Bickmore Actuarial

Actuarial Review of the Self-Insured Excess Liability Program

Funding guidelines for program year 2020-21
Outstanding Liabilities as of June 30, 2020

Presented to
Authority for California Cities Excess Liability

March 10, 2020

Bickmore Actuarial

Tuesday, March 10, 2020

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 $49,663,000 as of June 30, 2020. 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 $46,295,000 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 85% confidence level, the Authority's required funding as of June 30, 2020 is projected to be $63,332,000.

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, 2019 and June 30, 2020, on both undiscounted and discounted bases for various confidence levels:

Outstanding Liability as of December 31, 2019
at Various Confidence Levels
$500K and $1,000K Pools Combined

Confidence Level	Undiscounted	Discounted
Expected	$59,435,000	$55,156,000
70%	67,935,000	63,044,000
75%	71,620,000	66,464,000
80%	75,958,000	70,490,000
85%	81,307,000	75,453,000
90%	88,380,000	82,018,000
95%	100,030,000	92,829,000

Outstanding Liability as of June 30, 2020
at Various Confidence Levels
$500K and $1,000K pools combined

Confidence Level	Undiscounted	Discounted
Expected	$49,663,000	$46,295,000
70%	56,765,000	52,915,000
75%	59,844,000	55,785,000
80%	63,470,000	59,165,000
85%	67,939,000	63,332,000
90%	73,849,000	68,841,000
95%	83,583,000	77,914,000

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 $1,222,000 as of June 30, 2020. 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 2020-21 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 2020-2021

Layer	Expected	75%	80%	85%	90%
$1M-2M	$0.303	$0.376	$0.403	$0.435	$0.478
$1M-3M	0.480	0.596	0.638	0.689	0.757
$1M-4M	0.560	0.696	0.744	0.804	0.884
$1M-5M	0.608	0.755	0.808	0.873	0.959
$2M-5M	0.305	0.379	0.405	0.438	0.481
$5M-10M	0.200	0.248	0.266	0.287	0.316
$6M-10M	0.156	0.194	0.207	0.224	0.246
$7M-10M	0.114	0.142	0.152	0.164	0.180
$8M-10M	0.073	0.091	0.097	0.105	0.115
$9M-10M	0.036	0.045	0.048	0.052	0.057
$10M-15M	0.169	0.210	0.225	0.243	0.267

The following table details the calculation of our funding guidelines in dollars at various confidence levels for the program's 2020-21 claims by different layers:

Funding Amount Guidelines for Discounted Claims Incurred in 2020-2021

Layer	Expected	75%	80%	85%	90%
$1M-2M	$4,612,000	$5,724,000	$6,135,000	$6,622,000	$7,276,000
$1M-3M	7,307,000	9,073,000	9,712,000	10,488,000	11,523,000
$1M-4M	8,525,000	10,595,000	11,325,000	12,239,000	13,457,000
$1M-5M	9,255,000	11,493,000	12,300,000	13,289,000	14,598,000
$2M-5M	4,643,000	5,769,000	6,165,000	6,667,000	7,322,000
$5M-10M	3,044,000	3,775,000	4,049,000	4,369,000	4,810,000
$6M-10M	2,375,000	2,953,000	3,151,000	3,410,000	3,745,000
$7M-10M	1,735,000	2,162,000	2,314,000	2,496,000	2,740,000
$8M-10M	1,111,000	1,385,000	1,477,000	1,598,000	1,751,000
$9M-10M	548,000	685,000	731,000	792,000	868,000
$10M-15M	2,573,000	3,197,000	3,425,000	3,699,000	4,064,000

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.

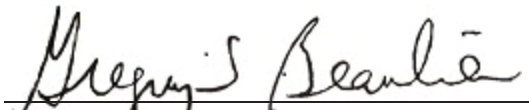
All actuarial estimates of liability claims costs are subject to uncertainty because of the complexity of the process that determines the costs. This is especially true of excess liability claims costs. For this reason, sound management practices suggest that actual funding should be in excess of expected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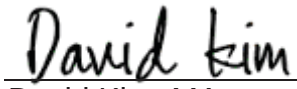

David Kim, MA
Senior Actuarial Analyst, Bickmore Actuarial

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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.

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, 2020 and in determining its contribution level for the 2020-21 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 $49,663,000 as of June 30, 2019. 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 $46,295,000 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 85% confidence level, the Authority's required funding as of June 30, 2020 is projected to be $63,332,000.

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, 2019 and June 30, 2020:

Outstanding Liability at the Expected Level as of December 31, 2019 - $1,000K pool

Program Year	Undiscounted	Discounted
Prior	$11,000,000	$9,746,000
2008-2009	80,065	74,260
2009-2010	198,000	182,556
2010-2011	122,841	112,891
2011-2012	174,726	160,835
2012-2013	2,154,873	1,992,180
2013-2014	3,442,765	3,206,935
2014-2015	2,780,930	2,614,074
2015-2016	3,672,457	3,475,980
2016-2017	15,744,634	14,910,168
2017-2018	6,221,000	5,857,072
2018-2019	9,263,000	8,628,485
2019-2020	4,580,000	4,195,280
All Years	$59,435,291	$55,156,716

Outstanding Liability at the Expected Level as of June 30, 2020 - $1,000K pool

Program Year	Undiscounted	Discounted
Prior	$0	$0
2008-2009	73,820	68,283
2009-2010	176,418	162,128
2010-2011	110,557	101,602
2011-2012	154,807	142,732
2012-2013	1,879,049	1,741,879
2013-2014	2,953,892	2,764,843
2014-2015	2,366,571	2,234,043
2015-2016	3,228,090	3,063,457
2016-2017	14,343,362	13,554,477
2017-2018	5,990,823	5,619,392
2018-2019	9,225,948	8,534,002
2019-2020	9,160,000	8,308,120
All Years	$49,663,337	$46,294,958

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, 2019 and June 30, 2020, on both undiscounted and discounted bases for various confidence levels:

Outstanding Liability as of December 31, 2019
at Various Confidence Levels
$500K and $1,000K Pools Combined

Confidence Level	Undiscounted	Discounted
Expected	$59,435,000	$55,156,000
70%	67,935,000	63,044,000
75%	71,620,000	66,464,000
80%	75,958,000	70,490,000
85%	81,307,000	75,453,000
90%	88,380,000	82,018,000
95%	100,030,000	92,829,000

Outstanding Liability as of June 30, 2020
at Various Confidence Levels
$500K and $1,000K Pools Combined

Confidence Level	Undiscounted	Discounted
Expected	$49,663,000	$46,295,000
70%	56,765,000	52,915,000
75%	59,844,000	55,785,000
80%	63,470,000	59,165,000
85%	67,939,000	63,332,000
90%	73,849,000	68,841,000
95%	83,583,000	77,914,000

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 $1,222,000 as of June 30, 2020. This estimate is 3.5% of the sum of all IBNR reserves and half of case reserves as of June 30, 2020.

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 2020-2021

Layer	Expected	75%	80%	85%	90%
$1M-2M	$0.303	$0.376	$0.403	$0.435	$0.478
$1M-3M	0.480	0.596	0.638	0.689	0.757
$1M-4M	0.560	0.696	0.744	0.804	0.884
$1M-5M	0.608	0.755	0.808	0.873	0.959
$2M-5M	0.305	0.379	0.405	0.438	0.481
$5M-10M	0.200	0.248	0.266	0.287	0.316
$6M-10M	0.156	0.194	0.207	0.224	0.246
$7M-10M	0.114	0.142	0.152	0.164	0.180
$8M-10M	0.073	0.091	0.097	0.105	0.115
$9M-10M	0.036	0.045	0.048	0.052	0.057
$10M-15M	0.169	0.210	0.225	0.243	0.267

Funding Amount Guidelines for Discounted Claims Incurred in 2020-2021

Layer	Expected	75%	80%	85%	90%
$1M-2M	$4,612,000	$5,724,000	$6,135,000	$6,622,000	$7,276,000
$1M-3M	7,307,000	9,073,000	9,712,000	10,488,000	11,523,000
$1M-4M	8,525,000	10,595,000	11,325,000	12,239,000	13,457,000
$1M-5M	9,255,000	11,493,000	12,300,000	13,289,000	14,598,000
$2M-5M	4,643,000	5,769,000	6,165,000	6,667,000	7,322,000
$5M-10M	3,044,000	3,775,000	4,049,000	4,369,000	4,810,000
$6M-10M	2,375,000	2,953,000	3,151,000	3,410,000	3,745,000
$7M-10M	1,735,000	2,162,000	2,314,000	2,496,000	2,740,000
$8M-10M	1,111,000	1,385,000	1,477,000	1,598,000	1,751,000
$9M-10M	548,000	685,000	731,000	792,000	868,000
$10M-15M	2,573,000	3,197,000	3,425,000	3,699,000	4,064,000

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 85% 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 12/31/18:

Comparison with Prior
Undiscounted Estimated Ultimate Losses
(Prior Based upon Losses Valued at December 31, 2018)

Program Year	Prior Report 12/31/18	Current Report	Change
Prior	$24,991,000	$35,991,000	$11,000,000
2004-2005	9,968,000	9,968,000	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	3,245,000	3,268,000	23,000
2009-2010	66,000	198,000	132,000
2010-2011	469,000	498,000	29,000
2011-2012	151,000	177,000	26,000
2012-2013	4,713,000	4,721,000	8,000
2013-2014	12,693,000	12,227,000	(466,000)
2014-2015	9,468,000	9,782,000	314,000
2015-2016	5,348,000	4,175,000	(1,173,000)
2016-2017	9,694,000	19,489,000	9,795,000
2017-2018	6,139,000	6,221,000	82,000
2018-2019	7,136,000	9,263,000	2,127,000
All Years	$104,011,000	$125,908,000	$21,897,000
12-13 to 18-19	55,191,000	65,878,000	10,687,000

As shown, overall we have increased our estimates of the program's ultimate losses by $21,897,000 from those displayed in our prior actuarial report dated March 7, 2019. The increase is mainly due to adverse loss development in the prior to 2004-05, 2016-17 and 2018-19 program years.

Note that for the most recent seven years (2012-13 to 2018-19) ultimate losses have increased by $10,687,000. This is a 19.8% increase over our prior estimates.

At the time of the prior report (based upon losses valued at 12/31/18), we estimated the liability for outstanding claims as of June 30, 2019 to be $29,728,000 at the discounted, expected level. Our current estimate as of June 30, 2020, is $46,295,000, 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, 2018)

	Prior Report at June 30, 2019	Current Report at June 30, 2020	Change
Case Reserves:	$16,087,000	$29,482,000	$13,395,000
IBNR Reserves:	15,781,000	20,181,000	4,400,000
Total Reserves:	$31,868,000	$49,663,000	$17,795,000
Offset for Investment Income:	(2,140,000)	(3,368,000)	(1,228,000)
Total Outstanding Claim Liabilities:	$29,728,000	$46,295,000	$16,567,000

As shown, our estimate of outstanding claims liabilities at the discounted, expected level has increased between June 30, 2019 and June 30, 2020 as reflected in our prior and current reports respectively.

Estimated case reserves have increased by $13,395,000 since the prior evaluation while our estimate of IBNR reserves also have increased by $4,400,000. The overall result is an increase of $17,795,000 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 $16,567,000 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 6/30/19:

Comparison with Prior
Undiscounted Estimated Ultimate Losses
(Prior Based upon Losses Valued at June 30, 2019)

Program Year	Prior Report 6/30/19	Current Report	Change
Prior	$24,991,000	$35,991,000	$11,000,000
2004-2005	9,968,000	9,968,000	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	3,241,000	3,268,000	27,000
2009-2010	162,000	198,000	36,000
2010-2011	455,000	498,000	43,000
2011-2012	127,000	177,000	50,000
2012-2013	4,678,000	4,721,000	43,000
2013-2014	12,428,000	12,227,000	(201,000)
2014-2015	9,419,000	9,782,000	363,000
2015-2016	4,506,000	4,175,000	(331,000)
2016-2017	11,753,000	19,489,000	7,736,000
2017-2018	6,396,000	6,221,000	(175,000)
2018-2019	7,008,000	9,263,000	2,255,000
All Years	$105,062,000	$125,908,000	$20,846,000
12-13 to 18-19	56,188,000	65,878,000	9,690,000

As shown, overall we have increased our estimates of the program's ultimate losses by $20,846,000 from those displayed in our prior actuarial report dated June 4, 2019. The increase is mainly due to adverse loss development in the prior to 2004-05, 2016-17 and 2018-19 program years.

Note that for the most recent seven years (2012-13 to 2018-19) ultimate losses have increased by $9,690,000. This is a 17.2% increase over our prior estimates.

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, 2019 to be $33,323,000 at the discounted, expected level. Our current estimate as of June 30, 2020, is $46,295,000, 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, 2019)

	Prior Report at June 30, 2019	Current Report at June 30, 2020	Change
Case Reserves:	$19,910,000	$29,482,000	$9,572,000
IBNR Reserves:	15,782,000	20,181,000	4,399,000
Total Reserves:	$35,692,000	$49,663,000	$13,971,000
Offset for Investment Income:	(2,369,000)	(3,368,000)	(999,000)
Total Outstanding Claim Liabilities:	$33,323,000	$46,295,000	$12,972,000

As shown, our estimate of outstanding claims liabilities at the discounted, expected level has increased between June 30, 2019 and June 30, 2020 as reflected in our prior and current reports respectively.

Estimated case reserves have increased by $9,572,000 while our estimate of IBNR reserves also increased by $4,399,000 due to adverse loss development. The overall result is an increase of $13,971,000 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 $12,972,000 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 12/31/18 by various layers.

Comparison with Prior
Undiscounted Expected Funding Rates

Layer	Prior Report 2019-20	Current Report 2020-21	Percent Change
$1M-2M	$0.273	$0.331	21.2%
$1M-3M	0.431	0.524	21.6%
$1M-4M	0.502	0.611	21.7%
$1M-5M	0.544	0.664	22.1%
$5M-10M	0.178	0.218	22.5%

As you can see, our projected funding rates for the 2020-21 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, 2019 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, 2019.

- We were provided with payrolls by City for the 1986-87 through 2018-19 program years. The estimated payroll for 2019-20 and 2020-21 was calculated using a 3.5% 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 2020-21 Funding Guidelines

Layer	Estimated 2020-21 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	$15,222,440	$5,038,628	91.6%	$4,612,399	$5,388,744	$5,723,637	$6,134,643	$6,621,761	$7,276,326	$8,357,120
$1M-3M	15,222,440	7,976,559	91.6%	7,306,771	8,539,789	9,072,574	9,711,917	10,488,261	11,523,387	13,243,523
$1M-4M	15,222,440	9,300,911	91.6%	8,524,566	9,955,476	10,594,818	11,325,495	12,238,842	13,456,637	15,450,777
$1M-5M	15,222,440	10,107,700	91.6%	9,255,244	10,807,932	11,492,942	12,299,732	13,289,190	14,598,320	16,775,129
$2M-5M	15,222,440	5,069,073	91.6%	4,642,844	5,419,189	5,769,305	6,165,088	6,667,429	7,321,994	8,418,009
$5M-10M	15,222,440	3,318,492	91.6%	3,044,488	3,562,051	3,775,165	4,049,169	4,368,840	4,810,291	5,510,523
$6M-10M	15,222,440	2,587,815	91.6%	2,374,701	2,770,484	2,953,153	3,151,045	3,409,827	3,744,720	4,307,951
$7M-10M	15,222,440	1,887,583	91.6%	1,735,358	2,024,585	2,161,586	2,313,811	2,496,480	2,740,039	3,151,045
$8M-10M	15,222,440	1,217,795	91.6%	1,111,238	1,293,907	1,385,242	1,476,577	1,598,356	1,750,581	2,009,362
$9M-10M	15,222,440	593,675	91.6%	548,008	639,342	685,010	730,677	791,567	867,679	989,459
$10M-15M	15,222,440	2,816,151	91.6%	2,572,592	2,998,821	3,196,712	3,425,049	3,699,053	4,064,391	4,658,067

(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 2020-21 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	$0.331	91.6%	$0.303	$0.354	$0.376	$0.403	$0.435	$0.478	$0.549
$1M-3M	0.524	91.6%	0.480	0.561	0.596	0.638	0.689	0.757	0.870
$1M-4M	0.611	91.6%	0.560	0.654	0.696	0.744	0.804	0.884	1.015
$1M-5M	0.664	91.6%	0.608	0.710	0.755	0.808	0.873	0.959	1.102
$2M-5M	0.333	91.6%	0.305	0.356	0.379	0.405	0.438	0.481	0.553
$5M-10M	0.218	91.6%	0.200	0.234	0.248	0.266	0.287	0.316	0.362
$6M-10M	0.170	91.6%	0.156	0.182	0.194	0.207	0.224	0.246	0.283
$7M-10M	0.124	91.6%	0.114	0.133	0.142	0.152	0.164	0.180	0.207
$8M-10M	0.080	91.6%	0.073	0.085	0.091	0.097	0.105	0.115	0.132
$9M-10M	0.039	91.6%	0.036	0.042	0.045	0.048	0.052	0.057	0.065
$10M-15M	0.185	91.6%	0.169	0.197	0.210	0.225	0.243	0.267	0.306

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:	$1.380
(C)	Selected Base Loss Rate ($100K - $1M Layer):	$1.380

Authority for California Cities Excess Liability
ACCEL Pooled Layer

Funding Guidelines for Outstanding Losses
as of December 31, 2019 and June 30, 2020

		December 31, 2019	June 30, 2020
(A)	Estimated Ultimate Losses Incurred as of:	$130,988,000	$135,568,000
(B)	Estimated Paid Losses as of:	71,553,000	85,905,000
(C)	Estimated Liability for Claims Outstanding as of:	$59,435,000	$49,663,000
(D)	Outstanding Liability Discount Factor:	92.8%	93.2%
(E)	Discounted Outstanding Liability for Claims as of:	$55,156,000	$46,295,000
(F)	Risk Margin at 85% Confidence Level:	20,297,000	17,037,000
(G)	Required Funding at the 85% confidence Level:	$75,453,000	$63,332,000

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	Paid Loss Development Factor	Payment Pattern	Full Value Reserve	2.0% Discounted Reserve	Discount Factor
1987-1988	33.0	1.000	0.0%	0.0%	0.0%	100.0%
1988-1989	32.0	1.000	0.0%	0.0%	0.0%	100.0%
1989-1990	31.0	1.000	0.0%	0.0%	0.0%	100.0%
1990-1991	30.0	1.000	0.0%	0.0%	0.0%	100.0%
1991-1992	29.0	1.000	0.0%	0.0%	0.0%	100.0%
1992-1993	28.0	1.000	0.0%	0.0%	0.0%	77.2%
1993-1994	27.0	1.000	0.0%	0.0%	0.0%	92.6%
1994-1995	26.0	1.000	0.0%	0.0%	0.0%	83.4%
1995-1996	25.0	1.000	0.0%	0.1%	0.1%	83.4%
1996-1997	24.0	1.001	0.0%	0.1%	0.1%	90.1%
1997-1998	23.0	1.001	0.1%	0.2%	0.2%	95.2%
1998-1999	22.0	1.002	0.1%	0.3%	0.3%	93.6%
1999-2000	21.0	1.003	0.1%	0.4%	0.4%	92.9%
2000-2001	20.0	1.004	0.2%	0.6%	0.6%	93.9%
2001-2002	19.0	1.006	0.3%	0.9%	0.8%	94.2%
2002-2003	18.0	1.009	0.4%	1.3%	1.2%	94.3%
2003-2004	17.0	1.013	0.6%	1.9%	1.8%	94.4%
2004-2005	16.0	1.019	0.8%	2.6%	2.5%	94.5%
2005-2006	15.0	1.027	0.3%	2.9%	2.7%	93.4%
2006-2007	14.0	1.030	0.9%	3.8%	3.6%	93.3%
2007-2008	13.0	1.040	0.9%	4.8%	4.4%	93.0%
2008-2009	12.0	1.050	1.0%	5.7%	5.3%	92.5%
2009-2010	11.0	1.061	1.0%	6.7%	6.2%	91.9%
2010-2011	10.0	1.072	1.8%	8.5%	7.8%	91.9%
2011-2012	9.0	1.093	2.7%	11.2%	10.3%	92.2%
2012-2013	8.0	1.126	4.2%	15.4%	14.3%	92.7%
2013-2014	7.0	1.182	7.7%	23.1%	21.6%	93.6%
2014-2015	6.0	1.300	12.8%	35.9%	33.9%	94.4%
2015-2016	5.0	1.560	21.4%	57.3%	54.4%	94.9%
2016-2017	4.0	2.340	18.3%	75.6%	71.4%	94.5%
2017-2018	3.0	4.095	16.3%	91.9%	86.2%	93.8%
2018-2019	2.0	12.285	7.3%	99.2%	91.7%	92.5%
2019-2020	1.0	122.850	0.8%	100.0%	90.7%	90.7%

Discount Factor for Future Funding: 0.916

Authority for California Cities Excess Liability
ACCEL Pooled Layer

Discount Factors

Accident Year	Accident Year Paid Loss Development Factor	Full Value Reserve	2.0% Discounted Reserve	12/31/19 Outstanding Loss	Discount Factor	12/31/19 Discounted Outstanding Loss	6/30/20 Outstanding Loss	Discount Factor	6/30/20 Discounted Outstanding Loss
1986-1987	1.000	0.00%	0.00%	0	100.0%	0	0	100.0%	0
1987-1988	1.000	0.00%	0.00%	0	88.6%	0	0	77.2%	0
1988-1989	1.000	0.00%	0.00%	0	84.9%	0	0	92.6%	0
1989-1990	1.000	0.00%	0.00%	0	88.0%	0	0	83.4%	0
1986-1987	1.000	0.00%	0.00%	0	100.0%	0	0	100.0%	0
1987-1988	1.000	0.00%	0.00%	11,000,000	88.6%	9,746,000	0	77.2%	0
1988-1989	1.000	0.01%	0.01%	0	84.9%	0	0	92.6%	0
1989-1990	1.000	0.01%	0.01%	0	88.0%	0	0	83.4%	0
1990-1991	1.000	0.02%	0.02%	0	83.4%	0	0	83.4%	0
1991-1992	1.000	0.04%	0.04%	0	86.8%	0	0	90.1%	0
1992-1993	1.001	0.06%	0.06%	0	92.7%	0	0	95.2%	0
1993-1994	1.001	0.10%	0.10%	0	94.4%	0	0	93.6%	0
1994-1995	1.002	0.20%	0.19%	0	93.3%	0	0	92.9%	0
1995-1996	1.003	0.30%	0.29%	0	93.4%	0	0	93.9%	0
1996-1997	1.004	0.40%	0.38%	0	94.1%	0	0	94.2%	0
1997-1998	1.006	0.60%	0.57%	0	94.3%	0	0	94.3%	0
2003-2004	1.009	0.89%	0.85%	0	94.4%	0	0	94.4%	0
2004-2005	1.013	1.28%	1.22%	0	94.5%	0	0	94.5%	0
2005-2006	1.019	1.87%	1.77%	0	94.0%	0	0	93.4%	0
2006-2007	1.030	2.91%	2.78%	0	93.4%	0	0	93.3%	0
2007-2008	1.040	3.85%	3.64%	0	93.2%	0	0	93.0%	0
2008-2009	1.050	4.76%	4.48%	80,065	92.8%	74,260	73,820	92.5%	68,283
2009-2010	1.061	5.75%	5.37%	198,000	92.2%	182,556	176,418	91.9%	162,128
2010-2011	1.072	6.72%	6.22%	122,841	91.9%	112,891	110,557	91.9%	101,602
2011-2012	1.093	8.51%	7.87%	174,726	92.1%	160,835	154,807	92.2%	142,732
2012-2013	1.126	11.19%	10.37%	2,154,873	92.5%	1,992,180	1,879,049	92.7%	1,741,879
2013-2014	1.182	15.40%	14.34%	3,442,765	93.2%	3,206,935	2,953,892	93.6%	2,764,843
2014-2015	1.300	23.08%	21.66%	2,780,930	94.0%	2,614,074	2,366,571	94.4%	2,234,043
2015-2016	1.560	35.90%	33.93%	3,672,457	94.7%	3,475,980	3,228,090	94.9%	3,063,457
2016-2017	2.340	57.27%	54.42%	15,744,634	94.7%	14,910,168	14,343,362	94.5%	13,554,477
2017-2018	4.095	75.58%	71.48%	6,221,000	94.2%	5,857,072	5,990,823	93.8%	5,619,392
2018-2019	12.285	91.86%	86.20%	9,263,000	93.2%	8,628,485	9,225,948	92.5%	8,534,002
2019-2020	122.850	99.19%	91.76%	4,580,000	91.6%	4,195,280	9,160,000	90.7%	8,308,120
			Total	59,435,291		55,156,716	49,663,337		46,294,958
		Discount Factor for Outstanding:		92.8%			93.2%		

Authority for California Cities Excess Liability
ACCEL Pooled Layer

Confidence Level Factors

Probability	Projected Funding Factor	Outstanding Liability Factor
95	1.812	1.683
90	1.578	1.487
85	1.436	1.368
80	1.329	1.278
75	1.242	1.205
70	1.168	1.143
65	1.103	1.087
60	1.043	1.037
55	0.988	0.991
50	0.936	0.947
45	0.886	0.905
40	0.837	0.863
35	0.788	0.822
30	0.738	0.780
25	0.686	0.736

Authority for California Cities Excess Liability
ACCEL Layer

Outstanding Liability at December 31, 2019

Accident Year	Ultimate Losses (A)	12/31/19 Reported Loss (B)	12/31/19 IBNR (C)	12/31/19 Paid Loss (D)	12/31/19 Case Reserves (E)	12/31/19 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
1986-1987	0	0	0	0	0	0
1987-1988	11,724,542	11,724,542	0	724,542	11,000,000	11,000,000
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	3,268,000	3,187,935	80,065	3,187,935	0	80,065
2009-2010	198,000	100,000	98,000	0	100,000	198,000
2010-2011	498,000	375,159	122,841	375,159	0	122,841
2011-2012	177,000	2,274	174,726	2,274	0	174,726
2012-2013	4,721,000	4,423,614	297,386	2,566,127	1,857,487	2,154,873
2013-2014	12,227,000	11,496,556	730,444	8,784,235	2,712,321	3,442,765
2014-2015	9,782,000	9,291,070	490,930	7,001,070	2,290,000	2,780,930
2015-2016	4,175,000	2,502,543	1,672,457	502,543	2,000,000	3,672,457
2016-2017	19,489,000	17,694,366	1,794,634	3,744,366	13,950,000	15,744,634
2017-2018	6,221,000	1,500,000	4,721,000	0	1,500,000	6,221,000
2018-2019	9,263,000	6,925,000	2,338,000	0	6,925,000	9,263,000
2019-2020	4,580,000	0	4,580,000	0	0	4,580,000
Totals	$130,487,917	$113,387,434	$17,100,483	$71,052,626	$42,334,808	$59,435,291
Grand Totals	$130,987,917	$113,887,434	$17,100,483	$71,552,626	$42,334,808	$59,435,291

Notes:

(A) From Appendix A, Page 3, Column (E).
(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, 2020

Accident Year	Ultimate Losses (A)	6/30/2020 Reported Loss (B)	6/30/2020 IBNR (C)	6/30/2020 Paid Loss (D)	6/30/2020 Case Reserves (E)	6/30/2020 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
1986-1987	0	0	0	0	0	0
1987-1988	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	3,268,000	3,195,701	72,299	3,194,180	1,521	73,820
2009-2010	198,000	111,858	86,142	21,582	90,276	176,418
2010-2011	498,000	396,288	101,712	387,443	8,845	110,557
2011-2012	177,000	30,230	146,770	22,193	8,037	154,807
2012-2013	4,721,000	4,473,872	247,128	2,841,951	1,631,921	1,879,049
2013-2014	12,227,000	11,614,888	612,112	9,273,108	2,341,780	2,953,892
2014-2015	9,782,000	9,378,946	403,054	7,415,429	1,963,518	2,366,571
2015-2016	4,175,000	2,873,829	1,301,171	946,910	1,926,918	3,228,090
2016-2017	19,489,000	17,968,945	1,520,055	5,145,638	12,823,307	14,343,362
2017-2018	6,221,000	1,990,984	4,230,016	230,177	1,760,807	5,990,823
2018-2019	9,263,000	6,962,408	2,300,592	37,052	6,925,356	9,225,948
2019-2020	9,160,000	0	9,160,000	0	0	9,160,000
Totals	$135,067,917	$114,886,866	$20,181,051	$85,404,579	$29,482,287	$49,663,337
Grand Totals	$135,567,917	$115,386,866	$20,181,051	$85,904,579	$29,482,287	$49,663,337

Notes:
(A) From Appendix A, Page 3, Column (E).
(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)
1986-1987	0	0		0	0
1987-1988	500,000	500,000		500,000	500,000
1988-1989	0	0		0	0
1989-1990	0	0		0	0
Totals	$500,000	$500,000		$500,000	$500,000
1986-1987	0	0		0	0
1987-1988	11,724,542	724,542		724,542	11,724,542
1988-1989	0	0		0	0
1989-1990	0	0		0	0
1990-1991	0	0		0	0
1991-1992	2,501,191	2,503,692		2,501,191	2,501,191
1992-1993	10,538,558	10,549,097		10,538,558	10,538,558
1993-1994	877,168	878,045		877,168	877,168
1994-1995	1,439,192	1,440,631		1,439,192	1,439,192
1995-1996	912,141	913,053		912,141	912,141
1996-1997	2,388,970	2,391,359		2,388,970	2,388,970
1997-1998	2,083,463	2,087,630		2,083,463	2,083,463
2003-2004	3,540,189	3,593,081		3,526,085	3,526,085
2004-2005	10,057,287	10,236,350	9,980,000	9,967,624	9,967,624
2005-2006	4,502,331	4,591,486	4,496,000	4,457,753	4,457,753
2006-2007	630,414	645,942	667,000	621,098	621,098
2007-2008	4,948,155	5,093,689	4,924,000	4,851,132	4,851,132
2008-2009	3,267,633	3,382,399	3,294,000	3,241,000	3,268,000
2009-2010	103,000	0	233,000	162,000	198,000
2010-2011	390,165	410,049	540,000	455,000	498,000
2011-2012	2,413	2,561	226,000	127,000	177,000
2012-2013	4,835,010	3,033,162	4,764,000	4,678,000	4,721,000
2013-2014	13,198,047	11,419,506	12,025,000	12,428,000	12,227,000
2014-2015	11,465,180	10,921,669	10,144,000	9,419,000	9,782,000
2015-2016	3,551,109	1,175,951	3,843,000	4,506,000	4,175,000
2016-2017	37,671,305	15,333,179	19,489,000	11,753,000	19,489,000
2017-2018	6,387,000	0	5,872,000	6,396,000	6,221,000
2018-2019	206,406,550	0	13,772,000	7,008,000	9,263,000
2019-2020	0	0	9,160,000	3,854,000	9,160,000
Totals	$343,421,013	$91,327,073	$103,429,000	$108,915,917	$135,067,917
Grand Totals	$343,921,013	$91,827,073		$109,415,917	$135,567,917

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).

Authority for California Cities Excess Liability
ACCEL Layer

Reported Loss Development

Accident Year	Reported Losses as of 12/31/19 (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
1986-1987	0	1.000	0
1987-1988	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	1.004	3,540,189
2004-2005	9,967,624	1.009	10,057,287
2005-2006	4,457,753	1.010	4,502,331
2006-2007	621,098	1.015	630,414
2007-2008	4,851,132	1.020	4,948,155
2008-2009	3,187,935	1.025	3,267,633
2009-2010	100,000	1.030	103,000
2010-2011	375,159	1.040	390,165
2011-2012	2,274	1.061	2,413
2012-2013	4,423,614	1.093	4,835,010
2013-2014	11,496,556	1.148	13,198,047
2014-2015	9,291,070	1.234	11,465,180
2015-2016	2,502,543	1.419	3,551,109
2016-2017	17,694,366	2.129	37,671,305
2017-2018	1,500,000	4.258	6,387,000
2018-2019	6,925,000	29.806	206,406,550
2019-2020	0	447.090	0
Totals	$113,387,434		$343,421,013
Grand Totals	$113,887,434		$343,921,013

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 12/31/19 (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
1986-1987	0	1.000	0
1987-1988	724,542	1.000	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	1.001	2,503,692
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	1.002	2,087,630
2003-2004	3,526,085	1.019	3,593,081
2004-2005	9,967,624	1.027	10,236,350
2005-2006	4,457,753	1.030	4,591,486
2006-2007	621,098	1.040	645,942
2007-2008	4,851,132	1.050	5,093,689
2008-2009	3,187,935	1.061	3,382,399
2009-2010	0	1.072	0
2010-2011	375,159	1.093	410,049
2011-2012	2,274	1.126	2,561
2012-2013	2,566,127	1.182	3,033,162
2013-2014	8,784,235	1.300	11,419,506
2014-2015	7,001,070	1.560	10,921,669
2015-2016	502,543	2.340	1,175,951
2016-2017	3,744,366	4.095	15,333,179
2017-2018	0	12.285	0
2018-2019	0	122.850	0
2019-2020	0	2,457.000	0
Totals	$71,052,626		$91,327,073
Grand Totals	$71,552,626		$91,827,073

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 2020-2021 $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 12/31/19 (I)	Program Year Reported Losses at 12/31/19 (J)	Program Year Estimated Ultimate Losses (K)
2004-2005	$1.380	0.642	0.886	0.380	0.337	$9,374,402	$3,155,000	0.4%	$12,570	$9,967,624	$9,980,000
2005-2006	1.380	0.661	0.912	0.481	0.439	9,850,045	4,323,000	0.9%	38,541	4,457,753	4,496,000
2006-2007	1.380	0.681	0.940	0.481	0.452	10,305,894	4,658,000	1.0%	46,119	621,098	667,000
2007-2008	1.380	0.701	0.968	0.481	0.466	10,609,082	4,939,000	1.5%	72,990	4,851,132	4,924,000
2008-2009	1.380	0.722	0.997	0.481	0.480	11,307,152	5,422,000	2.0%	106,314	3,187,935	3,294,000
2009-2010	1.380	0.744	1.027	0.481	0.494	11,075,957	5,471,000	2.4%	133,439	100,000	233,000
2010-2011	1.380	0.766	1.058	0.481	0.509	11,097,108	5,645,000	2.9%	164,417	375,159	540,000
2011-2012	1.380	0.789	1.089	0.481	0.524	11,095,468	5,814,000	3.8%	223,615	2,274	226,000
2012-2013	1.380	0.813	1.122	0.481	0.540	10,966,401	5,919,000	5.7%	340,301	4,423,614	4,764,000
2013-2014	1.380	0.837	1.156	0.481	0.556	11,164,240	6,206,000	8.5%	528,049	11,496,556	12,025,000
2014-2015	1.380	0.863	1.190	0.481	0.573	11,556,443	6,617,000	12.9%	853,063	9,291,070	10,144,000
2015-2016	1.380	0.888	1.226	0.481	0.590	11,986,752	7,069,000	19.0%	1,340,475	2,502,543	3,843,000
2016-2017	1.380	0.915	1.263	0.380	0.480	12,662,643	6,077,000	29.5%	1,794,407	17,694,366	19,489,000
2017-2018	1.380	0.943	1.301	0.481	0.626	13,177,894	8,245,000	53.0%	4,372,290	1,500,000	5,872,000
2018-2019	1.380	0.971	1.340	0.481	0.644	13,884,423	8,948,000	76.5%	6,846,544	6,925,000	13,772,000
2019-2020	1.380	0.971	1.340	0.481	0.644	14,707,670	9,478,000	96.6%	9,160,010	0	9,160,000

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	1.860	0.000
1987-1988	998,109	500,000	500,000	0.501	1.806	0.905
1988-1989	1,146,083	0	0	0.000	1.753	0.000
1989-1990	1,208,157	0	0	0.000	1.702	0.000
Totals	$4,360,436	$500,000	$500,000	0.115		0.226
1986-1987	3,105,940	0	0	0.000	2.989	0.000
1987-1988	3,670,691	11,724,542	11,724,542	3.194	2.902	9.269
1988-1989	4,030,134	0	0	0.000	2.817	0.000
1989-1990	4,399,059	0	0	0.000	2.735	0.000
1990-1991	4,875,491	0	0	0.000	2.655	0.000
1991-1992	5,277,443	2,501,191	2,501,191	0.474	2.578	1.222
1992-1993	5,310,299	10,538,558	10,538,558	1.985	2.503	4.968
1993-1994	5,635,666	877,168	877,168	0.156	2.430	0.379
1994-1995	6,004,411	1,439,192	1,439,192	0.240	2.359	0.566
1995-1996	6,102,690	912,141	912,141	0.149	2.290	0.341
1996-1997	6,502,472	2,388,970	2,388,970	0.367	2.223	0.816
1997-1998	6,972,985	2,083,463	2,083,463	0.299	2.158	0.645
2003-2004	9,103,267	3,526,085	3,526,085	0.387	1.654	0.640
2004-2005	9,374,402	9,967,624	9,967,624	1.063	1.606	1.707
2005-2006	9,850,045	4,457,753	4,457,753	0.453	1.559	0.706
2006-2007	10,305,894	621,098	621,098	0.060	1.514	0.091
2007-2008	10,609,082	4,851,132	4,851,132	0.457	1.470	0.672
2008-2009	11,307,152	3,268,000	3,268,000	0.289	1.427	0.412
2009-2010	11,075,957	198,000	198,000	0.018	1.385	0.025
2010-2011	11,097,108	498,000	498,000	0.045	1.345	0.061
2011-2012	11,095,468	177,000	177,000	0.016	1.306	0.021
2012-2013	10,966,401	4,721,000	4,721,000	0.430	1.268	0.545
2013-2014	11,164,240	12,227,000	12,227,000	1.095	1.231	1.348
2014-2015	11,556,443	9,782,000	9,782,000	0.846	1.195	1.011
2015-2016	11,986,752	4,175,000	4,175,000	0.348	1.160	0.404
2016-2017	12,662,643	19,489,000	19,489,000	1.539	1.126	1.733
2017-2018	13,177,894	6,221,000	6,221,000	0.472	1.093	0.516
2018-2019	13,884,423	9,263,000	9,263,000	0.667	1.061	0.708
2019-2020	14,707,670	9,160,000	9,160,000	0.623	1.030	0.642
Totals	$255,812,122	$135,067,917	$135,067,917	0.528		1.015
86/87-97/98	61,887,280	32,465,225	32,465,225	0.525		1.517
				Selected Trend:	1.030	

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 2019-2020 Level (F)
2010-2011	3,956,000	13,860,288	1.305	0.372
2011-2012	6,124,000	13,525,375	1.267	0.574
2012-2013	9,031,000	13,039,051	1.230	0.852
2013-2014	15,694,000	12,950,518	1.194	1.447
2014-2015	15,134,000	13,081,893	1.159	1.341
2015-2016	14,566,000	13,233,374	1.126	1.239
2016-2017	22,851,000	13,637,667	1.093	1.831
2017-2018	17,206,000	13,849,967	1.061	1.318
2018-2019	18,863,000	13,897,500	1.030	1.398
			Average 2010-11 - 2018-19:	1.153
			Average 2011-12 - 2017-18:	1.229
			Average 2012-13 - 2018-19:	1.347
			Prior 2018-2019 Rate :	1.130
			Selected 2019-2020 Rate :	1.340
			Trend Factor to 2020-2021 :	1.030
			Selected 2020-2021 Rate :	$1.380

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)
2010-2011	3,879,766	4,031,857	3,881,683	4,027,744	3,956,000	3,956,000
2011-2012	5,940,598	6,307,518	5,946,656	6,295,895	6,124,008	6,124,000
2012-2013	8,992,407	9,070,484	8,992,538	9,067,531	9,031,008	9,031,000
2013-2014	14,676,034	16,712,216	14,708,020	16,537,384	15,693,989	15,694,000
2014-2015	14,529,737	16,316,068	14,509,991	15,757,951	14,446,952	15,134,000
2015-2016	14,488,871	14,229,760	14,556,856	14,574,642	11,724,688	14,566,000
2016-2017	27,805,649	37,910,441	24,508,194	23,423,255	20,622,140	22,851,000
2017-2018	15,207,991	27,952,715	15,790,630	18,529,796	17,298,759	17,206,000
2018-2019	24,474,115	164,781,369	18,937,172	19,675,607	17,975,708	18,863,000
Totals						$123,425,000

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 12/31/19 (B)	Reported Loss Development Factor (C)	Ultimate $100K - $1M Losses (D)	$100K - $1M Reported Losses of 12/31/19 (E)	Reported Loss Development Factor (F)	Ultimate $100K - $1M Losses (G)
2010-2011	3,822,430	1.015	3,879,766	3,822,430	1.015	3,879,766
2011-2012	5,824,116	1.020	5,940,598	5,824,116	1.020	5,940,598
2012-2013	8,730,492	1.030	8,992,407	8,730,492	1.030	8,992,407
2013-2014	14,111,571	1.040	14,676,034	14,111,571	1.040	14,676,034
2014-2015	13,305,620	1.092	14,529,737	13,305,620	1.092	14,529,737
2015-2016	12,064,006	1.201	14,488,871	12,064,006	1.201	14,488,871
2016-2017	20,134,431	1.381	27,805,649	20,134,431	1.381	27,805,649
2017-2018	8,811,119	1.726	15,207,991	8,811,119	1.726	15,207,991
2018-2019	6,034,052	4.056	24,474,115	6,034,052	4.056	24,474,115
Totals	$92,837,837		$129,995,168	$92,837,837		$129,995,168

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 12/31/19 (B)	Paid Loss Development Factor (C)	Ultimate $100K - $1M Losses (D)	$100K - $1M Paid Losses of 12/31/19 (E)	Paid Loss Development Factor (F)	Ultimate $100K - $1M Losses (G)
2010-2011	3,814,434	1.057	4,031,857	3,814,434	1.057	4,031,857
2011-2012	5,824,116	1.083	6,307,518	5,824,116	1.083	6,307,518
2012-2013	8,055,492	1.126	9,070,484	8,055,492	1.126	9,070,484
2013-2014	13,869,059	1.205	16,712,216	13,869,059	1.205	16,712,216
2014-2015	11,772,055	1.386	16,316,068	11,772,055	1.386	16,316,068
2015-2016	7,334,928	1.940	14,229,760	7,334,928	1.940	14,229,760
2016-2017	13,027,643	2.910	37,910,441	13,027,643	2.910	37,910,441
2017-2018	4,802,872	5.820	27,952,715	4,802,872	5.820	27,952,715
2018-2019	2,831,295	58.200	164,781,369	2,831,295	58.200	164,781,369
Totals	$71,331,894		$297,312,428	$71,331,894		$297,312,428

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 12/31/19 (B)	Loss Development Factor (C)	Percentage of Losses Yet to Be Reported (D)	Program Rate (E)	Incurred but not Reported (IBNR) (F)	Ultimate Program Losses (G)
2010-2011	13,860,288	3,822,430	1.015	0.015	0.285	59,253	3,881,683
2011-2012	13,525,375	5,824,116	1.020	0.020	0.453	122,540	5,946,656
2012-2013	13,039,051	8,730,492	1.030	0.029	0.693	262,046	8,992,538
2013-2014	12,950,518	14,111,571	1.040	0.038	1.212	596,449	14,708,020
2014-2015	13,081,893	13,305,620	1.092	0.084	1.096	1,204,371	14,509,991
2015-2016	13,233,374	12,064,006	1.201	0.167	1.128	2,492,850	14,556,856
2016-2017	13,637,667	20,134,431	1.381	0.276	1.162	4,373,763	24,508,194
2017-2018	13,849,967	8,811,119	1.726	0.421	1.197	6,979,511	15,790,630
2018-2019	13,897,500	6,034,052	4.056	0.753	1.233	12,903,120	18,937,172
Totals	$121,075,633	$92,837,837				$28,993,903	$121,831,740

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 12/31/19 (B)	Loss Development Factor (C)	Percentage of Losses Yet to Be Paid (D)	Program Rate (E)	Incurred but not Paid (F)	Ultimate Program Losses (G)
2009-2010	14,177,225		1.036	0.035	0.945	468,912	
2010-2011	13,860,288	3,814,434	1.057	0.054	0.285	213,310	4,027,744
2011-2012	13,525,375	5,824,116	1.083	0.077	0.453	471,779	6,295,895
2012-2013	13,039,051	8,055,492	1.126	0.112	0.693	1,012,039	9,067,531
2013-2014	12,950,518	13,869,059	1.205	0.170	1.212	2,668,325	16,537,384
2014-2015	13,081,893	11,772,055	1.386	0.278	1.096	3,985,896	15,757,951
2015-2016	13,233,374	7,334,928	1.940	0.485	1.128	7,239,714	14,574,642
2016-2017	13,637,667	13,027,643	2.910	0.656	1.162	10,395,612	23,423,255
2017-2018	13,849,967	4,802,872	5.820	0.828	1.197	13,726,924	18,529,796
2018-2019	13,897,500	2,831,295	58.200	0.983	1.233	16,844,312	19,675,607
Totals	$135,252,858	$71,331,894				$57,026,823	$127,889,805

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)
2009-2010	14,177,225		1.344			0.945	1.000	0.945
2010-2011	13,860,288	3,956,000	1.305	5,162,580	0.372	0.285	1.000	0.285
2011-2012	13,525,375	6,124,000	1.267	7,759,108	0.574	0.453	1.000	0.453
2012-2013	13,039,051	9,031,000	1.230	11,108,130	0.852	0.693	1.000	0.693
2013-2014	12,950,518	15,694,000	1.194	18,738,636	1.447	1.212	1.000	1.212
2014-2015	13,081,893	15,423,000	1.159	17,875,257	1.366	1.096	1.000	1.096
2015-2016	13,233,374	14,489,000	1.126	16,314,614	1.233	1.128	1.000	1.128
2016-2017	13,637,667	31,174,000	1.093	34,073,182	2.498	1.162	1.000	1.162
2017-2018	13,849,967	19,456,000	1.061	20,642,816	1.490	1.197	1.000	1.197
2018-2019	13,897,500	21,129,000	1.030	21,762,870	1.566	1.233	1.000	1.233
Total/Avg	$135,252,858	$136,476,000		$153,437,193	$1.267			
10/11-16/17	93,328,166	95,891,000		111,031,507	$1.190			
11/12-17/18	93,317,845	111,391,000		126,511,743	$1.356			
				Selected $100K - $1M Rate:	$1.270			
				Prior:	$1.060			
					19.8%			

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 2013-2014 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)
2010-2011	158,240	25	3,956,000
2011-2012	185,576	33	6,124,008
2012-2013	282,219	32	9,031,008
2013-2014	296,113	53	15,693,989
2014-2015	277,826	52	14,446,952
2015-2016	285,968	41	11,724,688
2016-2017	294,602	70	20,622,140
2017-2018	303,487	57	17,298,759
2018-2019	312,621	58	17,975,708
Total		421	$116,873,252

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)
2010-2011	3,956,000	25	158,240	1.305	206,503	158,240	1.000	158,240
2011-2012	6,124,000	33	185,576	1.267	235,125	185,576	1.000	185,576
2012-2013	9,031,000	32	282,219	1.230	347,129	282,219	1.000	282,219
2013-2014	15,694,000	53	296,113	1.194	353,559	296,113	1.000	296,113
2014-2015	15,134,000	52	291,038	1.159	337,313	277,826	1.000	277,826
2015-2016	14,566,000	41	355,268	1.126	400,032	285,968	1.000	285,968
2016-2017	23,966,000	70	342,371	1.093	374,212	294,602	1.000	294,602
2017-2018	17,160,000	57	301,053	1.061	319,417	303,487	1.000	303,487
2018-2019	19,306,000	58	335,757	1.030	345,830	312,621	1.000	312,621

Average $100K - $1M Severity:	$324,347
Average 10/11-16/17 $100K - $1M Severity:	$321,982
Average 10/11-17/18 $100K - $1M Severity:	$321,661
Selected $100K - $1M Severity:	$322,000
Prior:	$280,000

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)
2010-2011	25	26	25	1,386.029	0.018	1.000	0.018
2011-2012	33	35	33	1,352.538	0.024	1.000	0.024
2012-2013	32	35	32	1,303.905	0.025	1.000	0.025
2013-2014	53	55	53	1,295.052	0.041	1.000	0.041
2014-2015	52	54	52	1,308.189	0.040	1.000	0.040
2015-2016	41	44	41	1,323.337	0.031	1.000	0.031
2016-2017	70	68	70	1,363.767	0.051	1.000	0.051
2017-2018	57	63	57	1,384.997	0.041	1.000	0.041
2018-2019	52	63	58	1,389.750	0.041	1.000	0.041
Total	415	443	421	12,107.563			0.035

(H) Selected 2019-2020 Frequency: 0.041

	Program Year:	2019-2020	2020-2021
(I)	Trend Factor:	1.000	1.000
(J)	Selected Frequency:	0.041	0.041
(K)	Composite Exposure:	1,403.309	1,452.425
(L)	Ultimate Claims:	58	60

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 .041 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 12/31/2019 (A)	Reported Claim Development Factor (B)	Ultimate Claims (C)	Trended Claim Frequency (D)
2010-2011	24	1.022	25	0.018
2011-2012	32	1.032	33	0.024
2012-2013	31	1.042	32	0.025
2013-2014	50	1.052	53	0.041
2014-2015	49	1.063	52	0.040
2015-2016	38	1.074	41	0.031
2016-2017	62	1.128	70	0.051
2017-2018	46	1.241	57	0.041
2018-2019	21	2.482	52	0.037
Total	353		415	0.034

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 12/31/2019 (A)	Closed Claim Development Factor (B)	Ultimate Claims (C)	Trended Claim Frequency (D)
2010-2011	24	1.082	26	0.019
2011-2012	32	1.109	35	0.026
2012-2013	30	1.164	35	0.027
2013-2014	45	1.222	55	0.042
2014-2015	40	1.344	54	0.041
2015-2016	26	1.680	44	0.033
2016-2017	27	2.520	68	0.050
2017-2018	10	6.300	63	0.045
2018-2019	2	31.500	63	0.045
Total	236		443	0.037

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
2010-2011	13,860,288	3,956,000	0.285	0.372
2011-2012	13,525,375	6,124,000	0.453	0.574
2012-2013	13,039,051	9,031,000	0.693	0.852
2013-2014	12,950,518	15,694,000	1.212	1.447
2014-2015	13,081,893	15,134,000	1.157	1.341
2015-2016	13,233,374	14,566,000	1.101	1.239
2016-2017	13,637,667	15,886,000	1.165	1.273
2017-2018	13,849,967	17,206,000	1.242	1.318
2018-2019	13,897,500	18,863,000	1.357	1.398

Exponential Trends

Years	R-square	Fitted Trend
10/11-16/17	0.776	1.262
13/14-18/19	0.383	1.024
14/15-18/19	0.745	1.045
10/11-18/19	0.731	1.185
	Prior Trend:	1.040
	Selected Trend:	1.030

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)	Projected 2019-20 Payroll (00)	Projected 2020-21 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	2,630,310	2,722,370
Bakersfield	913,612	974,793	981,145	1,007,547	1,032,898	1,023,381	1,047,246	1,056,662	1,093,650	1,131,930
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	1,138,190	1,178,030
Gardena	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	905,580	937,280
Monterey	362,541	361,402	362,125	367,532	374,195	386,413	418,860	427,155	442,110	457,580
Mountain View	618,793	624,667	633,130	660,314	684,770	734,551	765,191	812,882	841,330	870,780
Ontario	837,165	724,834	734,451	774,343	825,770	890,589	995,163	1,065,971	1,103,280	1,141,890
Palo Alto	1,041,460	919,927	996,990	1,064,558	981,613	1,041,359	1,166,441	1,221,880	1,264,650	1,308,910
Salinas	0	0	0	0	0	0	0	325,886	674,580	698,190
Santa Barbara	824,422	865,528	881,841	905,611	929,442	977,924	990,759	997,851	1,032,780	1,068,930
Santa Cruz	511,940	521,594	544,821	579,725	607,172	638,596	660,528	675,872	699,530	724,010
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	2,354,430	2,436,840
Visalia	344,696	363,276	366,787	425,402	455,159	474,743	486,940	509,425	527,250	545,700
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	14,707,670	15,222,440

Note: Data provided by ACCEL.

Authority for California Cities Excess Liability

ULAE as of June 30, 2020

(A)	Selected ULAE Factor	3.5%
(B)	Provision for Unpaid ULAE :	
	IBNR at 6/30/20	$20,181,000
	Half of Case Reserves at 6/30/20	14,741,000
	Computation Base	$34,922,000
	Provision for Unpaid ULAE at 6/30/20	$1,222,000