
1995-1996	912,141	912,141	0	912,141	0	0
1996-1997	2,388,970	2,388,970	0	2,388,970	0	0
1997-1998	2,083,463	2,083,463	0	2,083,463	0	0
2003-2004	3,526,085	3,526,085	0	3,526,085	0	0
2004-2005	9,967,624	9,967,624	0	9,967,624	0	0
2005-2006	4,457,753	4,457,753	0	4,457,753	0	0
2006-2007	621,098	621,098	0	621,098	0	0
2007-2008	4,851,132	4,851,132	0	4,851,132	0	0
2008-2009	3,187,935	3,187,935	0	3,187,935	0	0
2009-2010	0	0	0	0	0	0
2010-2011	375,159	375,159	0	375,159	0	0
2011-2012	2,274	2,274	0	2,274	0	0
2012-2013	4,206,743	4,206,743	0	4,206,743	0	0
2013-2014	12,963,065	12,963,065	0	12,963,065	0	0
2014-2015	5,680,000	5,680,000	0	5,680,000	0	0
2015-2016	3,976,452	3,976,452	0	2,018,052	1,958,400	1,958,400
2016-2017	16,684,000	15,622,810	1,061,190	10,791,001	4,831,809	5,892,999
2017-2018	13,111,000	12,023,977	1,087,023	6,534,539	5,489,437	6,576,461
2018-2019	15,381,000	13,775,268	1,605,732	5,158,151	8,617,117	10,222,849
2019-2020	9,410,000	4,404,230	5,005,770	893,950	3,510,280	8,516,050
2020-2021	15,805,077	5,227,728	10,577,349	616,398	4,611,330	15,188,679
2021-2022	16,293,000	260,688	16,032,312	65,172	195,516	16,227,828
Totals	\$170,964,622	\$135,595,245	\$35,369,377	\$106,381,355	\$29,213,889	\$64,583,267
Grand Totals	\$171,464,622	\$136,095,245	\$35,369,377	\$106,881,355	\$29,213,889	\$64,583,267

Notes:

- (A) From Appendix A, Page 3, Column (G).
- (B) Projected based on Appendix A, Page 4, Column (B).
- (C) (A) - (B)
- (D) Projected based on Appendix A, Page 5, Column (B).
- (F) (B) - (D)
- (F) (D) - (A)

Authority for California Cities Excess Liability
ACCEL Layer

Estimated Ultimate Losses

Accident Year	Reported Loss Development Method (A)	Paid Loss Development Method (B)	Expected Loss Method (C)	Prior Estimate of Ultimate Losses (D)	Selected Estimate of Ultimate Losses (E)	Selected Corridor Deductible Ultimate (F)	Selected Estimate of Ultimate Losses w/ Corridor (G)
1986-1987	0	0		0	0	0	0
1987-1988	500,000	500,000		500,000	500,000	0	500,000
1988-1989	0	0		0	0	0	0
1989-1990	0	0		0	0	0	0
Totals	\$500,000	\$500,000		\$500,000	\$500,000	\$0	\$500,000
1986-1988	9,724,542	9,724,542		9,724,542	9,724,542	0	9,724,542
1988-1989	0	0		0	0	0	0
1989-1990	0	0		0	0	0	0
1990-1991	0	0		0	0	0	0
1991-1992	2,501,191	2,501,191		2,501,191	2,501,191	0	2,501,191
1992-1993	10,538,558	10,549,097		10,538,558	10,538,558	0	10,538,558
1993-1994	877,168	878,045		877,168	877,168	0	877,168
1994-1995	1,439,192	1,440,631		1,439,192	1,439,192	0	1,439,192
1995-1996	912,141	913,053		912,141	912,141	0	912,141
1996-1997	2,388,970	2,391,359		2,388,970	2,388,970	0	2,388,970
1997-1998	2,083,463	2,085,546		2,083,463	2,083,463	0	2,083,463
2003-2004	3,529,611	3,547,242		3,526,085	3,526,085	0	3,526,085
2004-2005	9,987,559	10,057,332	9,974,000	9,967,624	9,967,624	0	9,967,624
2005-2006	4,475,584	4,515,704	4,477,000	4,457,753	4,457,753	0	4,457,753
2006-2007	626,685	632,267	667,000	621,098	621,098	0	621,098
2007-2008	4,899,643	4,948,155	4,906,000	4,851,132	4,851,132	0	4,851,132
2008-2009	3,235,754	3,251,694	3,278,000	3,187,935	3,187,935	0	3,187,935
2009-2010	0	0	122,000	0	0	0	0
2010-2011	384,538	386,414	534,000	482,000	375,159	0	375,159
2011-2012	2,342	2,365	199,000	141,000	2,274	0	2,274
2012-2013	4,375,013	4,463,354	4,474,000	4,622,000	4,206,743	0	4,206,743
2013-2014	13,753,812	14,298,261	13,386,000	10,330,000	12,963,065	0	12,963,065
2014-2015	6,208,240	6,577,440	6,354,000	11,397,000	5,680,000	0	5,680,000
2015-2016	4,564,967	2,008,400	5,078,000	3,007,000	3,976,452	0	3,976,452
2016-2017	19,025,396	14,399,607	16,724,000	16,587,000	16,684,000	0	16,684,000
2017-2018	16,725,720	11,145,371	14,788,000	9,785,000	13,111,000	0	13,111,000
2018-2019	28,352,056	13,940,213	19,222,000	11,539,000	15,381,000	0	15,381,000
2019-2020	14,903,000	0	12,881,000	5,938,000	9,410,000	0	9,410,000
2020-2021	119,224,000	0	15,942,000	11,413,000	14,432,000	1,373,077	15,805,077
2021-2022	0	0	17,978,000	16,293,000	16,293,000	0	16,293,000
Totals	\$284,739,145	\$124,657,283	\$150,984,000	\$158,610,852	\$169,591,545	\$1,373,077	\$170,964,622
Grand Totals	\$285,239,145	\$125,157,283		\$159,110,852	\$170,091,545	\$1,373,077	\$171,464,622

Notes:

- (A) From Appendix A, Page 4, Column (C).
- (B) From Appendix A, Page 5, Column (C).
- (C) From Appendix A, Page 6, Column (K).
- (D) From prior actuarial study.
- (E) Selected based on (A) through (D).
- (F) Based on Monte Carlo simulation.
- (G) (E) + (F)

Authority for California Cities Excess Liability
ACCEL Layer

Reported Loss Development

Accident Year	Reported Losses as of 12/31/21 (A)	Reported Loss Development Factor (B)	Estimated Ultimate Losses (C)
1986-1987	0	1.000	0
1987-1988	500,000	1.000	500,000
1988-1989	0	1.000	0
1989-1990	0	1.000	0
Totals	\$500,000		\$500,000
1986-1988	9,724,542	1.000	9,724,542
1988-1989	0	1.000	0
1989-1990	0	1.000	0
1990-1991	0	1.000	0
1991-1992	2,501,191	1.000	2,501,191
1992-1993	10,538,558	1.000	10,538,558
1993-1994	877,168	1.000	877,168
1994-1995	1,439,192	1.000	1,439,192
1995-1996	912,141	1.000	912,141
1996-1997	2,388,970	1.000	2,388,970
1997-1998	2,083,463	1.000	2,083,463
2003-2004	3,526,085	1.001	3,529,611
2004-2005	9,967,624	1.002	9,987,559
2005-2006	4,457,753	1.004	4,475,584
2006-2007	621,098	1.009	626,685
2007-2008	4,851,132	1.010	4,899,643
2008-2009	3,187,935	1.015	3,235,754
2009-2010	0	1.020	0
2010-2011	375,159	1.025	384,538
2011-2012	2,274	1.030	2,342
2012-2013	4,206,743	1.040	4,375,013
2013-2014	12,963,065	1.061	13,753,812
2014-2015	5,680,000	1.093	6,208,240
2015-2016	3,976,452	1.148	4,564,967
2016-2017	15,417,663	1.234	19,025,396
2017-2018	11,786,976	1.419	16,725,720
2018-2019	13,317,077	2.129	28,352,056
2019-2020	3,500,000	4.258	14,903,000
2020-2021	4,000,000	29.806	119,224,000
2021-2022	0	447.090	0
Totals	\$132,302,261		\$284,739,145
Grand Totals	\$132,802,261		\$285,239,145

Notes:

- (A) Provided by ACCEL
- (B) (C) from Appendix B, Page 3.
- (C) (A) x (B).

Authority for California Cities Excess Liability
ACCEL Layer

Paid Loss Development

Accident Year	Paid Losses as of 12/31/21 (A)	Paid Loss Development Factor (B)	Estimated Ultimate Losses (C)
1986-1987	0	1.000	0
1987-1988	500,000	1.000	500,000
1988-1989	0	1.000	0
1989-1990	0	1.000	0
Totals	\$500,000		\$500,000
1986-1988	9,724,542	1.000	9,724,542
1988-1989	0	1.000	0
1989-1990	0	1.000	0
1990-1991	0	1.000	0
1991-1992	2,501,191	1.000	2,501,191
1992-1993	10,538,558	1.001	10,549,097
1993-1994	877,168	1.001	878,045
1994-1995	1,439,192	1.001	1,440,631
1995-1996	912,141	1.001	913,053
1996-1997	2,388,970	1.001	2,391,359
1997-1998	2,083,463	1.001	2,085,546
2003-2004	3,526,085	1.006	3,547,242
2004-2005	9,967,624	1.009	10,057,332
2005-2006	4,457,753	1.013	4,515,704
2006-2007	621,098	1.018	632,267
2007-2008	4,851,132	1.020	4,948,155
2008-2009	3,187,935	1.020	3,251,694
2009-2010	0	1.020	0
2010-2011	375,159	1.030	386,414
2011-2012	2,274	1.040	2,365
2012-2013	4,206,743	1.061	4,463,354
2013-2014	12,963,065	1.103	14,298,261
2014-2015	5,680,000	1.158	6,577,440
2015-2016	1,576,452	1.274	2,008,400
2016-2017	9,417,663	1.529	14,399,607
2017-2018	5,061,476	2.202	11,145,371
2018-2019	3,617,077	3.854	13,940,213
2019-2020	0	11.562	0
2020-2021	0	115.620	0
2021-2022	0	2,312.400	0
Totals	\$99,976,761		\$124,657,283
Grand Totals	\$100,476,761		\$125,157,283

Notes:

- (A) Provided by ACCEL
- (B) (C) from Appendix B, Page 4.
- (C) (A) x (B).

Authority for California Cities Excess Liability
ACCEL Layer

Expected Loss Methods

Program Year	Program Year 2022-2023 \$100K-\$1M Base Rate (A)	Trend Factor Program Year (B)	Program Year \$100K-\$1M Base Rate (C)	Factor to Self-Insured Layer (D)	Program Year Self-Insured Expected Rate (E)	Program Year Payroll (F)	Program Year Preliminary Ultimate Losses (G)	Percent of Ultimate Losses Not Reported (H)	Estimated Program Year IBNR at 12/31/21 (I)	Program Year Reported Losses at 12/31/21 (J)	Program Year Estimated Ultimate Losses (K)
2004-2005	\$1.612	0.494	0.796	0.427	0.340	\$9,374,402	\$3,185,000	0.2%	\$6,357	\$9,967,624	\$9,974,000
2005-2006	1.612	0.513	0.828	0.582	0.482	9,850,045	4,744,000	0.4%	18,900	4,457,753	4,477,000
2006-2007	1.612	0.534	0.861	0.582	0.501	10,305,894	5,162,000	0.9%	46,021	621,098	667,000
2007-2008	1.612	0.555	0.895	0.582	0.521	10,609,082	5,527,000	1.0%	54,723	4,851,132	4,906,000
2008-2009	1.612	0.577	0.931	0.582	0.542	11,307,152	6,126,000	1.5%	90,532	3,187,935	3,278,000
2009-2010	1.612	0.601	0.968	0.582	0.563	11,075,957	6,241,000	2.0%	122,373	0	122,000
2010-2011	1.612	0.625	1.007	0.582	0.586	11,097,108	6,503,000	2.4%	158,610	375,159	534,000
2011-2012	1.612	0.650	1.047	0.582	0.609	11,095,468	6,762,000	2.9%	196,951	2,274	199,000
2012-2013	1.612	0.676	1.089	0.582	0.634	10,966,401	6,951,000	3.8%	267,346	4,206,743	4,474,000
2013-2014	1.612	0.703	1.133	0.582	0.659	11,164,240	7,359,000	5.7%	423,090	12,963,065	13,386,000
2014-2015	1.612	0.731	1.178	0.582	0.686	11,556,443	7,922,000	8.5%	674,059	5,680,000	6,354,000
2015-2016	1.612	0.760	1.225	0.582	0.713	11,986,752	8,546,000	12.9%	1,101,749	3,976,452	5,078,000
2016-2017	1.612	0.790	1.274	0.427	0.544	12,662,643	6,888,000	19.0%	1,306,152	15,417,663	16,724,000
2017-2018	1.612	0.822	1.325	0.582	0.771	13,177,894	10,162,000	29.5%	3,000,619	11,786,976	14,788,000
2018-2019	1.612	0.855	1.378	0.582	0.802	13,884,423	11,135,000	53.0%	5,904,845	13,317,077	19,222,000
2019-2020	1.612	0.889	1.433	0.582	0.834	14,699,647	12,260,000	76.5%	9,380,714	3,500,000	12,881,000
2020-2021	1.612	0.925	1.490	0.582	0.867	14,245,854	12,357,000	96.6%	11,942,419	4,000,000	15,942,000
2021-2022	1.612	0.962	1.550	0.816	1.265	14,245,840	18,018,000	99.8%	17,977,699	0	17,978,000

Authority for California Cities Excess Liability
ACCEL Layer

Expected Loss Rates

Accident Year	Program Year Payroll	Ultimate Loss	On-Level Losses	Loss Rate	Loss Rate Trend	Trended Loss Rate
1986-1987	1,008,086	0	0	0.000	2.279	0.000
1987-1988	998,109	500,000	500,000	0.501	2.191	1.098
1988-1989	1,146,083	0	0	0.000	2.107	0.000
1989-1990	1,208,157	0	0	0.000	2.026	0.000
Totals	\$4,360,436	\$500,000	\$500,000	0.115		0.275
1986-1988	3,670,691	9,724,542	9,724,542	2.649	4.443	11.770
1988-1989	4,030,134	0	0	0.000	4.272	0.000
1989-1990	4,399,059	0	0	0.000	4.108	0.000
1990-1991	4,875,491	0	0	0.000	3.950	0.000
1991-1992	5,277,443	2,501,191	2,501,191	0.474	3.798	1.800
1992-1993	5,310,299	10,538,558	10,538,558	1.985	3.652	7.249
1993-1994	5,635,666	877,168	877,168	0.156	3.512	0.548
1994-1995	6,004,411	1,439,192	1,439,192	0.240	3.377	0.810
1995-1996	6,102,690	912,141	912,141	0.149	3.247	0.484
1996-1997	6,502,472	2,388,970	2,388,970	0.367	3.122	1.146
1997-1998	6,972,985	2,083,463	2,083,463	0.299	3.002	0.898
2003-2004	9,103,267	3,526,085	3,526,085	0.387	2.109	0.816
2004-2005	9,374,402	9,967,624	9,967,624	1.063	2.028	2.156
2005-2006	9,850,045	4,457,753	4,457,753	0.453	1.950	0.883
2006-2007	10,305,894	621,098	621,098	0.060	1.875	0.113
2007-2008	10,609,082	4,851,132	4,851,132	0.457	1.803	0.824
2008-2009	11,307,152	3,187,935	3,187,935	0.282	1.734	0.489
2009-2010	11,075,957	0	0	0.000	1.667	0.000
2010-2011	11,097,108	375,159	375,159	0.034	1.603	0.055
2011-2012	11,095,468	2,274	2,274	0.000	1.541	0.000
2012-2013	10,966,401	4,206,743	4,206,743	0.384	1.482	0.569
2013-2014	11,164,240	12,963,065	12,963,065	1.161	1.425	1.654
2014-2015	11,556,443	5,680,000	5,680,000	0.492	1.370	0.674
2015-2016	11,986,752	3,976,452	3,976,452	0.332	1.317	0.437
2016-2017	12,662,643	16,684,000	16,684,000	1.318	1.266	1.669
2017-2018	13,177,894	13,111,000	13,111,000	0.995	1.217	1.211
2018-2019	13,884,423	15,381,000	15,381,000	1.108	1.170	1.296
2019-2020	14,699,647	9,410,000	9,410,000	0.640	1.125	0.720
2020-2021	14,245,854	15,805,077	15,805,077	1.109	1.082	1.200
2021-2022	14,245,840	16,293,000	16,293,000	1.144	1.040	1.190
Totals	\$281,189,853	\$170,964,622	\$170,964,622	0.608		1.355
86/87-97/98	67,884,607	33,991,310	33,991,310	0.501		2.127

Selected Trend: 1.040

Authority for California Cities Excess Liability - Liability (\$100K - \$1M Analysis)

Estimated Loss Rates for the \$100,000 - \$1,000,000 Layer

Accident Year	Estimated Ultimate \$100K - \$1M Losses (C)	Payroll (\$00's) (D)	Loss Trend Factor (E)	Loss Rate at 2021-2022 Level (F)
2012-2013	8,123,000	13,697,035	1.423	0.844
2013-2014	15,203,000	13,609,209	1.369	1.529
2014-2015	13,545,000	13,740,611	1.316	1.297
2015-2016	14,421,000	13,904,632	1.265	1.312
2016-2017	22,537,000	14,334,112	1.217	1.913
2017-2018	18,108,000	14,548,395	1.170	1.456
2018-2019	20,660,000	14,602,544	1.125	1.592
2019-2020	23,636,000	14,770,593	1.082	1.731
2020-2021	22,119,000	13,934,819	1.040	1.651
Average 2012-13 - 2020-21:				1.481
Average 2012-13 - 2019-20:				1.547
Average 2014-15 - 2020-21:				1.565
Prior 2020-2021 Rate :				1.450
Selected 2021-2022 Rate :				1.550
Trend Factor to 2022-2023 :				1.040
Selected 2022-2023 Rate :				\$1.612

Authority for California Cities Excess Liability - Liability (\$100K - \$1M Analysis)

Estimated Ultimate Losses for the \$100,000 to \$1,000,000 Layer

Accident Year	Reported Loss Development Method (A)	Paid Loss Development Method (B)	Exposure Method Based on Reported Losses (C)	Exposure Method Based on Paid Losses (D)	Frequency-Severity Method (E)	Selected Ultimate Limited Losses (F)
2012-2013	8,221,835	7,729,769	8,222,165	7,742,101	8,123,010	8,123,000
2013-2014	15,063,830	15,341,258	15,072,491	15,329,375	15,202,997	15,203,000
2014-2015	13,614,441	13,476,048	13,610,803	13,481,611	13,544,977	13,545,000
2015-2016	13,577,311	15,265,571	13,603,033	15,141,543	14,421,012	14,421,000
2016-2017	22,620,659	24,129,829	22,248,868	22,824,951	21,791,280	22,537,000
2017-2018	16,544,444	19,178,831	16,994,753	19,221,220	20,666,646	18,108,000
2018-2019	18,250,241	26,052,822	18,768,992	22,551,349	19,066,685	20,660,000
2019-2020	22,544,383	28,147,110	21,987,381	22,606,871	26,312,412	23,636,000
2020-2021	22,509,995	25,962,028	21,229,591	21,128,008	24,000,000	22,119,000
Totals						\$158,352,000

Notes:

- (A) From Appendix B, Page 3, Column (D).
- (B) From Appendix B, Page 4, Column (D).
- (C) Based on results in Appendix B, Page 5.
- (D) Based on results in Appendix B, Page 6.
- (E) Based on results in Appendix B, Page 8.
- (F) Selected averages of (A), (B), (C), (D), and (E).

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

Authority for California Cities Excess Liability - Liability (\$100K - \$1M Analysis)

Reported Loss Development

Accident Year (A)	\$100K - \$1M Reported Losses as of 12/31/21 (B)	Reported Loss Development Factor (C)	Ultimate \$100K - \$1M Losses (D)	\$100K - \$1M Reported Losses of 12/31/21 (E)	Reported Loss Development Factor (F)	Ultimate \$100K - \$1M Losses (G)
2012-2013	8,100,330	1.015	8,221,835	8,100,330	1.015	8,221,835
2013-2014	14,768,461	1.020	15,063,830	14,768,461	1.020	15,063,830
2014-2015	13,217,904	1.030	13,614,441	13,217,904	1.030	13,614,441
2015-2016	13,055,107	1.040	13,577,311	13,055,107	1.040	13,577,311
2016-2017	20,714,889	1.092	22,620,659	20,714,889	1.092	22,620,659
2017-2018	13,775,557	1.201	16,544,444	13,775,557	1.201	16,544,444
2018-2019	13,215,236	1.381	18,250,241	13,215,236	1.381	18,250,241
2019-2020	13,605,542	1.657	22,544,383	13,605,542	1.657	22,544,383
2020-2021	5,906,585	3.811	22,509,995	5,906,585	3.811	22,509,995
Totals	\$116,359,611		\$152,947,139	\$116,359,611		\$152,947,139

Notes:

- (A) Years are 7/1 to 6/30.
- (B) Provided by the Authority. These losses exclude amount over the SIR.
- (C) Based upon Industry Loss Development Factors.
- (D) (B) x (C). These estimated losses exclude amount over the SIR.
- (E) Losses capped at the Authority's SIR. Amounts are provided by the Authority.
- (F) Based upon Industry Loss Development Factors.
- (G) (E) x (F).

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

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

Authority for California Cities Excess Liability - Liability (\$100K - \$1M Analysis)

Paid Loss Development

Accident Year (A)	\$100K - \$1M Paid Losses as of 12/31/21 (B)	Paid Loss Development Factor (C)	Ultimate \$100K - \$1M Losses (D)	\$100K - \$1M Paid Losses of 12/31/21 (E)	Paid Loss Development Factor (F)	Ultimate \$100K - \$1M Losses (G)
2012-2013	7,425,330	1.041	7,729,769	7,425,330	1.041	7,729,769
2013-2014	14,310,875	1.072	15,341,258	14,310,875	1.072	15,341,258
2014-2015	12,086,142	1.115	13,476,048	12,086,142	1.115	13,476,048
2015-2016	13,036,354	1.171	15,265,571	13,036,354	1.171	15,265,571
2016-2017	18,734,339	1.288	24,129,829	18,734,339	1.288	24,129,829
2017-2018	11,028,655	1.739	19,178,831	11,028,655	1.739	19,178,831
2018-2019	10,699,311	2.435	26,052,822	10,699,311	2.435	26,052,822
2019-2020	5,779,694	4.870	28,147,110	5,779,694	4.870	28,147,110
2020-2021	1,777,004	14.610	25,962,028	1,777,004	14.610	25,962,028
Totals	\$94,877,704		\$175,283,266	\$94,877,704		\$175,283,266

Notes:

- (A) Years are 7/1 to 6/30.
- (B) Provided by the Authority. These losses exclude amount over the SIR.
- (C) Based upon Industry Loss Development Factors.
- (D) (B) x (C). These estimated losses exclude amount over the SIR.
- (E) Losses capped at the Authority's SIR. Amounts are provided by the Authority.
- (F) Based upon Industry Loss Development Factors.
- (G) (E) x (F).

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

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

Authority for California Cities Excess Liability - Liability (\$100K - \$1M Analysis)

Exposure and Development Method
Based on Reported Losses

Accident Year	Composite Exposure (A)	Reported Losses as of 12/31/21 (B)	Loss Development Factor (C)	Percentage of Losses Yet to Be Reported (D)	Program Rate (E)	Incurred but not Reported (IBNR) (F)	Ultimate Program Losses (G)
2012-2013	13,697,035	8,100,330	1.015	0.015	0.593	121,835	8,222,165
2013-2014	13,609,209	14,768,461	1.020	0.020	1.117	304,030	15,072,491
2014-2015	13,740,611	13,217,904	1.030	0.029	0.986	392,899	13,610,803
2015-2016	13,904,632	13,055,107	1.040	0.038	1.037	547,926	13,603,033
2016-2017	14,334,112	20,714,889	1.092	0.084	1.274	1,533,979	22,248,868
2017-2018	14,548,395	13,775,557	1.201	0.167	1.325	3,219,196	16,994,753
2018-2019	14,602,544	13,215,236	1.381	0.276	1.378	5,553,756	18,768,992
2019-2020	14,770,593	13,605,542	1.657	0.396	1.433	8,381,839	21,987,381
2020-2021	13,934,819	5,906,585	3.811	0.738	1.490	15,323,006	21,229,591
Totals	\$127,141,950	\$116,359,611				\$35,378,466	\$151,738,077

Notes:

- (A) Provided by the Authority.
- (B) Provided by the Authority. These losses exclude amounts incurred above the Authority's SIR for each year.
- (C) From Appendix B, Page 3, Column (F).
- (D) $1 - 1/(C)$.
- (E) From Appendix B, Page 7, Column (H).
- (F) $(A) \times (D) \times (E)$.
- (G) $(B) + (F)$.

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

Authority for California Cities Excess Liability - Liability (\$100K - \$1M Analysis)

Exposure and Development Method
Based on Paid Losses

Accident Year	Composite Exposure (A)	Paid Losses as of 12/31/21 (B)	Loss Development Factor (C)	Percentage of Losses Yet to Be Paid (D)	Program Rate (E)	Incurred but not Paid (F)	Ultimate Program Losses (G)
2011-2012	14,202,199		1.021	0.021	1.047	312,264	
2012-2013	13,697,035	7,425,330	1.041	0.039	0.593	316,771	7,742,101
2013-2014	13,609,209	14,310,875	1.072	0.067	1.117	1,018,500	15,329,375
2014-2015	13,740,611	12,086,142	1.115	0.103	0.986	1,395,469	13,481,611
2015-2016	13,904,632	13,036,354	1.171	0.146	1.037	2,105,189	15,141,543
2016-2017	14,334,112	18,734,339	1.288	0.224	1.274	4,090,612	22,824,951
2017-2018	14,548,395	11,028,655	1.739	0.425	1.325	8,192,565	19,221,220
2018-2019	14,602,544	10,699,311	2.435	0.589	1.378	11,852,038	22,551,349
2019-2020	14,770,593	5,779,694	4.870	0.795	1.433	16,827,177	22,606,871
2020-2021	13,934,819	1,777,004	14.610	0.932	1.490	19,351,004	21,128,008
Totals	\$141,344,149	\$94,877,704				\$65,461,589	\$160,027,029

Notes:

- (A) Provided by the Authority.
- (B) Provided by the Authority. These losses exclude amounts paid above the Authority's SIR for each year.
- (C) From Appendix B, Page 4, Column (F).
- (D) $1 - 1/(C)$.
- (E) From Appendix B, Page 7, Column (H).
- (F) $(A) \times (D) \times (E)$.
- (G) $(B) + (F)$.

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

Authority for California Cities Excess Liability - Liability (\$100K - \$1M Analysis)

Exposure and Development Method

Accident Year	Composite Exposure (A)	Ultimate \$100K - \$1M Losses (B)	Trend Factor (C)	Trended \$100K - \$1M Losses (D)	Trended \$100K - \$1M Loss Rate (E)	Trended \$100K - \$1M Loss Rate (F)	Factor to SIR (G)	Program Loss Rate (H)
2011-2012	14,202,199		1.480			1.047	1.000	1.047
2012-2013	13,697,035	8,123,000	1.423	11,559,029	0.844	0.593	1.000	0.593
2013-2014	13,609,209	15,203,000	1.369	20,812,907	1.529	1.117	1.000	1.117
2014-2015	13,740,611	13,545,000	1.316	17,825,220	1.297	0.986	1.000	0.986
2015-2016	13,904,632	14,421,000	1.265	18,242,565	1.312	1.037	1.000	1.037
2016-2017	14,334,112	23,375,000	1.217	28,447,375	1.985	1.274	1.000	1.274
2017-2018	14,548,395	16,544,000	1.170	19,356,480	1.330	1.325	1.000	1.325
2018-2019	14,602,544	22,152,000	1.125	24,921,000	1.707	1.378	1.000	1.378
2019-2020	14,770,593	24,412,000	1.082	26,413,784	1.788	1.433	1.000	1.433
2020-2021	13,934,819	23,778,000	1.040	24,729,120	1.775	1.490	1.000	1.490
Total/Avg	\$141,344,149	\$161,553,000		\$192,307,480	\$1.513			
12/13-18/19	98,436,538	113,363,000		141,164,576	\$1.434			
13/14-19/20	99,510,096	129,652,000		156,019,331	\$1.568			
14/15-20/21	99,835,706	138,227,000		159,935,544	\$1.602			
				Selected \$100K - \$1M Rate:	\$1.550			
				Prior:	\$1.450			

6.9%

Notes:

- (A) Provided by the Authority.
- (B) Selected average of results from Appendices B and B.
- (C) From Appendix E, Column (B).
- (D) (B) x (C).
- (E) (D) / (A).
- (F) Selected \$100K - \$1M Rate / (C). For 2015-2016 and prior (B) / (A).
- (G) Based on a Burr distribution, a mathematical model of claim sizes.
- (H) (F) x (G).

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

Authority for California Cities Excess Liability - Liability (\$100K - \$1M An

Frequency and Severity Method

Accident Year	Ultimate Program Severity (A)	Ultimate Claims (B)	Ultimate Program Losses (C)
2012-2013	270,767	30	8,123,010
2013-2014	286,849	53	15,202,997
2014-2015	288,191	47	13,544,977
2015-2016	351,732	41	14,421,012
2016-2017	320,460	68	21,791,280
2017-2018	333,333	62	20,666,646
2018-2019	346,667	55	19,066,685
2019-2020	360,444	73	26,312,412
2020-2021	375,000	64	24,000,000
Total		493	\$163,129,019

Notes:

- (A) From Appendix B, Page 9, Column (H).
- (B) From Appendix B, Page 9, Column (B).
- (C) (A) x (B).

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

Authority for California Cities Excess Liability - Liability (\$100K - \$1M Analysis)

Frequency and Severity Method

Accident Year	Ultimate	Ultimate Claims (B)	Ultimate	Trend Factor (D)	Trended		Factor to SIR (G)	Program Severity (H)
	\$100K - \$1M Losses (A)		\$100K - \$1M Severity (C)		\$100K - \$1M Severity (E)	\$100K - \$1M Severity (F)		
2012-2013	8,123,000	30	270,767	1.423	385,301	270,767	1.000	270,767
2013-2014	15,203,000	53	286,849	1.369	392,696	286,849	1.000	286,849
2014-2015	13,545,000	47	288,191	1.316	379,259	288,191	1.000	288,191
2015-2016	14,421,000	41	351,732	1.265	444,941	351,732	1.000	351,732
2016-2017	22,537,000	68	331,426	1.217	403,345	320,460	1.000	320,460
2017-2018	18,108,000	62	292,065	1.170	341,716	333,333	1.000	333,333
2018-2019	20,660,000	55	375,636	1.125	422,591	346,667	1.000	346,667
2019-2020	22,297,000	73	305,438	1.082	330,484	360,444	1.000	360,444
2020-2021	21,179,000	64	330,922	1.040	344,159	375,000	1.000	375,000

Average \$100K - \$1M Severity: \$382,721
Average 12/13-18/19 \$100K - \$1M Severity: \$395,693
Average 12/13-19/20 \$100K - \$1M Severity: \$387,542

Selected \$100K - \$1M Severity: \$390,000
Prior: \$350,000

Notes:

- (A) Selected average of results from Appendices B, B, and B.
- (B) Appendix B, Page 10, Column (C).
- (C) (A) / (B).
- (D) From Appendix E, Column (J).
- (E) (C) x (D).
- (F) Selected Limited Severity / (D).
- (G) Based on a Burr distribution, a mathematical model of claim sizes.
- (H) (F) x (G).

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

Authority for California Cities Excess Liability - Liability (\$100K - \$1M Analysis)

Frequency and Severity Method
Projection of Ultimate Claims

Accident Year	Reported Claim Development (A)	Closed Claim Development (B)	Selected Ultimate Claims (C)	Composite Exposure (10,000s) (D)	Claim Frequency (E)	Trend Factor (F)	Trended Claim Frequency (G)
2012-2013	30	30	30	1,369.704	0.022	1.000	0.022
2013-2014	53	51	53	1,360.921	0.039	1.000	0.039
2014-2015	47	48	47	1,374.061	0.034	1.000	0.034
2015-2016	41	42	41	1,390.463	0.029	1.000	0.029
2016-2017	68	60	68	1,433.411	0.047	1.000	0.047
2017-2018	62	57	62	1,454.840	0.043	1.000	0.043
2018-2019	55	66	55	1,460.254	0.038	1.000	0.038
2019-2020	73	82	73	1,477.059	0.049	1.000	0.049
2020-2021	65	63	64	1,393.482	0.046	1.000	0.046
Total	494	499	493	12,714.195			0.039

(H) Selected 2021-2022 Frequency: 0.045

Program Year:	2021-2022	2022-2023
(I) Trend Factor:	1.000	1.000
(J) Selected Frequency:	0.045	0.045
(K) Composite Exposure:	1,359.493	1,359.493
(L) Ultimate Claims:	61	61

Notes:

- (A) From Appendix B, Page 11, (C).
- (B) From Appendix B, Page 12, (C).
- (C) Selected from (A) and (B).
- (D) From Appendix N, Page 2, (G).
- (E) (C) / (D).
- (F) From Appendix E.
- (G) (E) x (F).
- (H) The selected frequency of .045 is based on (G).
- (I) From Appendix E.
- (J) (H) x (I).
- (K) From Appendix N, Page 2, (G).
- (L) (J) x (K).

This exhibit summarizes the estimated numbers of claims and shows the estimated frequencies per 10,000 units of composite exposure, Appendix E, page2, Item (G).

Authority for California Cities Excess Liability - Liability (\$100K - \$1M Analysis)

Frequency and Severity Method
Reported Claim Count Development

Accident Year	Claims Reported as of 12/31/2021 (A)	Reported Claim Development Factor (B)	Ultimate Claims (C)	Trended Claim Frequency (D)
2012-2013	29	1.022	30	0.022
2013-2014	51	1.032	53	0.039
2014-2015	45	1.042	47	0.034
2015-2016	39	1.052	41	0.029
2016-2017	64	1.063	68	0.047
2017-2018	58	1.074	62	0.043
2018-2019	49	1.128	55	0.038
2019-2020	59	1.241	73	0.049
2020-2021	26	2.482	65	0.047
Total	420		494	0.039

Notes:

- (A) Provided by the Authority.
- (B) From Appendix B, Page 15.
- (C) (A) x (B).
- (D) (C) / [Appendix B, Page 10, (D)] x [Appendix B, Page 10, (F)].

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

Authority for California Cities Excess Liability - Liability (\$100K - \$1M Analysis)

Frequency and Severity Method
Closed Claim Count Development

Accident Year	Claims Closed as of 12/31/2021 (A)	Closed Claim Development Factor (B)	Ultimate Claims (C)	Trended Claim Frequency (D)
2012-2013	28	1.082	30	0.022
2013-2014	46	1.109	51	0.037
2014-2015	41	1.164	48	0.035
2015-2016	34	1.222	42	0.030
2016-2017	45	1.344	60	0.042
2017-2018	34	1.680	57	0.039
2018-2019	26	2.520	66	0.045
2019-2020	13	6.300	82	0.056
2020-2021	2	31.500	63	0.045
Total	269		499	0.039

Notes:

- (A) Provided by the Authority.
- (B) From Appendix B, Page 16.
- (C) (A) x (B).
- (D) (C) / [Appendix B, Page 10, (D)] x [Appendix B, Page 10, (F)].

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

Authority for California Cities Excess Liability - Liability (\$100K - \$1M Analysis)

Loss Rate Trend

Accident Year	Payroll	Preliminary Ultimate Loss	Untrended Loss Rate	Trended Loss Rate
2012-2013	13,697,035	7,976,000	0.582	0.829
2013-2014	13,609,209	15,203,000	1.117	1.529
2014-2015	13,740,611	13,545,000	0.986	1.297
2015-2016	13,904,632	14,421,000	1.037	1.312
2016-2017	14,334,112	22,925,000	1.599	1.946
2017-2018	14,548,395	16,921,000	1.163	1.361
2018-2019	14,602,544	21,115,000	1.446	1.627
2019-2020	14,770,593	23,481,000	1.590	1.719
2020-2021	13,934,819	21,276,000	1.527	1.588

Exponential Trends

Years	R-square	Fitted Trend
12/13-18/19	0.608	1.125
15/16-20/21	0.394	1.063
16/17-20/21	0.070	1.022
12/13-20/21	0.666	1.101
	Prior Trend:	1.040
	Selected Trend:	1.040

Authority for California Cities Excess Liability

Historical Payroll by Member

Member	1987-88 Payroll (\$00)	1988-89 Payroll (\$00)	1989-90 Payroll (\$00)	1990-91 Payroll (\$00)	1991-92 Payroll (\$00)	1992-93 Payroll (\$00)	1993-94 Payroll (\$00)	1994-95 Payroll (\$00)	1995-96 Payroll (\$00)	1996-97 Payroll (\$00)	1997-98 Payroll (\$00)	1998-99 Payroll (\$00)
Anaheim	863,430	945,634	887,693	997,604	1,032,792	1,017,556	1,106,327	1,138,132	1,159,649	1,186,315	1,183,599	1,221,632
Bakersfield	363,542	385,888	427,532	456,470	479,556	490,078	463,172	544,562	558,232	592,428	626,800	656,309
Burbank	403,276	435,541	517,034	546,240	570,952	606,092	612,781	633,112	651,359	628,837	665,202	0
Gardena	126,061	150,116	155,950	167,690	183,626	0	0	0	0	0	0	0
Modesto	296,655	340,582	340,582	403,120	486,797	492,189	479,750	496,562	535,022	533,981	596,710	599,204
Monterey	0	0	150,186	167,555	177,538	176,550	181,500	206,054	212,611	225,039	235,554	246,524
Mountain View	0	0	0	0	0	310,326	292,142	307,338	325,808	341,322	360,295	409,155
Ontario	280,023	325,401	368,037	425,392	459,269	440,000	517,000	518,010	524,206	574,396	582,744	589,308
Palo Alto	385,839	409,895	441,571	469,616	500,629	526,146	552,171	606,885	575,477	607,900	677,305	722,355
Salinas	0	0	0	0	0	0	0	0	0	0	0	0
Santa Barbara	300,236	342,392	355,513	393,889	438,230	421,442	464,065	494,001	496,728	525,742	562,649	587,051
Santa Cruz	0	0	0	0	0	0	0	0	0	164,906	327,837	330,666
Santa Monica	530,434	556,978	610,936	682,891	758,378	657,800	770,000	856,975	863,634	912,836	943,294	997,024
Visalia	121,195	137,709	144,025	165,025	189,676	172,119	196,757	202,780	199,965	208,770	210,996	218,084
Total	3,670,691	4,030,134	4,399,059	4,875,491	5,277,443	5,310,299	5,635,666	6,004,411	6,102,690	6,502,472	6,972,985	6,577,313
Member	1999-00 Payroll (\$00)	2000-01 Payroll (\$00)	2001-02 Payroll (\$00)	2002-03 Payroll (\$00)	2003-04 Payroll (\$00)	2004-05 Payroll (\$00)	2005-06 Payroll (\$00)	2006-07 Payroll (\$00)	2007-08 Payroll (\$00)	2008-09 Payroll (\$00)	2009-10 Payroll (\$00)	2010-11 Payroll (\$00)
Anaheim	1,347,535	1,393,423	1,497,038	1,571,861	1,686,921	1,702,110	1,874,760	1,933,055	1,936,850	2,133,195	2,081,250	2,049,763
Bakersfield	672,981	679,346	710,898	746,845	769,039	775,782	828,105	889,657	928,430	916,017	882,235	882,175
Burbank	0	0	0	0	0	963,640	961,084	1,080,588	1,021,641	1,190,705	1,104,309	1,219,034
Gardena	0	0	0	0	0	0	0	0	0	0	0	0
Modesto	621,472	656,651	711,909	761,554	745,169	757,072	777,859	808,720	836,950	811,447	796,393	741,932
Monterey	262,721	284,379	307,684	320,894	313,632	313,439	315,127	303,985	340,838	362,102	375,986	371,980
Mountain View	408,020	434,816	470,177	517,208	479,749	474,925	505,565	558,760	579,550	628,761	632,482	629,984
Ontario	605,886	637,469	683,592	692,474	710,686	732,721	783,778	808,309	827,467	855,991	836,504	821,292
Palo Alto	727,013	771,366	875,829	907,965	976,695	964,635	910,388	920,271	964,648	980,859	1,000,933	992,673
Salinas	0	0	0	0	0	0	0	0	0	0	0	0
Santa Barbara	644,650	658,205	688,383	715,412	731,380	739,835	827,558	767,235	826,778	882,947	844,604	828,178
Santa Cruz	368,019	383,500	421,614	414,665	404,596	405,476	415,167	494,206	483,045	537,520	506,288	506,381
Santa Monica	1,028,662	1,156,953	1,234,923	1,274,089	1,221,506	1,263,241	1,350,510	1,445,204	1,539,768	1,662,386	1,668,433	1,714,221
Visalia	237,134	256,559	257,861	290,675	269,603	281,525	300,145	295,903	323,116	345,222	346,541	339,496
Total	6,924,094	7,312,668	7,859,909	8,213,644	8,308,977	9,374,402	9,850,045	10,305,894	10,609,082	11,307,152	11,075,957	11,097,108
Member	2011-12 Payroll (\$00)	2012-13 Payroll (\$00)	2013-14 Payroll (\$00)	2014-15 Payroll (\$00)	2015-16 Payroll (\$00)	2016-17 Payroll (\$00)	2017-18 Payroll (\$00)	2018-19 Payroll (\$00)	2019-20 Payroll (\$00)	2020-21 Payroll (\$00)	Projected 2021-22 Payroll (\$00)	Projected 2022-23 Payroll (\$00)
Anaheim	1,963,200	1,975,427	2,031,900	2,106,346	2,269,090	2,503,567	2,510,955	2,541,363	2,644,993	2,467,744	2,467,740	2,467,740
Bakersfield	913,612	974,793	981,145	1,007,547	1,032,898	1,023,381	1,047,246	1,056,662	1,119,015	1,175,926	1,175,930	1,175,930
Burbank	1,095,927	1,080,687	1,058,814	1,050,336	1,057,419	1,084,724	1,113,654	1,099,703	1,144,989	1,187,912	1,187,910	1,187,910
Gardena	0	0	0	0	0	0	0	0	0	0	0	0
Modesto	730,670	723,669	721,682	711,912	761,798	799,877	845,531	874,961	900,948	907,122	907,120	907,120
Monterey	362,541	361,402	362,125	367,532	374,195	386,413	418,860	427,155	438,191	378,567	378,570	378,570
Mountain View	618,793	624,667	633,130	660,314	684,770	734,551	765,191	812,882	842,032	853,958	853,960	853,960
Ontario	837,165	724,834	734,451	774,343	825,770	890,589	995,163	1,065,971	1,161,650	1,137,193	1,137,190	1,137,190
Palo Alto	1,041,460	919,927	996,990	1,064,558	981,613	1,041,359	1,166,441	1,221,880	1,260,264	1,231,253	1,231,250	1,231,250
Salinas	0	0	0	0	0	0	0	325,886	645,800	650,909	650,910	650,910
Santa Barbara	824,422	865,528	881,841	905,611	929,442	977,924	990,759	997,851	1,013,615	987,542	987,540	987,540
Santa Cruz	511,940	521,594	544,821	579,725	607,172	638,596	660,528	675,872	696,569	683,903	683,900	683,900
Santa Monica	1,851,043	1,830,595	1,850,554	1,902,819	2,007,425	2,106,921	2,176,626	2,274,811	2,301,342	2,062,191	2,062,190	2,062,190
Visalia	344,696	363,276	366,787	425,402	455,159	474,743	486,940	509,425	530,238	521,633	521,630	521,630
Total	11,095,468	10,966,401	11,164,240	11,556,443	11,986,752	12,662,643	13,177,894	13,884,423	14,699,647	14,245,854	14,245,840	14,245,840

Note: Data provided by ACCEL.

Authority for California Cities Excess Liability

ULAE as of June 30, 2022

(A) Selected ULAE Factor	3.5%
(B) Provision for Unpaid ULAE :	
IBNR at 6/30/22	\$35,369,000
Half of Case Reserves at 6/30/22	14,607,000
Computation Base	\$49,976,000
Provision for Unpaid ULAE at 6/30/22	\$1,749,000