Bickmore Actuarial

Actuarial Review of the Self-Insured Excess Liability Program

Funding guidelines for program year 2021-22
Outstanding Liabilities as of June 30, 2021

Presented to

Authority for California Cities Excess Liability

March 9, 2021

Tuesday, March 9, 2021

Authority for California Cities Excess Liability
c/o Alliant Insurance Services
Attn: Mike Simmons, Pool Administrator
100 Pine Street, 11th Floor
San Francisco, California 94111

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

Dear Mr. Simmons:

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 $54,499,000 as of June 30, 2021. 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 $51,084,000 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, 2021 is projected to be $76,217,000.

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, 2020 and June 30, 2021, on both undiscounted and discounted bases for various confidence levels:

Outstanding Liability as of December 31, 2020
at Various Confidence Levels
$500K and $1,000K Pools Combined

Confidence Level	Undiscounted	Discounted
Expected	$54,083,000	$51,035,000
70%	61,871,000	58,384,000
75%	65,278,000	61,599,000
80%	69,226,000	65,324,000
85%	74,202,000	70,020,000
90%	80,692,000	76,144,000
95%	91,454,000	86,300,000

Outstanding Liability as of June 30, 2021
at Various Confidence Levels
$500K and $1,000K pools combined

Confidence Level	Undiscounted	Discounted
Expected	$54,499,000	$51,084,000
70%	62,347,000	58,440,000
75%	65,781,000	61,658,000
80%	69,759,000	65,388,000
85%	74,773,000	70,087,000
90%	81,313,000	76,217,000
95%	92,158,000	86,383,000

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 $1,347,000 as of June 30, 2021. This estimate is 3.5% of the sum of all IBNR reserves and half of case reserves as of June 30, 2020.

We present funding recommendations for claims incurred during program year 2021-22 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 2021-2022

Layer	Expected	75%	80%	85%	90%
$1M-2M	$0.350	$0.434	$0.464	$0.501	$0.550
$1M-3M	0.560	0.694	0.742	0.801	0.880
$1M-4M	0.661	0.820	0.876	0.946	1.038
$1M-5M	0.735	0.911	0.974	1.052	1.155
$2M Corridor XS 5M	0.089	0.110	0.118	0.127	0.140

The following table details the calculation of our funding guidelines in dollars at various confidence levels for the program's 2021-22 claims by different layers:

Funding Amount Guidelines for Discounted Claims Incurred in 2021-2022

Layer	Expected	75%	80%	85%	90%
$1M-2M	$5,145,000	$6,380,000	$6,821,000	$7,365,000	$8,085,000
$1M-3M	8,232,000	10,202,000	10,907,000	11,774,000	12,936,000
$1M-4M	9,716,000	12,054,000	12,877,000	13,906,000	15,258,000
$1M-5M	10,804,000	13,391,000	14,317,000	15,464,000	16,978,000
$2M Corridor XS 5M	1,308,000	1,617,000	1,735,000	1,867,000	2,000,000

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.

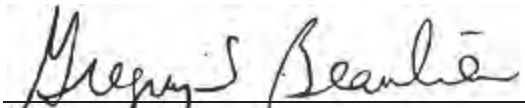
All actuarial estimates of liability claims costs are subject to uncertainty because of the complexity of the process that determines the costs. This is especially true of excess liability claims costs. For this reason, sound management practices suggest that actual funding should be in excess of expected 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



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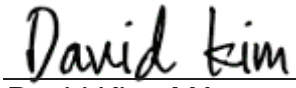

David Kim, MA
Senior Actuarial Analyst, Bickmore Actuarial

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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 has 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.

Effective July 1, 2020, 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.

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, 2021 and in determining its contribution level for the 2021-22 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 $54,499,000 as of June 30, 2021. 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 $51,084,000 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, 2021 is projected to be $76,217,000.

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, 2020 and June 30, 2021:

Outstanding Liability at the Expected Level as of December 31, 2020 - $1,000K pool

Program Year	Undiscounted	Discounted
Prior	$0	$0
2009-2010	0	0
2010-2011	118,841	108,799
2011-2012	157,726	145,818
2012-2013	2,096,873	1,963,722
2013-2014	1,839,765	1,735,818
2014-2015	4,518,930	4,279,427
2015-2016	2,602,457	2,474,937
2016-2017	6,967,210	6,646,718
2017-2018	10,400,000	9,906,000
2018-2019	9,406,000	8,902,779
2019-2020	10,171,000	9,525,142
2020-2021	5,804,038	5,345,519
All Years	$54,082,840	$51,034,679

Outstanding Liability at the Expected Level as of June 30, 2021 - $1,000K pool

Program Year	Undiscounted	Discounted
Prior	$0	$0
2009-2010	0	0
2010-2011	107,313	98,514
2011-2012	138,641	129,075
2012-2013	1,797,020	1,692,793
2013-2014	1,572,999	1,486,484
2014-2015	3,872,723	3,675,214
2015-2016	2,209,486	2,105,640
2016-2017	5,915,161	5,648,979
2017-2018	9,037,600	8,585,720
2018-2019	8,512,430	8,027,221
2019-2020	9,774,331	9,090,128
2020-2021	11,561,645	10,544,220
All Years	$54,499,349	$51,083,988

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, 2020 and June 30, 2021, on both undiscounted and discounted bases for various confidence levels:

Outstanding Liability as of December 31, 2020
at Various Confidence Levels
$500K and $1,000K Pools Combined

Confidence Level	Undiscounted	Discounted
Expected	$54,083,000	$51,035,000
70%	61,871,000	58,384,000
75%	65,278,000	61,599,000
80%	69,226,000	65,324,000
85%	74,202,000	70,020,000
90%	80,692,000	76,144,000
95%	91,454,000	86,300,000

Outstanding Liability as of June 30, 2021
at Various Confidence Levels
$500K and $1,000K Pools Combined

Confidence Level	Undiscounted	Discounted
Expected	$54,499,000	$51,084,000
70%	62,347,000	58,440,000
75%	65,781,000	61,658,000
80%	69,759,000	65,388,000
85%	74,773,000	70,087,000
90%	81,313,000	76,217,000
95%	92,158,000	86,383,000

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 $1,347,000 as of June 30, 2021. This estimate is 3.5% of the sum of all IBNR reserves and half of case reserves as of June 30, 2021.

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 2021-2022

Layer	Expected	75%	80%	85%	90%
$1M-2M	$0.350	$0.434	$0.464	$0.501	$0.550
$1M-3M	0.560	0.694	0.742	0.801	0.880
$1M-4M	0.661	0.820	0.876	0.946	1.038
$1M-5M	0.735	0.911	0.974	1.052	1.155
$2M Corridor XS 5M	0.089	0.110	0.118	0.127	0.140

Funding Amount Guidelines for Discounted Claims Incurred in 2021-2022

Layer	Expected	75%	80%	85%	90%
$1M-2M	$4,939,000	$6,130,000	$6,556,000	$7,085,000	$7,791,000
$1M-3M	7,894,000	9,790,000	10,481,000	11,319,000	12,436,000
$1M-4M	9,290,000	11,525,000	12,333,000	13,318,000	14,641,000
$1M-5M	10,187,000	12,642,000	13,524,000	14,611,000	16,052,000
$2M Corridor XS 5M	1,308,000	1,617,000	1,735,000	1,882,000	2,000,000

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 12/31/19:

Comparison with Prior
$500K and $1,000 Pools Combined
Undiscounted Estimated Ultimate Losses
(Prior Based upon Losses Valued at December 31, 2019)

Program Year	Prior Report 12/31/19	Current Report	Change
Prior	$45,959,000	$45,959,000	$0
2005-2006	4,458,000	4,458,000	0
2006-2007	621,000	621,000	0
2007-2008	4,851,000	4,851,000	0
2008-2009	3,268,000	3,188,000	(80,000)
2009-2010	198,000	0	(198,000)
2010-2011	498,000	494,000	(4,000)
2011-2012	177,000	160,000	(17,000)
2012-2013	4,721,000	4,663,000	(58,000)
2013-2014	12,227,000	10,624,000	(1,603,000)
2014-2015	9,782,000	11,520,000	1,738,000
2015-2016	4,175,000	3,105,000	(1,070,000)
2016-2017	19,489,000	16,650,000	(2,839,000)
2017-2018	6,221,000	10,400,000	4,179,000
2018-2019	9,263,000	11,406,000	2,143,000
2019-2020	9,160,000	10,171,000	1,011,000
All Years	$135,068,000	$138,270,000	$3,202,000

As shown, overall we have increased our estimates of the program's ultimate losses by $3,202,000 from those displayed in our prior actuarial report dated March 10, 2020. The increase is mainly due to adverse loss development in the 2014-15, 2017-18 to 2019-20 program years.

At the time of the prior report (based upon losses valued at 12/31/19), we estimated the liability for outstanding claims as of June 30, 2020 to be $46,295,000 at the discounted, expected level. Our current estimate as of June 30, 2021, is $51,084,000, 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, 2019)

	Prior Report at June 30, 2019	Current Report at June 30, 2020	Change
Case Reserves:	$29,482,000	$32,032,000	$2,550,000
IBNR Reserves:	20,181,000	22,468,000	2,287,000
Total Reserves:	$49,663,000	$54,500,000	$4,837,000
Offset for Investment Income:	(3,368,000)	(3,416,000)	(48,000)
Total Outstanding Claim Liabilities:	$46,295,000	$51,084,000	$4,789,000

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 increased by $2,550,000 since the prior evaluation while our estimate of IBNR reserves also have increased by $2,287,000. The overall result is an increase of $4,837,000 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 $4,789,000 in our estimate of outstanding claim liabilities for loss and ALAE.

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 6/30/20:

Comparison with Prior
$500K and $1,000 Pools Combined
Undiscounted Estimated Ultimate Losses
(Prior Based upon Losses Valued at June 30, 2020)

Program Year	Prior Report 6/30/20	Current Report	Change
Prior	$45,959,000	$45,959,000	$0
2005-2006	4,458,000	4,458,000	0
2006-2007	621,000	621,000	0
2007-2008	4,851,000	4,851,000	0
2008-2009	3,260,000	3,188,000	(72,000)
2009-2010	86,000	0	(86,000)
2010-2011	477,000	494,000	17,000
2011-2012	149,000	160,000	11,000
2012-2013	4,671,000	4,663,000	(8,000)
2013-2014	12,109,000	10,624,000	(1,485,000)
2014-2015	11,694,000	11,520,000	(174,000)
2015-2016	2,804,000	3,105,000	301,000
2016-2017	16,703,000	16,650,000	(53,000)
2017-2018	6,312,000	10,400,000	4,088,000
2018-2019	9,226,000	11,406,000	2,180,000
2019-2020	9,160,000	10,171,000	1,011,000
All Years	$132,540,000	$138,270,000	$5,730,000

As shown, overall we have increased our estimates of the program's ultimate losses by $5,730,000 from those displayed in our prior actuarial report dated June 5, 2020. The increase is mainly due to adverse loss development in the latest three program years.

At the time of the prior report (based upon losses valued at 6/30/19), we estimated the liability for outstanding claims as of June 30, 2020 to be $41,450,000 at the discounted, expected level. Our current estimate as of June 30, 2021, is $51,084,000, 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, 2020)

	Prior Report at June 30, 2020	Current Report at June 30, 2021	Change
Case Reserves:	$24,367,000	$32,032,000	$7,665,000
IBNR Reserves:	20,182,000	22,468,000	2,286,000
Total Reserves:	$44,549,000	$54,500,000	$9,951,000
Offset for Investment Income:	(3,099,000)	(3,416,000)	(317,000)
Total Outstanding Claim Liabilities:	$41,450,000	$51,084,000	$9,634,000

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 increased by $7,665,000 while our estimate of IBNR reserves also increased by $2,286,000 due to adverse loss development. The overall result is an increase of $9,951,000 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 $9,634,000 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 12/31/19 by various layers.

Comparison with Prior
Undiscounted Expected Funding Rates

Layer	Prior Report 2020-21	Current Report 2021-22	Percent Change
$1M-2M	$0.331	$0.380	14.8%
$1M-3M	0.524	0.608	16.0%
$1M-4M	0.611	0.718	17.5%
$1M-5M	0.664	0.798	20.2%
$2M Corridor XS 5M		0.097	n/a

As you can see, our projected funding rates for the 2021-22 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, 2020 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, 2020.

- We were provided with payrolls by City for the 1986-87 through 2018-19 program years. The estimated payroll for 2020-21 and 2021-22 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 2021-22 Funding Guidelines

Layer	Estimated 2021-22 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	$14,699,630	$5,585,859	92.1%	$5,144,871	$5,997,449	$6,379,639	$6,820,628	$7,364,515	$8,084,797	$9,275,467
$1M-3M	14,699,630	8,937,375	92.1%	8,231,793	9,613,558	10,201,543	10,907,125	11,774,404	12,935,674	14,831,927
$1M-4M	14,699,630	10,554,334	92.1%	9,716,455	11,333,415	12,053,697	12,876,876	13,905,850	15,258,216	17,507,259
$1M-5M	14,699,630	11,730,305	92.1%	10,804,228	12,612,283	13,391,363	14,317,440	15,464,011	16,978,073	19,462,310
$2M-5M	14,699,630	6,144,445	92.1%	5,659,358	6,600,134	7,011,724	7,496,811	8,099,496	8,893,276	10,201,543
$2M corridor XS $5M	14,699,630	1,428,000	92.1%	1,308,267	1,528,762	1,616,959	1,734,556	1,866,853	2,000,000	2,000,000

(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 2021-22 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	$0.380	92.1%	$0.350	$0.408	$0.434	$0.464	$0.501	$0.550	$0.631
$1M-3M	0.608	92.1%	0.560	0.654	0.694	0.742	0.801	0.880	1.009
$1M-4M	0.718	92.1%	0.661	0.771	0.820	0.876	0.946	1.038	1.191
$1M-5M	0.798	92.1%	0.735	0.858	0.911	0.974	1.052	1.155	1.324
$2M-5M	0.418	92.1%	0.385	0.449	0.477	0.510	0.551	0.605	0.694
$2M corridor XS $5M	0.097	92.1%	0.089	0.104	0.110	0.118	0.127	0.140	0.160

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:	$1.508
(C)	Selected Base Loss Rate ($100K - $1M Layer):	$1.508

Authority for California Cities Excess Liability
ACCEL Pooled Layer

Funding Guidelines for Outstanding Losses
as of December 31, 2020 and June 30, 2021

		December 31, 2020	June 30, 2021
(A)	Estimated Ultimate Losses Incurred as of:	$144,574,000	$150,378,000
(B)	Estimated Paid Losses as of:	90,491,000	95,879,000
(C)	Estimated Liability for Claims Outstanding as of:	$54,083,000	$54,499,000
(D)	Outstanding Liability Discount Factor:	94.4%	93.7%
(E)	Discounted Outstanding Liability for Claims as of:	$51,035,000	$51,084,000
(F)	Risk Margin at 90% Confidence Level:	25,109,000	25,133,000
(G)	Required Funding at the 90% confidence Level:	$76,144,000	$76,217,000

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

	Age	Accident Year Paid Loss Development Factor	Payment Pattern	Full Value Reserve	2.0% Discounted Reserve	Discount Factor
1988-1989	33.0	1.000	0.0%	0.0%	0.0%	100.0%
1989-1990	32.0	1.000	0.0%	0.0%	0.0%	100.0%
1990-1991	31.0	1.000	0.0%	0.0%	0.0%	100.0%
1991-1992	30.0	1.000	0.0%	0.0%	0.0%	100.0%
1992-1993	29.0	1.000	0.0%	0.0%	0.0%	100.0%
1993-1994	28.0	1.000	0.0%	0.0%	0.0%	77.2%
1994-1995	27.0	1.000	0.0%	0.0%	0.0%	92.6%
1995-1996	26.0	1.000	0.0%	0.0%	0.0%	83.4%
1996-1997	25.0	1.000	0.0%	0.1%	0.1%	83.4%
1997-1998	24.0	1.001	0.0%	0.1%	0.1%	90.1%
1998-1999	23.0	1.001	0.0%	0.1%	0.1%	90.1%
1999-2000	22.0	1.001	0.1%	0.2%	0.2%	95.2%
2000-2001	21.0	1.002	0.1%	0.3%	0.3%	93.6%
2001-2002	20.0	1.003	0.1%	0.4%	0.4%	92.9%
2002-2003	19.0	1.004	0.2%	0.6%	0.6%	93.9%
2003-2004	18.0	1.006	0.3%	0.9%	0.8%	94.2%
2004-2005	17.0	1.009	0.4%	1.3%	1.2%	94.3%
2005-2006	16.0	1.013	0.5%	1.8%	1.7%	94.0%
2006-2007	15.0	1.018	0.2%	2.0%	1.8%	92.8%
2007-2008	14.0	1.020	0.0%	2.0%	1.8%	90.8%
2008-2009	13.0	1.020	0.0%	2.0%	1.8%	89.2%
2009-2010	12.0	1.020	1.0%	2.9%	2.7%	91.3%
2010-2011	11.0	1.030	0.9%	3.8%	3.5%	91.8%
2011-2012	10.0	1.040	1.9%	5.7%	5.4%	93.1%
2012-2013	9.0	1.061	3.6%	9.3%	8.8%	94.2%
2013-2014	8.0	1.103	4.3%	13.6%	12.9%	94.5%
2014-2015	7.0	1.158	7.9%	21.5%	20.4%	94.9%
2015-2016	6.0	1.274	13.1%	34.6%	33.0%	95.3%
2016-2017	5.0	1.529	20.0%	54.6%	52.1%	95.5%
2017-2018	4.0	2.202	19.5%	74.1%	70.4%	95.0%
2018-2019	3.0	3.854	17.3%	91.4%	86.1%	94.3%
2019-2020	2.0	11.562	7.8%	99.1%	92.2%	93.0%
2020-2021	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	12/31/20 Outstanding Loss	Discount Factor	12/31/20 Discounted Outstanding Loss	6/30/21 Outstanding Loss	Discount Factor	6/30/21 Discounted Outstanding Loss
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	88.6%	0	0	77.2%	0
1989-1990	1.000	0.00%	0.00%	0	84.9%	0	0	92.6%	0
1990-1991	1.000	0.00%	0.00%	0	88.0%	0	0	83.4%	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	88.6%	0	0	77.2%	0
1989-1990	1.000	0.01%	0.01%	0	84.9%	0	0	92.6%	0
1990-1991	1.000	0.01%	0.01%	0	88.0%	0	0	83.4%	0
1991-1992	1.000	0.02%	0.02%	0	83.4%	0	0	83.4%	0
1992-1993	1.000	0.04%	0.04%	0	86.8%	0	0	90.1%	0
1993-1994	1.001	0.06%	0.06%	0	90.1%	0	0	90.1%	0
1994-1995	1.001	0.10%	0.10%	0	92.7%	0	0	95.2%	0
1995-1996	1.001	0.10%	0.09%	0	94.4%	0	0	93.6%	0
1996-1997	1.002	0.20%	0.19%	0	93.3%	0	0	92.9%	0
1997-1998	1.003	0.30%	0.29%	0	93.4%	0	0	93.9%	0
2003-2004	1.004	0.40%	0.38%	0	94.1%	0	0	94.2%	0
2004-2005	1.006	0.60%	0.57%	0	94.3%	0	0	94.3%	0
2005-2006	1.009	0.89%	0.85%	0	94.2%	0	0	94.0%	0
2006-2007	1.013	1.28%	1.22%	0	93.4%	0	0	92.8%	0
2007-2008	1.020	1.96%	1.87%	0	91.8%	0	0	90.8%	0
2008-2009	1.020	1.96%	1.83%	0	90.0%	0	0	89.2%	0
2009-2010	1.020	1.96%	1.79%	0	90.3%	0	0	91.3%	0
2010-2011	1.030	2.91%	2.70%	118,841	91.6%	108,799	107,313	91.8%	98,514
2011-2012	1.040	3.85%	3.57%	157,726	92.5%	145,818	138,641	93.1%	129,075
2012-2013	1.061	5.75%	5.39%	2,096,873	93.7%	1,963,722	1,797,020	94.2%	1,692,793
2013-2014	1.103	9.34%	8.83%	1,839,765	94.4%	1,735,818	1,572,999	94.5%	1,486,484
2014-2015	1.158	13.64%	12.92%	4,518,930	94.7%	4,279,427	3,872,723	94.9%	3,675,214
2015-2016	1.274	21.51%	20.46%	2,602,457	95.1%	2,474,937	2,209,486	95.3%	2,105,640
2016-2017	1.529	34.60%	33.02%	6,967,210	95.4%	6,646,718	5,915,161	95.5%	5,648,979
2017-2018	2.202	54.59%	52.16%	10,400,000	95.3%	9,906,000	9,037,600	95.0%	8,585,720
2018-2019	3.854	74.05%	70.41%	9,406,000	94.7%	8,902,779	8,512,430	94.3%	8,027,221
2019-2020	11.562	91.35%	86.16%	10,171,000	93.7%	9,525,142	9,774,331	93.0%	9,090,128
2020-2021	115.620	99.14%	92.17%	5,804,038	92.1%	5,345,519	11,561,645	91.2%	10,544,220
			Total	54,082,840		51,034,679	54,499,349		51,083,988
			Discount Factor for Outstanding:	94.4%			93.7%		

Authority for California Cities Excess Liability
ACCEL Pooled Layer

Confidence Level Factors

Probability	Projected Funding Factor	Outstanding Liability Factor
95	1.802	1.691
90	1.571	1.492
85	1.431	1.372
80	1.325	1.280
75	1.240	1.207
70	1.167	1.144
65	1.102	1.088
60	1.043	1.037
55	0.989	0.991
50	0.937	0.946
45	0.888	0.904
40	0.839	0.861
35	0.790	0.820
30	0.741	0.778
25	0.690	0.733

Exhibit 5

Authority for California Cities Excess Liability
ACCEL Pooled Layer

Large Losses in the Pool Layer as of 12/31/20

Member (A)	Date of Loss (B)	Fiscal Year (C)	Status (D)	Paid Losses (E)	Reported Incurred Losses (F)
Burbank	4/1/05	2004-2005	Closed	3,732,201	3,732,201
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	7/21/12	2012-2013	Closed	1,449,645	1,449,645
Santa Monica	9/5/07	2007-2008	Closed	584,023	584,023
Bakersfield	7/10/08	2008-2009	Closed	1,341,307	1,341,307
Burbank	5/15/09	2008-2009	Closed	989,618	989,618
Anaheim	1/31/13	2012-2013	Closed	978,765	978,765
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	10/11/13	2013-2014	Closed	3,025,672	3,025,672
Santa Monica	9/24/13	2013-2014	Closed	1,966,509	1,966,509
Anaheim	9/17/14	2014-2015	Closed	2,930,000	2,930,000
Bakersfield	5/17/15	2014-2015	Open	0	3,500,000
Anaheim	7/10/15	2015-2016	Closed	502,543	502,543
Ontario	5/8/16	2015-2016	Open	0	2,000,000
Anaheim	7/2/16	2016-2017	Open	0	2,000,000
Anaheim	11/19/16	2016-2017	Closed	919,639	919,639
Burbank	10/4/16	2016-2017	Closed	2,000,000	2,000,000
Modesto	12/10/16	2016-2017	Open	0	1,000,000
Ontario	8/15/16	2016-2017	Open	0	2,000,000
Ontario	10/5/16	2016-2017	Closed	2,000,000	2,000,000
Santa Barbara	6/27/17	2016-2017	Closed	21,442	21,442
Santa Cruz	10/16/16	2016-2017	Closed	741,710	741,710
Santa Monica	11/10/16	2016-2017	Open	0	531,443
Santa Monica	3/22/17	2016-2017	Closed	2,000,000	2,000,000
Santa Monica	4/13/17	2016-2017	Closed	2,000,000	2,000,000
Anaheim	3/2/18	2017-2018	Open	0	4,000,000
Anaheim	3/27/18	2017-2018	Open	0	1,500,000
Palo Alto	12/3/17	2017-2018	Open	0	1,000,000
Santa Barbara	2/26/18	2017-2018	Open	0	32,265
Santa Cruz	11/14/17	2017-2018	Open	0	2,000,000
Anaheim	4/4/19	2018-2019	Open	0	4,000,000
Burbank	10/12/18	2018-2019	Open	0	3,000,000
Salinas	3/1/19	2018-2019	Open	0	2,000,000
Santa Monica	1/9/19	2018-2019	Closed	2,000,000	2,000,000
Santa Monica	7/14/19	2019-2020	Open	0	4,000,000
Santa Monica	12/22/19	2019-2020	Open	0	659,760
Bakersfield	8/17/20	2020-2021	Open	0	10,001

Authority for California Cities Excess Liability
ACCEL Layer

Outstanding Liability at December 31, 2020

Accident Year	Ultimate Losses With Corridor (A)	12/31/20 Reported Loss (B)	12/31/20 IBNR (C)	12/31/20 Paid Loss (D)	12/31/20 Case Reserves (E)	12/31/20 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	11,724,542	11,724,542	0	11,724,542	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	494,000	375,159	118,841	375,159	0	118,841
2011-2012	160,000	2,274	157,726	2,274	0	157,726
2012-2013	4,663,000	4,423,614	239,386	2,566,127	1,857,487	2,096,873
2013-2014	10,624,000	8,784,235	1,839,765	8,784,235	0	1,839,765
2014-2015	11,520,000	10,791,070	728,930	7,001,070	3,790,000	4,518,930
2015-2016	3,105,000	2,502,543	602,457	502,543	2,000,000	2,602,457
2016-2017	16,650,000	15,164,233	1,485,767	9,682,790	5,481,443	6,967,210
2017-2018	10,400,000	8,532,265	1,867,735	0	8,532,265	10,400,000
2018-2019	11,406,000	11,000,000	406,000	2,000,000	9,000,000	9,406,000
2019-2020	10,171,000	4,659,760	5,511,240	0	4,659,760	10,171,000
2020-2021	5,804,038	10,001	5,794,037	0	10,001	5,804,038
Totals	$144,073,890	$125,322,006	$18,751,884	$89,991,050	$35,330,956	$54,082,840
Grand Totals	$144,573,890	$125,822,006	$18,751,884	$90,491,050	$35,330,956	$54,082,840

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, 2021

Accident Year	Ultimate Losses (A)	6/30/2021 Reported Loss (B)	6/30/2021 IBNR (C)	6/30/2021 Paid Loss (D)	6/30/2021 Case Reserves (E)	6/30/2021 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	11,724,542	11,724,542	0	11,724,542	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	494,000	386,687	107,313	386,687	0	107,313
2011-2012	160,000	21,359	138,641	21,359	0	138,641
2012-2013	4,663,000	4,464,788	198,212	2,865,980	1,598,808	1,797,020
2013-2014	10,624,000	9,078,598	1,545,402	9,051,001	27,597	1,572,999
2014-2015	11,520,000	10,914,259	605,741	7,647,277	3,266,982	3,872,723
2015-2016	3,105,000	2,600,141	504,859	895,514	1,704,627	2,209,486
2016-2017	16,650,000	15,430,185	1,219,815	10,734,839	4,695,346	5,915,161
2017-2018	10,400,000	8,946,902	1,453,098	1,362,400	7,584,502	9,037,600
2018-2019	11,406,000	11,062,118	343,882	2,893,570	8,168,548	8,512,430
2019-2020	10,171,000	5,232,929	4,938,071	396,669	4,836,260	9,774,331
2020-2021	11,608,077	195,570	11,412,507	46,432	149,138	11,561,645
Totals	$149,877,928	$127,410,388	$22,467,540	$95,378,579	$32,031,809	$54,499,349
Grand Totals	$150,377,928	$127,910,388	$22,467,540	$95,878,579	$32,031,809	$54,499,349

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	11,724,542	11,724,542		11,724,542	11,724,542	0	11,724,542
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	3,533,137	3,557,820		3,526,085	3,526,085	0	3,526,085
2004-2005	10,007,494	10,097,203		9,967,624	9,967,624	0	9,967,624
2005-2006	4,497,853	4,537,913	4,469,000	4,457,753	4,457,753	0	4,457,753
2006-2007	627,309	633,520	658,000	621,098	621,098	0	621,098
2007-2008	4,923,899	4,948,155	4,896,000	4,851,132	4,851,132	0	4,851,132
2008-2009	3,251,694	3,251,694	3,260,000	3,260,000	3,187,935	0	3,187,935
2009-2010	0	0	106,000	86,000	0	0	0
2010-2011	386,414	390,165	510,000	477,000	494,000	0	494,000
2011-2012	2,365	2,413	170,000	149,000	160,000	0	160,000
2012-2013	4,693,454	2,830,438	4,654,000	4,671,000	4,663,000	0	4,663,000
2013-2014	9,601,169	10,172,144	9,138,000	12,109,000	10,624,000	0	10,624,000
2014-2015	12,388,148	8,919,363	11,345,000	11,694,000	11,520,000	0	11,520,000
2015-2016	3,088,138	768,388	3,406,000	2,804,000	3,105,000	0	3,105,000
2016-2017	21,518,047	21,321,505	16,597,000	16,703,000	16,650,000	0	16,650,000
2017-2018	18,165,192	0	10,400,000	6,312,000	10,400,000	0	10,400,000
2018-2019	46,838,000	23,124,000	15,765,000	9,226,000	11,406,000	0	11,406,000
2019-2020	138,888,821	0	12,194,000	9,160,000	10,171,000	0	10,171,000
2020-2021	4,471,347	0	10,488,000	10,108,000	10,235,000	1,373,077	11,608,077
Totals	$319,347,706	$127,038,185	$108,056,000	$142,647,917	$148,504,852	$1,373,077	$149,877,928
Grand Totals	$319,847,706	$127,538,185		$143,147,917	$149,004,852	$1,373,077	$150,377,928

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 12/31/20 (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	11,724,542	1.000	11,724,542
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	1.002	3,533,137
2004-2005	9,967,624	1.004	10,007,494
2005-2006	4,457,753	1.009	4,497,853
2006-2007	621,098	1.010	627,309
2007-2008	4,851,132	1.015	4,923,899
2008-2009	3,187,935	1.020	3,251,694
2009-2010	0	1.025	0
2010-2011	375,159	1.030	386,414
2011-2012	2,274	1.040	2,365
2012-2013	4,423,614	1.061	4,693,454
2013-2014	8,784,235	1.093	9,601,169
2014-2015	10,791,070	1.148	12,388,148
2015-2016	2,502,543	1.234	3,088,138
2016-2017	15,164,233	1.419	21,518,047
2017-2018	8,532,265	2.129	18,165,192
2018-2019	11,000,000	4.258	46,838,000
2019-2020	4,659,760	29.806	138,888,821
2020-2021	10,001	447.090	4,471,347
Totals	$125,322,006		$319,347,706
Grand Totals	$125,822,006		$319,847,706

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 12/31/20 (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	11,724,542	1.000	11,724,542
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	1.009	3,557,820
2004-2005	9,967,624	1.013	10,097,203
2005-2006	4,457,753	1.018	4,537,913
2006-2007	621,098	1.020	633,520
2007-2008	4,851,132	1.020	4,948,155
2008-2009	3,187,935	1.020	3,251,694
2009-2010	0	1.030	0
2010-2011	375,159	1.040	390,165
2011-2012	2,274	1.061	2,413
2012-2013	2,566,127	1.103	2,830,438
2013-2014	8,784,235	1.158	10,172,144
2014-2015	7,001,070	1.274	8,919,363
2015-2016	502,543	1.529	768,388
2016-2017	9,682,790	2.202	21,321,505
2017-2018	0	3.854	0
2018-2019	2,000,000	11.562	23,124,000
2019-2020	0	115.620	0
2020-2021	0	2,312.400	0
Totals	$89,991,050		$127,038,185
Grand Totals	$90,491,050		$127,538,185

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 2021-2022 $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 12/31/20 (I)	Program Year Reported Losses at 12/31/20 (J)	Program Year Estimated Ultimate Losses (K)
2004-2005	$1.508	0.513	0.774	0.403	0.312	$9,374,402	$2,925,000	0.4%	$11,653	$4,457,753	$4,469,000
2005-2006	1.508	0.534	0.805	0.529	0.426	9,850,045	4,195,000	0.9%	37,400	621,098	658,000
2006-2007	1.508	0.555	0.837	0.529	0.443	10,305,894	4,565,000	1.0%	45,198	4,851,132	4,896,000
2007-2008	1.508	0.577	0.871	0.529	0.461	10,609,082	4,887,000	1.5%	72,222	3,187,935	3,260,000
2008-2009	1.508	0.601	0.906	0.529	0.479	11,307,152	5,417,000	2.0%	106,216	0	106,000
2009-2010	1.508	0.625	0.942	0.529	0.498	11,075,957	5,519,000	2.4%	134,610	375,159	510,000
2010-2011	1.508	0.650	0.980	0.529	0.518	11,097,108	5,750,000	2.9%	167,476	2,274	170,000
2011-2012	1.508	0.676	1.019	0.529	0.539	11,095,468	5,980,000	3.8%	230,000	4,423,614	4,654,000
2012-2013	1.508	0.703	1.060	0.529	0.560	10,966,401	6,146,000	5.7%	353,352	8,784,235	9,138,000
2013-2014	1.508	0.731	1.102	0.529	0.583	11,164,240	6,508,000	8.5%	553,746	10,791,070	11,345,000
2014-2015	1.508	0.760	1.146	0.529	0.606	11,556,443	7,006,000	12.9%	903,213	2,502,543	3,406,000
2015-2016	1.508	0.790	1.192	0.529	0.630	11,986,752	7,557,000	19.0%	1,433,013	15,164,233	16,597,000
2016-2017	1.508	0.822	1.239	0.403	0.500	12,662,643	6,325,000	29.5%	1,867,636	8,532,265	10,400,000
2017-2018	1.508	0.855	1.289	0.529	0.682	13,177,894	8,986,000	53.0%	4,765,239	11,000,000	15,765,000
2018-2019	1.508	0.889	1.341	0.529	0.709	13,884,423	9,847,000	76.5%	7,534,412	4,659,760	12,194,000
2019-2020	1.508	0.925	1.394	0.529	0.738	14,699,647	10,842,000	96.6%	10,478,248	10,001	10,488,000
2020-2021	1.508	0.962	1.450	0.529	0.767	14,699,630	11,275,000	99.8%	11,249,781	0	11,250,000

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	11,724,542	11,724,542	3.194	4.271	13.642
1988-1989	4,030,134	0	0	0.000	4.107	0.000
1989-1990	4,399,059	0	0	0.000	3.949	0.000
1990-1991	4,875,491	0	0	0.000	3.797	0.000
1991-1992	5,277,443	2,501,191	2,501,191	0.474	3.651	1.731
1992-1993	5,310,299	10,538,558	10,538,558	1.985	3.511	6.969
1993-1994	5,635,666	877,168	877,168	0.156	3.376	0.527
1994-1995	6,004,411	1,439,192	1,439,192	0.240	3.246	0.779
1995-1996	6,102,690	912,141	912,141	0.149	3.121	0.465
1996-1997	6,502,472	2,388,970	2,388,970	0.367	3.001	1.101
1997-1998	6,972,985	2,083,463	2,083,463	0.299	2.886	0.863
2003-2004	9,103,267	3,526,085	3,526,085	0.387	2.028	0.785
2004-2005	9,374,402	9,967,624	9,967,624	1.063	1.950	2.073
2005-2006	9,850,045	4,457,753	4,457,753	0.453	1.875	0.849
2006-2007	10,305,894	621,098	621,098	0.060	1.803	0.108
2007-2008	10,609,082	4,851,132	4,851,132	0.457	1.734	0.792
2008-2009	11,307,152	3,187,935	3,187,935	0.282	1.667	0.470
2009-2010	11,075,957	0	0	0.000	1.603	0.000
2010-2011	11,097,108	494,000	494,000	0.045	1.541	0.069
2011-2012	11,095,468	160,000	160,000	0.014	1.482	0.021
2012-2013	10,966,401	4,663,000	4,663,000	0.425	1.425	0.606
2013-2014	11,164,240	10,624,000	10,624,000	0.952	1.370	1.304
2014-2015	11,556,443	11,520,000	11,520,000	0.997	1.317	1.313
2015-2016	11,986,752	3,105,000	3,105,000	0.259	1.266	0.328
2016-2017	12,662,643	16,650,000	16,650,000	1.315	1.217	1.600
2017-2018	13,177,894	10,400,000	10,400,000	0.789	1.170	0.923
2018-2019	13,884,423	11,406,000	11,406,000	0.821	1.125	0.924
2019-2020	14,699,647	10,171,000	10,171,000	0.692	1.082	0.749
2020-2021	14,699,630	11,608,077	11,608,077	0.790	1.040	0.822
Totals	$267,397,790	$149,877,928	$149,877,928	0.561		1.373
86/87-97/98	67,884,607	35,991,310	35,991,310	0.530		2.239
				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 2020-2021 Level (F)
2011-2012	5,954,000	13,858,240	1.423	0.611
2012-2013	8,773,000	13,368,043	1.369	0.898
2013-2014	15,111,000	13,274,281	1.316	1.498
2014-2015	13,713,000	13,405,474	1.265	1.294
2015-2016	12,531,000	13,569,003	1.217	1.124
2016-2017	23,254,000	13,979,558	1.170	1.946
2017-2018	19,094,000	14,192,592	1.125	1.514
2018-2019	19,101,000	14,250,022	1.082	1.450
2019-2020	20,157,000	14,405,193	1.040	1.455
			Average 2011-12 - 2019-20:	1.310
			Average 2012-13 - 2018-19:	1.389
			Average 2013-14 - 2019-20:	1.469
			Prior 2018-2019 Rate :	1.340
			Selected 2020-2021 Rate :	1.450
			Trend Factor to 2021-2022 :	1.040
			Selected 2021-2022 Rate :	$1.508

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)
2011-2012	5,879,055	6,029,651	5,881,558	6,024,575	5,953,992	5,954,000
2012-2013	8,907,294	8,637,791	8,908,030	8,645,193	8,772,984	8,773,000
2013-2014	14,578,798	15,643,192	14,592,251	15,585,701	15,110,989	15,111,000
2014-2015	13,449,461	13,975,588	13,453,298	13,936,961	13,713,000	13,713,000
2015-2016	12,016,800	11,694,699	12,361,893	12,699,728	11,503,680	12,531,000
2016-2017	23,799,308	29,276,545	22,708,795	24,196,562	20,341,860	23,254,000
2017-2018	18,585,624	21,682,786	18,507,304	19,679,949	22,399,992	19,094,000
2018-2019	17,595,082	25,225,874	18,180,269	20,360,399	18,761,550	19,101,000
2019-2020	24,922,164	30,016,391	21,359,193	20,769,852	18,341,321	20,157,000
Totals						$137,688,000

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 12/31/20 (B)	Reported Loss Development Factor (C)	Ultimate $100K - $1M Losses (D)	$100K - $1M Reported Losses of 12/31/20 (E)	Reported Loss Development Factor (F)	Ultimate $100K - $1M Losses (G)
2011-2012	5,792,172	1.015	5,879,055	5,792,172	1.015	5,879,055
2012-2013	8,732,641	1.020	8,907,294	8,732,641	1.020	8,907,294
2013-2014	14,154,173	1.030	14,578,798	14,154,173	1.030	14,578,798
2014-2015	12,932,174	1.040	13,449,461	12,932,174	1.040	13,449,461
2015-2016	11,004,396	1.092	12,016,800	11,004,396	1.092	12,016,800
2016-2017	19,816,243	1.201	23,799,308	19,816,243	1.201	23,799,308
2017-2018	13,458,091	1.381	18,585,624	13,458,091	1.381	18,585,624
2018-2019	10,618,637	1.657	17,595,082	10,618,637	1.657	17,595,082
2019-2020	6,539,534	3.811	24,922,164	6,539,534	3.811	24,922,164
Totals	$103,048,061		$139,733,586	$103,048,061		$139,733,586

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 12/31/20 (B)	Paid Loss Development Factor (C)	Ultimate $100K - $1M Losses (D)	$100K - $1M Paid Losses of 12/31/20 (E)	Paid Loss Development Factor (F)	Ultimate $100K - $1M Losses (G)
2011-2012	5,792,172	1.041	6,029,651	5,792,172	1.041	6,029,651
2012-2013	8,057,641	1.072	8,637,791	8,057,641	1.072	8,637,791
2013-2014	14,029,769	1.115	15,643,192	14,029,769	1.115	15,643,192
2014-2015	11,934,746	1.171	13,975,588	11,934,746	1.171	13,975,588
2015-2016	9,079,735	1.288	11,694,699	9,079,735	1.288	11,694,699
2016-2017	16,835,276	1.739	29,276,545	16,835,276	1.739	29,276,545
2017-2018	8,904,635	2.435	21,682,786	8,904,635	2.435	21,682,786
2018-2019	5,179,851	4.870	25,225,874	5,179,851	4.870	25,225,874
2019-2020	2,054,510	14.610	30,016,391	2,054,510	14.610	30,016,391
Totals	$81,868,335		$162,182,517	$81,868,335		$162,182,517

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 12/31/20 (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)
2011-2012	13,858,240	5,792,172	1.015	0.015	0.430	89,386	5,881,558
2012-2013	13,368,043	8,732,641	1.020	0.020	0.656	175,389	8,908,030
2013-2014	13,274,281	14,154,173	1.030	0.029	1.138	438,078	14,592,251
2014-2015	13,405,474	12,932,174	1.040	0.038	1.023	521,124	13,453,298
2015-2016	13,569,003	11,004,396	1.092	0.084	1.191	1,357,497	12,361,893
2016-2017	13,979,558	19,816,243	1.201	0.167	1.239	2,892,552	22,708,795
2017-2018	14,192,592	13,458,091	1.381	0.276	1.289	5,049,213	18,507,304
2018-2019	14,250,022	10,618,637	1.657	0.396	1.340	7,561,632	18,180,269
2019-2020	14,405,193	6,539,534	3.811	0.738	1.394	14,819,659	21,359,193
Totals	$124,302,406	$103,048,061				$32,904,530	$135,952,591

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) x (D) x (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 12/31/20 (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)
2010-2011	14,204,298		1.021	0.021	0.980	292,324	
2011-2012	13,858,240	5,792,172	1.041	0.039	0.430	232,403	6,024,575
2012-2013	13,368,043	8,057,641	1.072	0.067	0.656	587,552	8,645,193
2013-2014	13,274,281	14,029,769	1.115	0.103	1.138	1,555,932	15,585,701
2014-2015	13,405,474	11,934,746	1.171	0.146	1.023	2,002,215	13,936,961
2015-2016	13,569,003	9,079,735	1.288	0.224	1.191	3,619,993	12,699,728
2016-2017	13,979,558	16,835,276	1.739	0.425	1.239	7,361,286	24,196,562
2017-2018	14,192,592	8,904,635	2.435	0.589	1.289	10,775,314	19,679,949
2018-2019	14,250,022	5,179,851	4.870	0.795	1.340	15,180,548	20,360,399
2019-2020	14,405,193	2,054,510	14.610	0.932	1.394	18,715,342	20,769,852
Totals	$138,506,704	$81,868,335				$60,322,909	$141,898,920

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) x (D) x (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)	100K - $1M Loss Rate (F)	Factor to SIR (G)	Program Loss Rate (H)
2010-2011	14,204,298		1.480			0.980	1.000	0.980
2011-2012	13,858,240	5,954,000	1.423	8,472,542	0.611	0.430	1.000	0.430
2012-2013	13,368,043	8,773,000	1.369	12,010,237	0.898	0.656	1.000	0.656
2013-2014	13,274,281	15,111,000	1.316	19,886,076	1.498	1.138	1.000	1.138
2014-2015	13,405,474	13,713,000	1.265	17,346,945	1.294	1.023	1.000	1.023
2015-2016	13,569,003	11,856,000	1.217	14,428,752	1.063	1.191	1.000	1.191
2016-2017	13,979,558	23,799,000	1.170	27,844,830	1.992	1.239	1.000	1.239
2017-2018	14,192,592	20,134,000	1.125	22,650,750	1.596	1.289	1.000	1.289
2018-2019	14,250,022	20,139,000	1.082	21,790,398	1.529	1.340	1.000	1.340
2019-2020	14,405,193	21,733,000	1.040	22,602,320	1.569	1.394	1.000	1.394
Total/Avg	$138,506,704	$141,212,000		$167,032,850	$1.344			
11/12-17/18	95,647,191	99,340,000		122,640,132	$1.282			
12/13-18/19	96,038,973	113,525,000		135,957,988	$1.416			
13/14-19/20	97,076,123	126,485,000		146,550,071	$1.510			
			Selected $100K - $1M Rate:		$1.450			
				Prior:	$1.270			
					14.2%			

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 2014-2015 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)
2011-2012	180,424	33	5,953,992
2012-2013	265,848	33	8,772,984
2013-2014	285,113	53	15,110,989
2014-2015	274,260	50	13,713,000
2015-2016	287,592	40	11,503,680
2016-2017	299,145	68	20,341,860
2017-2018	311,111	72	22,399,992
2018-2019	323,475	58	18,761,550
2019-2020	336,538	55	18,341,321
Total		462	$134,899,368

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 $100K - $1M Losses (A)	Ultimate Claims (B)	Ultimate $100K - $1M Severity (C)	Trend Factor (D)	Trended $100K - $1M Severity (E)	$100K - $1M Severity (F)	Factor to SIR (G)	Program Severity (H)
2011-2012	5,954,000	33	180,424	1.423	256,743	180,424	1.000	180,424
2012-2013	8,773,000	33	265,848	1.369	363,946	265,848	1.000	265,848
2013-2014	15,111,000	53	285,113	1.316	375,209	285,113	1.000	285,113
2014-2015	13,713,000	50	274,260	1.265	346,939	274,260	1.000	274,260
2015-2016	12,531,000	40	313,275	1.217	381,256	287,592	1.000	287,592
2016-2017	23,254,000	68	341,971	1.170	400,106	299,145	1.000	299,145
2017-2018	19,094,000	72	265,194	1.125	298,343	311,111	1.000	311,111
2018-2019	19,270,000	58	332,241	1.082	359,485	323,475	1.000	323,475
2019-2020	21,065,000	55	386,514	1.040	401,975	336,538	1.000	336,538

Average $100K - $1M Severity:	$353,778
Average 11/12-17/18 $100K - $1M Severity:	$346,077
Average 11/12-18/19 $100K - $1M Severity:	$347,753
Selected $100K - $1M Severity:	$350,000
Prior:	$322,000

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)
2011-2012	33	35	33	1,385.824	0.024	1.000	0.024
2012-2013	33	34	33	1,336.804	0.025	1.000	0.025
2013-2014	53	55	53	1,327.428	0.040	1.000	0.040
2014-2015	50	53	50	1,340.547	0.037	1.000	0.037
2015-2016	40	43	40	1,356.900	0.029	1.000	0.029
2016-2017	68	69	68	1,397.956	0.049	1.000	0.049
2017-2018	72	71	72	1,419.259	0.051	1.000	0.051
2018-2019	58	76	58	1,425.002	0.041	1.000	0.041
2019-2020	77	32	55	1,440.519	0.038	1.000	0.038
Total	484	468	462	12,430.241			0.037

(H) Selected 2020-2021 Frequency: 0.040

	Program Year:	2020-2021	2021-2022
(I)	Trend Factor:	1.000	1.000
(J)	Selected Frequency:	0.040	0.040
(K)	Composite Exposure:	1,405.383	1,405.383
(L)	Ultimate Claims:	56	56

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 .040 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 12/31/2020 (A)	Reported Claim Development Factor (B)	Ultimate Claims (C)	Trended Claim Frequency (D)
2011-2012	32	1.022	33	0.024
2012-2013	32	1.032	33	0.025
2013-2014	51	1.042	53	0.040
2014-2015	48	1.052	50	0.037
2015-2016	38	1.063	40	0.029
2016-2017	63	1.074	68	0.049
2017-2018	64	1.128	72	0.051
2018-2019	47	1.241	58	0.041
2019-2020	31	2.482	77	0.053
Total	406		484	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 12/31/2020 (A)	Closed Claim Development Factor (B)	Ultimate Claims (C)	Trended Claim Frequency (D)
2011-2012	32	1.082	35	0.025
2012-2013	31	1.109	34	0.025
2013-2014	47	1.164	55	0.041
2014-2015	43	1.222	53	0.040
2015-2016	32	1.344	43	0.032
2016-2017	41	1.680	69	0.049
2017-2018	28	2.520	71	0.050
2018-2019	12	6.300	76	0.053
2019-2020	1	31.500	32	0.022
Total	267		468	0.038

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
2011-2012	13,858,240	6,001,000	0.433	0.616
2012-2013	13,368,043	8,817,000	0.660	0.903
2013-2014	13,274,281	15,188,000	1.144	1.506
2014-2015	13,405,474	13,915,000	1.038	1.313
2015-2016	13,569,003	12,839,000	0.946	1.151
2016-2017	13,979,558	23,667,000	1.693	1.981
2017-2018	14,192,592	20,071,000	1.414	1.591
2018-2019	14,250,022	18,696,000	1.312	1.419
2019-2020	14,405,193	19,407,000	1.347	1.401

Exponential Trends

Years	R-square	Fitted Trend
11/12-17/18	0.766	1.206
14/15-19/20	0.280	1.062
15/16-19/20	0.115	1.046
11/12-19/20	0.651	1.133
	Prior Trend:	1.030
	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)	Projected 2020-21 Payroll (00)	Projected 2021-22 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	2,644,990	2,644,990
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	1,119,010	1,119,010
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	1,144,990	1,144,990
Gardena	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	900,950	900,950
Monterey	362,541	361,402	362,125	367,532	374,195	386,413	418,860	427,155	438,191	438,190	438,190
Mountain View	618,793	624,667	633,130	660,314	684,770	734,551	765,191	812,882	842,032	842,030	842,030
Ontario	837,165	724,834	734,451	774,343	825,770	890,589	995,163	1,065,971	1,161,650	1,161,650	1,161,650
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	1,260,260	1,260,260
Salinas	0	0	0	0	0	0	0	325,886	645,800	645,800	645,800
Santa Barbara	824,422	865,528	881,841	905,611	929,442	977,924	990,759	997,851	1,013,615	1,013,610	1,013,610
Santa Cruz	511,940	521,594	544,821	579,725	607,172	638,596	660,528	675,872	696,569	696,570	696,570
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	2,301,340	2,301,340
Visalia	344,696	363,276	366,787	425,402	455,159	474,743	486,940	509,425	530,238	530,240	530,240
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	14,699,630	14,699,630

Note: Data provided by ACCEL.

Authority for California Cities Excess Liability

ULAE as of June 30, 2021

(A)	Selected ULAE Factor	3.5%
(B)	Provision for Unpaid ULAE :	
	IBNR at 6/30/21	$22,468,000
	Half of Case Reserves at 6/30/21	16,016,000
	Computation Base	$38,484,000
	Provision for Unpaid ULAE at 6/30/21	$1,347,000