



**Cavanaugh Macdonald**  
CONSULTING, LLC

*The experience and dedication you deserve*

**LOS ANGELES COUNTY  
OTHER POSTEMPLOYMENT  
BENEFIT PROGRAM**

**ACTUARIAL REVIEW OF THE  
2018 INVESTIGATION OF EXPERIENCE  
FOR OTHER POSTEMPLOYMENT  
BENEFITS ASSUMPTIONS**





# Cavanaugh Macdonald

CONSULTING, LLC

*The experience and dedication you deserve*

June 28, 2019

Mr. Richard Bendall  
Chief, Internal Audit  
Los Angeles County Employees Retirement Association  
300 North Lake Avenue, Suite 820  
Pasadena, CA 91101

**Re: Actuarial Review of the 2018 Investigation of OPEB Program Experience for the  
Los Angeles County Other Postemployment Benefits Program**

Dear Mr. Bendall:

Cavanaugh Macdonald Consulting, LLC (CMC) was selected by Los Angeles County Employees Retirement Association (LACERA) to provide this independent actuarial review of certain work performed by Milliman, Inc. related to LACERA's Other Postemployment Benefits Program (OPEB Program or the Program).

LACERA conducts experience studies every three years to study the relevant economic and demographic assumptions that will be used to determine employer and member contribution rates for LACERA's Retirement Plan. In accordance with LACERA's OPEB Program Policy, an Experience Study for the Program immediately follows each Retirement Plan Experience Study. These Experience Studies may be reviewed by an independent actuarial services firm on a schedule determined by the Board. As requested, this report presents the results of the Actuarial Review of the 2018 Investigation of OPEB Program Experience Report. Our findings are outlined in the Board Summary, and various observations are included throughout in the sections applicable to each review task. Detailed findings and conclusions from the Actuarial Review are provided in Section XIII of the report.

We would like to thank LACERA's staff for their responsiveness in providing the items and information that we requested during the course of our review. Additionally, we would also like to thank Milliman for their cooperation and assistance in providing the requested information, and answering our questions along the way.

We look forward to answering any questions concerning the information provided herein.



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### **Additional Information and Disclosures**

This report has been prepared for LACERA and its stakeholders by CMC, and is intended to assist Los Angeles County as it validates the reasonability of the liabilities, costs, and other calculations for the OPEB Program as of June 30, 2018. Additionally, the findings, conclusions, and recommendations presented in this report are specific to Los Angeles County and its OPEB Program, and the work produced by Milliman. CMC may produce different findings or arrive at different conclusions in other situations or even in cases involving similar other postemployment benefit plans. As such, it is important to keep in mind that the use of this information for purposes other than those expressed here may not be appropriate.

In preparing this review, we have relied on the following information provided by LACERA and/or Milliman:

- A report produced by Milliman on July 21, 2017 titled, “Los Angeles County Employees Retirement Association 2016 Investigation of Experience for Other Postemployment Benefits Assumptions” (2016 Investigation of OPEB Program Experience Report);
- A report produced by Segal Consulting on July 21, 2017 titled, “Los Angeles County Other Postemployment Benefits Program Actuarial Review of 2016 Investigation of Experience” (2016 Actuarial Review Report);
- A report produced by Milliman on June 29, 2018 titled, “Los Angeles County Employees Retirement Association Other Postemployment Benefits Program Actuarial Valuation [as of] July 1, 2017” (2017 OPEB Program Actuarial Valuation Report);
- A draft report dated January 24, 2019 prepared by Milliman titled, “Los Angeles County Employees Retirement Association 2018 Investigation of Experience for Other Postemployment Benefits Assumptions” (2018 Investigation of OPEB Program Experience Report);
- Retirement Plan actuarial valuation census data and OPEB Program Experience Study data as of June 30, 2015, June 30, 2016, June 30, 2017, and June 30, 2018; and,
- OPEB Program actuarial valuation census data as of June 30, 2016 and June 30, 2017, and preliminary actuarial valuation census data as of June 30, 2018.

While we cannot verify the accuracy of all this information, the supplied information was reviewed for reasonableness and consistency and we have no reason to doubt the substantial accuracy or completeness of the information and believe that it is reliable for the purpose of conducting this review. The results and conclusions contained in this report depend on the integrity of this information, and if any of the supplied information or analyses change, our results and conclusions may be different and this report may need to be revised.

The undersigned are familiar with the near-term and/or long-term aspects of other postemployment benefit plan valuations and collectively meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained in this report. All sections of this report, including any appendices and attachments, are considered an integral part of the actuarial opinions.

CMC does not provide legal, investment, or accounting advice. Thus, the information in this report is not intended to supersede or supplant the advice and interpretations of LACERA or its external consultants.



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Please let us know if you have any questions or need any additional information.

Respectfully submitted,

A handwritten signature in purple ink that reads 'Brent A. Banister'.

Brent A. Banister, Ph.D., FSA, EA, MAAA, FCA  
Chief Actuary

A handwritten signature in blue ink that reads 'Jeffrey Gann'.

Jeffrey Gann, FSA, MAAA, FCA, EA  
Senior Actuary



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## Section I — Board Summary

In accordance with its OPEB Policy Statement, LACERA engaged Cavanaugh Macdonald Consulting, LLC (CMC) to prepare an independent review of the OPEB Experience Study for the three year period ending on June 30, 2018 prepared by Milliman for Los Angeles County's OPEB Program.

The scope of the actuarial review requested by LACERA includes an independent verification of the results and evaluation of any recommendations in the 2018 Investigation of OPEB Program Experience Report, the preparation of a report containing CMC's findings and conclusions from the actuarial review, and a presentation of any findings to the Board of Retirement.

The process of setting actuarial assumptions brings together a blend of both numerical analysis and professional judgment. An experience study is not simply a mathematical exercise, but also draws on the experience and insight of the professionals conducting it. While this report contains pages of numbers confirming the data tabulations in Milliman's report, we wish to stress that we have also examined the bigger picture to determine if an assumption is appropriate. We consider whether there are other ways to form an assumption, whether an assumption may be simplified, and whether or not the assumption reflects trends that we observe in other plans. The fact that we might prefer an alternate approach does not automatically mean that Milliman's approach is not reasonable. Rather, we offer some of these thoughts as a consideration for future studies, fully aware that there are multiple appropriate ways in which to model a dynamic program like Los Angeles County's OPEB Program.

**In general, we find Milliman's work to be accurate and complete, and we have not identified any material findings.**

We summarize our findings for each major review task as follows:

### **1. Review of OPEB Program Data Used in the 2018 Experience Study**

As agreed during the January 14, 2019 conference call with LACERA, Milliman, and CMC, the actuarial review of the 2018 Investigation of OPEB Program Experience Report is based on the actuarial valuation and experience study data that Milliman provided. *In our opinion, the data used is sufficient for the purposes of the experience study, appears consistent with previous Retirement Plan and OPEB Program valuations and, therefore, appropriately reflects the active and inactive membership of the OPEB Program during the three year period ending on June 30, 2018.* In Section III, we provide details concerning our review of the data and any related procedures.

### **2. Review the Proposed Economic and Demographic Assumptions Contained in the 2018 Investigation of OPEB Program Experience Report**

*We find the work prepared by Milliman—reviewed within the scope of this assignment—to be based on reasonable processes, to be technically sound, and to be fairly presented. Milliman's work related to studying OPEB Program experience, selecting assumptions, and presenting the associated results is based on generally accepted actuarial practices and principles.* Relevant details for each assumption reviewed are provided in Sections IV through XII.



**3. Present Any Recommendations to the Board of Retirement Regarding the Work Completed by Milliman**

*We believe that the actuarial assumptions recommended by Milliman are reasonable and appropriate for use in the upcoming actuarial valuation for Los Angeles County's OPEB Program. We have no findings of material discrepancies with generally accepted actuarial principles or professional standards. In Section XIII, we provide some minor considerations and recommendations for future studies.*

Milliman proposes several changes in assumptions in its experience study. The most significant of these changes is the discount rate. We believe this change to be appropriate in light of the decision to begin funding the OPEB benefits in advance. Other rates may be needed for accounting statements or for other uses, but ultimately the rate that funds are expected to earn is the appropriate rate to be used in a funding valuation.

Milliman also recommends other changes to initial election rates, plan election rate, retirement rates for deferred vested members, and some other minor items such as spouse age difference. We find these assumptions to be reasonable. We also find the health cost trend rates proposed by Milliman to be appropriate.

The remainder of this report provides the basis for our findings and recommendations for each assumption that appears in the 2018 Investigation of OPEB Program Experience Report and our conclusions.

We would like to thank LACERA's staff for their responsiveness in providing the items and information that we requested during the course of our review. Additionally, we would also like to thank Milliman for their cooperation and assistance in providing the requested information, and answering our questions.



## Section II — Purpose and Scope of the Actuarial Review

The County Employees Retirement Law of 1937 (CERL) requires that an Experience and Assumptions Study (Experience Study) for the Los Angeles County Employees Retirement Association (LACERA) Retirement Plan be performed every three years to study the relevant economic and demographic assumptions that will be used to determine employer and member contribution rates. Since certain experience items and assumptions from the Retirement Plan actuarial valuation provide essential input variables to the Experience Study for Los Angeles County's Other Postemployment Benefit Program (OPEB Program or the Program), LACERA's OPEB Policy requires that an Experience Study for the OPEB Program immediately follow each Experience Study for the Retirement Plan, in part, to ensure that data and assumptions common to both are used consistently. LACERA engaged Milliman, Inc. (Milliman) to perform the OPEB Program Experience Study for the three year period ending on June 30, 2018. LACERA's OPEB Policy Statement, which was adopted by the Board of Retirement in November 2010, calls for periodic actuarial reviews or "audits" of the work completed by the Board's consulting Actuary.

In accordance with its OPEB Policy Statement, LACERA engaged Cavanaugh Macdonald Consulting, LLC (CMC) to prepare an independent review of the Experience Study for the three year period ending on June 30, 2018 prepared by Milliman for LACERA's OPEB Program.

The scope of the actuarial review requested by LACERA includes an independent evaluation of the results and recommendations prepared by Milliman and documented in the 2018 Investigation of OPEB Program Experience Report, the preparation of a report containing findings and conclusions from the actuarial review, and a presentation of any recommendations to the Board of Retirement regarding the work completed by Milliman. Specifically the Scope of Work in the contract with LACERA calls for CMC to provide the following services:

*A. Actuarial Standards*

*Auditor will perform all actuarial work and prepare reports in accordance with generally accepted actuarial standards, Actuarial Standards of Practice (ASOP), standards promulgated by the Actuarial Standards Board (ASB), and the Government Accounting Standards Board (GASB), laws, regulations, best practices, LACERA's policies and any other applicable standards, models and rules.*

*B. Actuarial Analysis*

*Auditor's responsibilities include, but are not limited to, performing the analysis described below:*

*1. Data Review*

*Evaluation of the available data for the performance of such Experience Study including a comparison of the census data provided by LACERA with the data that was used by Actuary, the degree of which such data is sufficient to support the conclusions of the Experience Study, and the use and appropriateness of any assumptions made regarding such data.*



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### 2. *Parallel Experience Study*

a. *Perform a parallel Experience Study using the assumptions, methodologies, and funding methods used by the Actuary in their performance of the OPEB Program Experience Study. Auditor shall independently re-perform all work and not rely on the work of the Actuary.*

b. *Evaluation of the parallel Experience Study results and reconciliation of any discrepancies between Auditor and Actuary regarding findings, assumptions, methodology, rates, and adjustments.*

### 3. *Assumptions and Methodologies*

*Evaluation of the recommended economic and demographic assumptions, including experience and operating tables, as presented in Actuary's Experience Study Report.*

### 4. *Cost Impact*

*Complete a reconciliation of the aggregate counts of actual occurrences by decrement type with Actuary's analysis and perform an independent reproduction of the cost impact of any changes that are recommended by Actuary.*

### C. *Sequential Completion*

*Auditor will conduct audit work sequentially and immediately following with the Actuary's completion of the Experience Study. To the extent possible, it is LACERA's intent that the parallel Experience Study results and the reconciliation of any discrepancies between the findings, assumptions, methodology, rates, and adjustments be communicated to the Actuary prior to completion of Actuary's work so the adjustments and recommendations will be included in Actuary's completed Experience Study.*

### D. *Prior Audit Recommendations*

*Auditor will review prior "Audits" or "Reviews" of the OPEB Experience Study and determine if Actuary has implemented recommendations contained therein.*

### E. *Reporting*

*Auditor will prepare a report which includes, but is not limited to, the following elements:*

1. *Describe the purpose and scope of the engagement.*
2. *Provide the results of the engagement including observations and recommendations.*
3. *Include the results of the actuarial analysis of participant data and a comparison to Actuary's results.*
4. *Provide comments regarding Actuary's implementation of prior "Audit" or "Review" recommendations.*



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Our understanding is that these services will supplement the County's audits of the OPEB Program, and will be used to assist LACERA as it validates the reasonability of the liabilities, costs, and other calculations for the OPEB Program as of June 30, 2018.

To facilitate our review, LACERA and/or Milliman provided the following reports for the OPEB Program:

- A report produced by Milliman on July 21, 2017 titled, "Los Angeles County Employees Retirement Association 2016 Investigation of Experience for Other Postemployment Benefits Assumptions" (2016 Investigation of OPEB Program Experience Report);
- A report produced by Segal Consulting on July 21, 2017 titled, "Los Angeles County Other Postemployment Benefits Program Actuarial Review of 2016 Investigation of Experience (2016 Actuarial Review Report);
- A report produced by Milliman on June 29, 2018 titled, "Los Angeles County Employees Retirement Association Other Postemployment Benefits Program Actuarial Valuation [as of] July 1, 2017" (2017 OPEB Program Actuarial Valuation Report); and,
- A draft report dated January 24, 2019 prepared by Milliman titled, "Los Angeles County Employees Retirement Association 2018 Investigation of Experience for Other Postemployment Benefits Assumptions" (2018 Investigation of OPEB Program Experience Report).

To assess whether OPEB Program assumptions and/or methods are consistent with those used for Retirement Plan purposes, this review also references the most recent Retirement Plan valuation report, "Los Angeles County Employees Retirement Association Actuarial Valuation of Retirement Benefits [as of] June 30, 2018", issued by Milliman on November 29, 2018 (2018 Retirement Plan Actuarial Valuation Report).

The Actuarial Standards Board (ASB) is responsible for determining which actuarial activities are the best representations of generally accepted actuarial principles, and issuing guidance in the form of Actuarial Standards of Practice (ASOPs) to help actuaries in various practice areas deliver results and recommendations that are consistent with those representations. Generally speaking, ASOPs identify what the actuary should consider, document, and disclose when performing actuarial assignments.

The actuarial review requested by LACERA, as well as the reports provided for this purpose, are subject to the "coordinated guidance" provided in various ASOPs<sup>1</sup>, including but not limited to:

- ASOP No. 4, Measuring Pension Obligations and Determining Pension Plan Costs or Contributions;
- ASOP No. 5, Incurred Health and Disability Claims;
- ASOP No. 6, Measuring Retiree Group Benefits Obligations and Determining Retiree Group Benefits Program Periodic Costs or Actuarially Determined Contributions;
- ASOP No. 23, Data Quality;
- ASOP No. 25, Credibility Procedures;

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<sup>1</sup> Please note that ASOP Nos. 27, 35, and 44 can also apply to measurements of obligations and determinations of costs and/or actuarially determined contributions for retiree group benefit programs even though their titles only refer to "pensions".



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- ASOP No. 27, Selection of Economic Assumptions for Measuring Pension Obligations;
- ASOP No. 35, Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations; and,
- ASOP No. 44, Selection and Use of Asset Valuation Methods for Pension Valuations.

This report refers to ASOPs by number (e.g. ASOP 6) throughout. It is important to keep in mind that the actuarial review—and by extension, this report—only reflects the guidance provided in final releases of the aforementioned ASOPs issued by the Actuarial Standards Board on or before the date of this report.

In performing this review, we have attempted to limit discussions concerning differing opinions and focus more on the accuracy of calculations, the completeness and reliability of reporting, and the compliance with acceptable actuarial principals and standards in all of the work that we reviewed.

This report documents our findings and recommendations for each of the review tasks as well as our conclusions related to the work provided by Milliman in the 2018 Investigation of OPEB Program Experience Report. Findings related to the first review task—review of OPEB Program Data used in the 2018 Experience Study—are provided in Section III. Sections IV through XII contain results of analyses used in our review of the OPEB Program actuarial assumptions and methods, and are generally presented in the same order that each assumption appears in the 2018 Investigation of OPEB Program Experience Report. Finally, we wrap up our review in Section XIII with a summary of conclusions and considerations.



### **Section III — Review of OPEB Program Data Used in the 2018 Experience Study**

As agreed during the January 14, 2019 conference call with LACERA, Milliman, and CMC, the actuarial review of the 2018 Investigation of OPEB Program Experience Report is based on the following data provided by Milliman on January 18, 2019:

- Retirement Plan actuarial valuation census data as of June 30, 2015, June 30, 2016, June 30, 2017, and June 30, 2018;
- OPEB Program actuarial valuation census data as of June 30, 2016 and June 30, 2017, and preliminary actuarial valuation census data as of June 30, 2018; and,
- OPEB Program Experience Study data as of June 30, 2015, June 30, 2016, June 30, 2017, and June 30, 2018.

We reviewed the summaries of census data provided in the 2016 OPEB Actuarial Valuation Report, and the 2015, 2016, 2017, and 2018 Retirement Plan Actuarial Valuation Reports. We did not audit the census data, or any other information provided for both the Retirement Plan and the OPEB Program, but it was reviewed for reasonableness and consistency. In certain situations, the supplied information was adjusted to account for normal differences in collection dates and/or methods. As a result, we have no reason to doubt the substantial accuracy or completeness of the information and believe that it is reliable for the purposes stated herein.

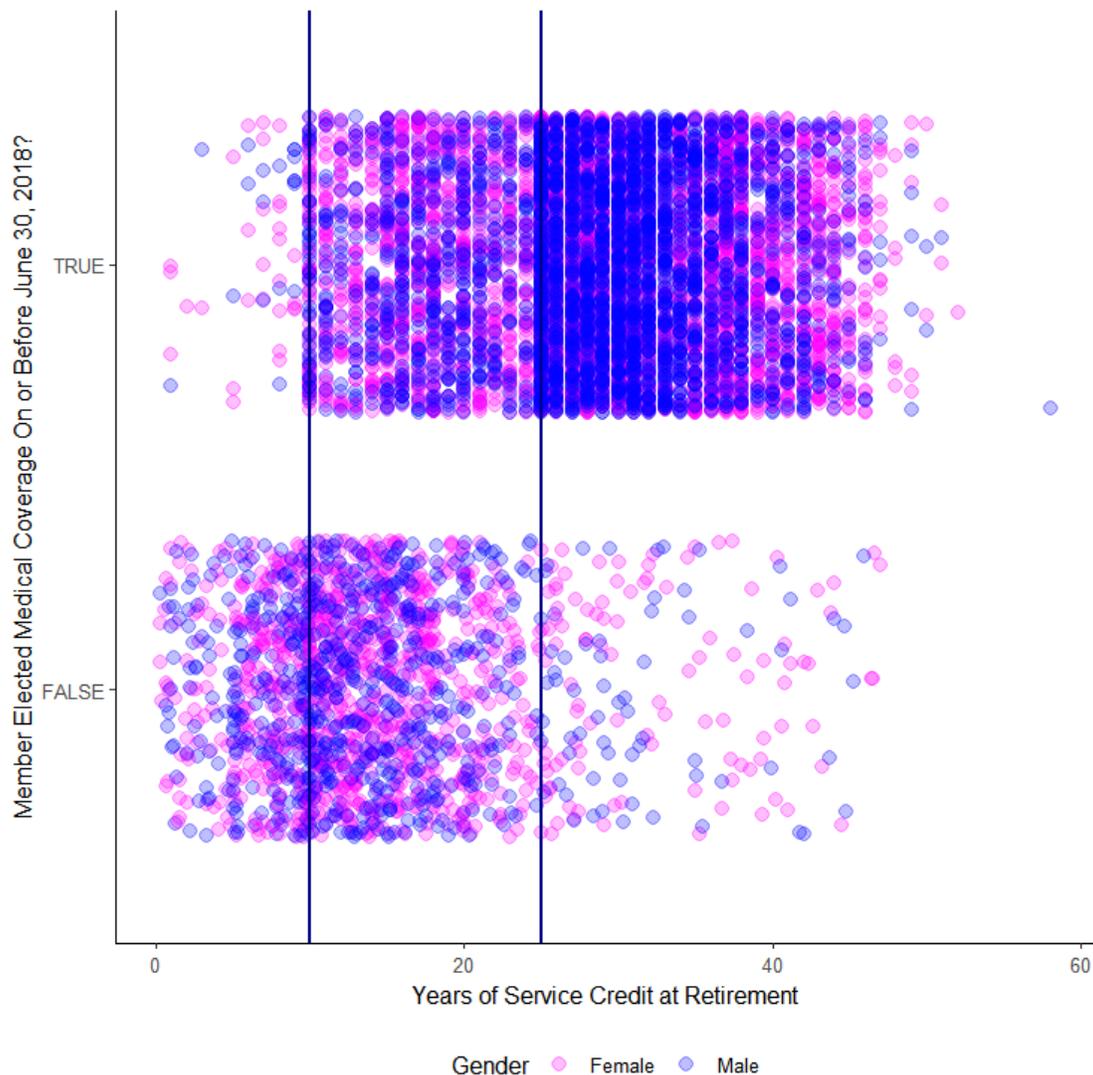
As discussed during the January 14, 2019 conference call, CMC will review the preparation of the OPEB Program census data as of June 30, 2018, including a comparison of the census data provided by LACERA with the data used by Milliman, and an evaluation of the use and appropriateness of any related assumptions, and the results of this review will be presented with the results of the forthcoming actuarial review of the 2018 OPEB Program Actuarial Valuation Report.



### Section IV — Review of Member Initial Medical Election Percentages

The provisions and design of the OPEB Program determine how plan costs are shared with members, and because cost sharing varies based on service credit at retirement, we would expect initial medical election percentages to vary based on the number of years of service credit earned at retirement. As the chart below indicates, actual experience is consistent with this expectation. Consequently, the member initial medical election assumption for those who retire is based on service. For disabled members, by contrast, the assumption is uniform regardless of service. While we believe there may be a slight service-related correlation, the comparatively limited amount of data or anticipated liability does not suggest any need for such a refinement.

**Distributions of Member Initial Medical Elections as of June 30, 2018  
Based on Gender and Years of Service Credit at Retirement**





## Los Angeles County Employees Retirement Association

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CMC independently developed exposures and initial medical election experience for members during the period from June 30, 2015 to June 30, 2018. We note that our independent development is truly independent in that we did not follow the same methodology as was used by Milliman. As the retained actuary, Milliman has built the historical data they need for valuations that allows them to be slightly more refined than we can in analyzing the experience results. By analyzing in a slightly different manner, we naturally do not expect to match their results exactly, but to the extent that our independent approach provides similar results, there is actually a higher degree of confidence in the reasonableness of their conclusions than if we were simply replicating their method.

It should be noted that we have also confirmed the reasonableness of the experience of disabled members, even though these results are not shown in the following tables. Because disability experience often unfolds across more than one fiscal year, the measures we use for analyzing retirement rates often prove to be meaningless. By taking a deeper look across multiple years and discussing the issue with Milliman, we are very comfortable in concluding that a very high portion of disabled members do indeed elect coverage.

We find the proposed rates to be reasonable. We note that with the very high election rates observed among those members who retire with more than 25 years of service, it would not be inappropriate to simplify the assumption and assume 100% elect coverage. However, there are clearly some members who do not elect coverage, and so the proposed assumption reasonably reflect that reality.



Los Angeles County Employees Retirement Association

**ANALYSIS OF MALE MEMBER INITIAL MEDICAL ELECTION PERCENTAGES**

The following tables compare the results of our analyses with those proposed in Exhibit 3–1 of the 2018 Investigation of OPEB Program Experience Report.

<b>Total Number of Members Exposed—Males</b>						
<u>Years of Service Credit Earned by Healthy Members</u>						
	<b>Under 10</b>	<b>10 – 14</b>	<b>15 – 19</b>	<b>20 – 24</b>	<b>Over 24</b>	<b>Total</b>
CMC	146	340	383	323	2,270	3,462
Milliman	157	351	387	315	2,246	3,456
<i>Pct. Difference</i>	-7.01%	-3.13%	-1.03%	2.54%	1.07%	0.17%

<b>Total Number of Member Initial Medical Elections—Males</b>						
<u>Years of Service Credit Earned by Healthy Members</u>						
	<b>Under 10</b>	<b>10 – 14</b>	<b>15 – 19</b>	<b>20 – 24</b>	<b>Over 24</b>	<b>Total</b>
CMC	4	135	224	210	2,236	2,809
Milliman	4	134	222	207	2,177	2,744
<i>Pct. Difference</i>	0%	0.75%	0.90%	1.45%	2.71%	2.37%

<b>Member Initial Medical Election Percentages—Males</b>						
<u>Years of Service Credit Earned by Healthy Members</u>						
	<b>Under 10</b>	<b>10 – 14</b>	<b>15 – 19</b>	<b>20 – 24</b>	<b>Over 24</b>	<b>Total</b>
CMC	2.74%	39.71%	58.49%	65.02%	98.50%	81.14%
Milliman	2.55%	38.18%	57.36%	65.71%	96.93%	79.40%
<i>Difference</i>	0.19%	1.53%	1.12%	-0.70%	1.57%	1.74%



## Los Angeles County Employees Retirement Association

### ANALYSIS OF FEMALE MEMBER INITIAL MEDICAL ELECTION PERCENTAGES

The following tables compare the results of our analyses with those proposed in Exhibit 3–2 of the 2018 Investigation of OPEB Program Experience Report.

<b>Total Number of Members Exposed—Females</b>						
<b><u>Years of Service Credit Earned by Healthy Members</u></b>						
	<b>Under 10</b>	<b>10 – 14</b>	<b>15 – 19</b>	<b>20 – 24</b>	<b>Over 24</b>	<b>Total</b>
CMC	192	522	609	467	3,091	4,881
Milliman	194	577	570	443	3,089	4,873
<i>Pct. Difference</i>	-1.03%	-9.53%	6.84%	5.42%	0.06%	0.16%

<b>Total Number of Member Initial Medical Elections—Females</b>						
<b><u>Years of Service Credit Earned by Healthy Members</u></b>						
	<b>Under 10</b>	<b>10 – 14</b>	<b>15 – 19</b>	<b>20 – 24</b>	<b>Over 24</b>	<b>Total</b>
CMC	15	248	367	327	3,012	3,969
Milliman	12	238	362	327	3,009	3,948
<i>Pct. Difference</i>	25.00%	4.20%	1.38%	0.00%	0.10%	0.53%

<b>Member Initial Medical Election Percentages—Females</b>						
<b><u>Years of Service Credit Earned by Healthy Members</u></b>						
	<b>Under 10</b>	<b>10 – 14</b>	<b>15 – 19</b>	<b>20 – 24</b>	<b>Over 24</b>	<b>Total</b>
CMC	7.81%	47.51%	60.26%	70.02%	97.44%	81.32%
Milliman	6.19%	41.25%	63.51%	73.81%	97.41%	81.02%
<i>Difference</i>	1.63%	6.26%	-3.25%	-3.79%	0.03%	0.30%



## Los Angeles County Employees Retirement Association

### ANALYSIS OF MALE AND FEMALE MEMBER INITIAL MEDICAL ELECTION PERCENTAGES

Because the initial medical election percentages are not significantly different for males and females, the assumption used for valuation purposes is based on combined male and female experience. The following tables compare the results of our analyses with those proposed in Exhibit 3–3 of the 2018 Investigation of OPEB Program Experience Report.

<b>Total Number of Members Exposed—Males and Females</b>						
<b><u>Years of Service Credit Earned by Healthy Members</u></b>						
	<b>Under 10</b>	<b>10 – 14</b>	<b>15 – 19</b>	<b>20 – 24</b>	<b>Over 24</b>	<b>Total</b>
CMC	338	862	992	790	5,361	8,343
Milliman	351	928	957	758	5,335	8,329
<i>Pct. Difference</i>	-3.70%	-7.11%	3.66%	4.22%	0.49%	0.17%

<b>Total Number of Member Initial Medical Elections—Males and Females</b>						
<b><u>Years of Service Credit Earned by Healthy Members</u></b>						
	<b>Under 10</b>	<b>10 – 14</b>	<b>15 – 19</b>	<b>20 – 24</b>	<b>Over 24</b>	<b>Total</b>
CMC	19	383	591	537	5,248	6,778
Milliman	16	372	584	534	5,186	6,692
<i>Pct. Difference</i>	18.75%	2.96%	1.20%	0.56%	1.20%	1.29%

<b>Member Initial Medical Election Percentages—Males and Females</b>						
<b><u>Years of Service Credit Earned by Healthy Members</u></b>						
	<b>Under 10</b>	<b>10 – 14</b>	<b>15 – 19</b>	<b>20 – 24</b>	<b>Over 24</b>	<b>Total</b>
CMC	5.62%	44.43%	59.58%	67.97%	97.89%	81.24%
Milliman	4.56%	40.09%	61.02%	70.45%	97.21%	80.35%
<i>Difference</i>	1.06%	4.35%	-1.45%	-2.47%	0.69%	0.90%



## Section V — Review of Initial Dental / Vision Election Percentages

Like the medical election rates, dental election rates are also significantly affected by the amount of service a member has at retirement. The same comments on methodology and disableds that were applicable to the initial medical election assumption are also applicable to the dental and vision election assumption. We find Milliman’s proposed assumptions to be reasonable.

### ANALYSIS OF MALE MEMBER INITIAL DENTAL / VISION ELECTION PERCENTAGES

The following tables compare the results of our analyses with those proposed in Exhibit 3–4 of the 2018 Investigation of OPEB Program Experience Report.

<b>Total Number of Members Exposed—Males</b>						
<b><u>Years of Service Credit Earned by Healthy Members</u></b>						
	<b>Under 10</b>	<b>10 – 14</b>	<b>15 – 19</b>	<b>20 – 24</b>	<b>Over 24</b>	<b>Total</b>
CMC	146	340	383	323	2,270	3,462
Milliman	157	351	387	315	2,246	3,456
<i>Pct. Difference</i>	-7.01%	-3.13%	-1.03%	2.54%	1.07%	0.17%

<b>Total Number of Member Initial Dental / Vision Elections—Males</b>						
<b><u>Years of Service Credit Earned by Healthy Members</u></b>						
	<b>Under 10</b>	<b>10 – 14</b>	<b>15 – 19</b>	<b>20 – 24</b>	<b>Over 24</b>	<b>Total</b>
CMC	6	157	238	214	2,236	2,851
Milliman	6	154	235	214	2,174	2,783
<i>Pct. Difference</i>	0.00%	1.95%	1.28%	0.00%	2.85%	2.44%

<b>Member Initial Dental / Vision Election Percentages—Males</b>						
<b><u>Years of Service Credit Earned by Healthy Members</u></b>						
	<b>Under 10</b>	<b>10 – 14</b>	<b>15 – 19</b>	<b>20 – 24</b>	<b>Over 24</b>	<b>Total</b>
CMC	4.11%	46.18%	62.14%	66.25%	98.50%	82.35%
Milliman	3.82%	43.87%	60.72%	67.94%	96.79%	80.53%
<i>Difference</i>	0.29%	2.30%	1.42%	-1.68%	1.71%	1.82%



## Los Angeles County Employees Retirement Association

### ANALYSIS OF FEMALE MEMBER INITIAL DENTAL / VISION ELECTION PERCENTAGES

The following tables compare the results of our analyses with those proposed in Exhibit 3–5 of the 2018 Investigation of OPEB Program Experience Report.

<b>Total Number of Members Exposed—Females</b>						
<b><u>Years of Service Credit Earned by Healthy Members</u></b>						
	<b>Under 10</b>	<b>10 – 14</b>	<b>15 – 19</b>	<b>20 – 24</b>	<b>Over 24</b>	<b>Total</b>
CMC	192	522	609	467	3,091	4,881
Milliman	194	577	570	443	3,089	4,873
<i>Pct. Difference</i>	-1.03%	-9.53%	6.84%	5.42%	0.06%	0.16%

<b>Total Number of Member Initial Dental / Vision Elections—Females</b>						
<b><u>Years of Service Credit Earned by Healthy Members</u></b>						
	<b>Under 10</b>	<b>10 – 14</b>	<b>15 – 19</b>	<b>20 – 24</b>	<b>Over 24</b>	<b>Total</b>
CMC	18	271	399	345	3,018	4,051
Milliman	18	260	396	344	3,018	4,036
<i>Pct. Difference</i>	0.00%	4.23%	0.76%	0.29%	0.00%	0.37%

<b>Member Initial Dental / Vision Election Percentages—Females</b>						
<b><u>Years of Service Credit Earned by Healthy Members</u></b>						
	<b>Under 10</b>	<b>10 – 14</b>	<b>15 – 19</b>	<b>20 – 24</b>	<b>Over 24</b>	<b>Total</b>
CMC	9.38%	51.92%	65.52%	73.88%	97.64%	83.00%
Milliman	9.28%	45.06%	69.47%	77.65%	97.70%	82.82%
<i>Difference</i>	0.10%	6.86%	-3.96%	-3.78%	-0.06%	0.17%



**ANALYSIS OF MALE AND FEMALE MEMBER  
INITIAL DENTAL / VISION ELECTION PERCENTAGES**

Because the initial election percentages are not significantly different for males and females, the assumption used for valuation purposes is based on combined male and female experience. The following tables compare the results of our analyses with those proposed in Exhibit 3–6 of the 2018 Investigation of OPEB Program Experience Report.

<b>Total Number of Members Exposed—Males and Females</b>						
<b><u>Years of Service Credit Earned by Healthy Members</u></b>						
	<b>Under 10</b>	<b>10 – 14</b>	<b>15 – 19</b>	<b>20 – 24</b>	<b>Over 24</b>	<b>Total</b>
CMC	338	862	992	790	5,361	8,343
Milliman	351	928	957	758	5,335	8,329
<i>Pct. Difference</i>	<i>-3.70%</i>	<i>-7.11%</i>	<i>3.66%</i>	<i>4.22%</i>	<i>0.49%</i>	<i>0.17%</i>

<b>Total Number of Member Initial Dental / Vision Elections—Males and Females</b>						
<b><u>Years of Service Credit Earned by Healthy Members</u></b>						
	<b>Under 10</b>	<b>10 – 14</b>	<b>15 – 19</b>	<b>20 – 24</b>	<b>Over 24</b>	<b>Total</b>
CMC	24	428	637	559	5,254	6,902
Milliman	24	414	631	558	5,192	6,819
<i>Pct. Difference</i>	<i>0.00%</i>	<i>3.38%</i>	<i>0.95%</i>	<i>0.18%</i>	<i>1.19%</i>	<i>1.22%</i>

<b>Member Initial Dental / Vision Election Percentages—Males and Females</b>						
<b><u>Years of Service Credit Earned by Healthy Members</u></b>						
	<b>Under 10</b>	<b>10 – 14</b>	<b>15 – 19</b>	<b>20 – 24</b>	<b>Over 24</b>	<b>Total</b>
CMC	7.10%	49.65%	64.21%	70.76%	98.00%	82.73%
Milliman	6.84%	44.61%	65.94%	73.61%	97.32%	81.87%
<i>Difference</i>	<i>0.26%</i>	<i>5.04%</i>	<i>-1.72%</i>	<i>-2.86%</i>	<i>0.68%</i>	<i>0.86%</i>



**Section VI — Review of Pre-65 Medical Plan and Tier Selection Assumptions**

**ANALYSIS OF MALE MEMBER INITIAL  
PRE-65 MEDICAL PLAN AND TIER SELECTION PERCENTAGES**

CMC independently developed initial pre-65 medical plan and tier selection percentages for male members during the period from June 30, 2015 to June 30, 2018. The following tables compare the results of our analyses with those proposed in Exhibit 4–1 of the 2018 Investigation of OPEB Program Experience Report.

Pre-65 Medical Plan Selection—Non-Local 1014 Firefighter Retirees—Males							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
201	4	0.2%	0.2%		0.5%	0.5%	0.5%
202	4	0.2%	0.2%		1.5%	0.5%	0.5%
203	20	1.1%	1.2%	-0.1%	1.0%	1.0%	1.0%
204							
205							
211	1	0.1%	0.1%		0.5%	0.5%	0.5%
212	1	0.1%	0.1%				
213	11	0.6%	0.6%		0.5%	0.5%	0.5%
214	2	0.1%	0.1%				
215							
221	75	4.1%	4.2%	-0.1%	5.5%	4.5%	4.5%
222	171	9.4%	10.1%	-0.7%	14.0%	12.5%	12.5%
223	246	13.6%	14.0%	-0.4%	10.5%	12.5%	12.5%
224	28	1.5%	1.7%	-0.2%	1.0%	1.5%	1.5%
225							
240	9	0.5%		0.5%			
241							
242	14	0.8%		0.8%			
243	2	0.1%		0.1%			
244							
245							
246							
247	3	0.1%	0.1%				
248							
249							
250	1	0.1%		0.1%			
301	4	0.2%	0.2%				
302	5	0.2%	0.3%	-0.1%		0.5%	0.5%
303	1	0.1%	0.1%				



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Pre-65 Medical Plan Selection—Non-Local 1014 Firefighter Retirees—Males							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
304							
305							
321							
322							
324							
325							
327							
329							
401	186	10.2%	10.5%	-0.3%	12.5%	12.0%	12.0%
402							
403	23	1.3%	0.3%	1.0%			
404							
405							
406	1	0.1%		0.1%			
411	561	30.9%	32.1%	-1.2%	36.0%	35.0%	35.0%
412							
413	48	2.6%	1.7%	0.9%			
414	1	0.1%		0.1%			
415							
416							
417							
418	3	0.1%		0.1%			
419							
420							
421							
422	1	0.1%		0.1%			
423	1	0.1%	0.1%				
424							
425							
426							
427							
428							
429							
430							
431							
432							
450							
451							



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Pre-65 Medical Plan Selection—Non-Local 1014 Firefighter Retirees—Males							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
452							
453							
454	1	0.1%	0.1%				
455							
456							
457							
458							
459							
460							
440							
441							
442							
443							
444							
445							
446							
461							
462							
463	1	0.1%	0.1%				
464							
465							
466							
467							
468							
469							
470							
471							
472							
473							
474	1	0.1%	0.1%				
475							
476							
477							
478							
479							
481							
482							
483							



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Pre-65 Medical Plan Selection—Non-Local 1014 Firefighter Retirees—Males							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
484	1	0.1%	0.1%				
485							
486							
487							
488							
489							
490							
491							
492							
493							
494							
495							
496							
497							
498							
611							
613							
701	2	0.1%		0.1%			
702	13	0.7%	0.5%	0.2%	0.5%	0.5%	0.5%
703	1	0.1%	0.1%				
704	5	0.2%	0.2%				
705							
706							
707	63	3.5%	3.6%	-0.1%	3.5%	3.5%	3.5%
708	127	7.0%	7.4%	-0.4%	7.0%	7.0%	7.0%
709	170	9.4%	9.9%	-0.5%	5.5%	7.5%	7.5%
Total	1,812	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%
Milliman	1,718						



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Pre-65 Medical Plan Selection—Local 1014 Firefighter Retirees—Males							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
801	20	7.2%	7.3%	-0.1%	7.0%	7.0%	7.0%
802	83	29.9%	30.4%	-0.5%	47.0%	39.0%	39.0%
803	171	61.5%	62.3%	-0.8%	46.0%	54.0%	54.0%
804							
805	4	1.4%		1.4%			
806							
807							
808							
809							
810							
811							
812							
813							
814							
815							
Total	278	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%
Milliman	276						



## Los Angeles County Employees Retirement Association

### ANALYSIS OF FEMALE MEMBER INITIAL PRE-65 MEDICAL PLAN AND TIER SELECTION PERCENTAGES

CMC independently developed initial pre-65 medical plan and tier selection percentages for female members during the period from June 30, 2015 to June 30, 2018. The following tables compare the results of our analyses with those proposed in Exhibit 4–2 of the 2018 Investigation of OPEB Program Experience Report.

Pre-65 Medical Plan Selection—Non-Local 1014 Firefighter Retirees—Females							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
201	10	0.5%	0.5%		1.0%	0.5%	0.5%
202	5	0.3%	0.2%	0.1%	0.5%	0.5%	0.5%
203	4	0.2%	0.2%			0.5%	0.5%
204	3	0.1%	0.2%	-0.1%			
205							
211	10	0.5%	0.5%		0.5%	0.5%	0.5%
212	4	0.2%	0.2%		0.5%	0.5%	0.5%
213	1	0.0%	0.1%	-0.1%			
214	3	0.1%	0.2%	-0.1%			
215							
221	149	6.8%	7.2%	-0.4%	8.0%	7.5%	7.5%
222	88	4.0%	5.9%	-1.9%	7.0%	6.5%	6.5%
223	54	2.5%	2.6%	-0.1%	2.0%	2.5%	2.5%
224	31	1.4%	1.5%	-0.1%	1.0%	1.5%	1.5%
225							
240	36	1.6%	0.2%	1.4%	0.5%	0.5%	0.5%
241	1	0.0%					
242	37	1.7%		1.7%			
243	15	0.7%	0.1%	0.6%			
244							
245							
246							
247	4	0.2%	0.2%				
248							
249							
250							
301	3	0.1%	0.2%	-0.1%			
302	2	0.1%	0.1%		0.5%		
303							
304	2	0.1%	0.1%				
305							



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Pre-65 Medical Plan Selection—Non-Local 1014 Firefighter Retirees—Females							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
321							
322							
324							
325							
327							
329							
401	544	24.7%	26.4%	-1.7%	31.0%	28.5%	28.5%
402							
403	61	2.8%	0.7%	2.1%		0.5%	0.5%
404	3	0.1%	0.1%				
405	4	0.2%		0.2%			
406							
411	459	20.8%	22.8%	-2.0%	30.0%	30.5%	30.5%
412							
413	165	7.5%	7.6%	-0.1%			
414	4	0.2%	0.2%				
415							
416							
417							
418	26	1.2%	0.1%	1.1%			
419							
420							
421							
422	3	0.1%	0.2%	-0.1%			
423							
424							
425							
426	2	0.1%		0.1%			
427							
428							
429							
430	1	0.0%					
431							
432							
450	3	0.1%	0.2%	-0.1%			
451							
452							
453							



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Pre-65 Medical Plan Selection—Non-Local 1014 Firefighter Retirees—Females							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
454							
455							
456							
457							
458							
459							
460							
440							
441							
442	1	0.0%					
443							
444							
445							
446							
461	2	0.1%	0.1%				
462							
463	1	0.0%	0.1%	-0.1%			
464							
465							
466							
467							
468							
469							
470							
471	1	0.0%	0.1%	-0.1%			
472							
473							
474							
475							
476							
477							
478							
479							
481							
482							
483							
484							
485							



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Pre-65 Medical Plan Selection—Non-Local 1014 Firefighter Retirees—Females							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
486	1	0.0%					
487							
488							
489							
490							
491							
492							
493							
494							
495							
496							
497							
498							
611	6	0.3%	0.1%	0.2%			
613	1	0.0%					
701	15	0.7%	0.2%	0.5%			
702	43	2.0%	2.1%	-0.1%	2.0%	2.0%	2.0%
703	11	0.5%	0.2%	0.3%			
704	9	0.4%	0.4%		0.5%	0.5%	0.5%
705							
706							
707	189	8.6%	9.1%	-0.5%	9.0%	9.0%	9.0%
708	116	5.3%	5.7%	-0.4%	5.0%	5.5%	5.5%
709	70	3.2%	3.4%	-0.2%	1.0%	2.5%	2.5%
Total	2,203	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%
Milliman	1,988						



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Pre-65 Medical Plan Selection—Local 1014 Firefighter Retirees—Females							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
801	2	66.7%	100.0%	-33.3%	7.0%	7.0%	7.0%
802					47.0%	39.0%	39.0%
803	1	33.3%	50.0%	-16.7%	46.0%	54.0%	54.0%
804							
805							
806							
807							
808							
809							
810							
811							
812							
813							
814							
815							
Total	3	100.0%	150.0%	-50.0%	100.0%	100.0%	100.0%
Milliman	3						

In general, we find the plan election analysis to be performed correctly. We do note that some of the assumed rates of election are less than 1%. Such a rate has very minimal impact on the total results, and we would certainly not be opposed to a simpler assumption in which these plans were grouped with some others expected to have similar costs. Because of the size of LACERA, there is certainly sufficient credible data to reasonably draw the conclusions that have been made, and so we are not suggesting a change is needed, but simply that some consideration be given to a possible simplification that would have negligible impact on the results.



**Section VII — Review of Post-64 Medical Plan and Tier Selection Assumptions**

**ANALYSIS OF MALE MEMBER INITIAL  
POST-64 MEDICAL PLAN AND TIER SELECTION PERCENTAGES**

CMC independently developed initial post-64 medical plan and tier selection percentages for male members during the period from June 30, 2015 to June 30, 2018. The following tables compare the results of our analyses with those proposed in Exhibit 4–3 of the 2018 Investigation of OPEB Program Experience Report.

Post-64 Medical Plan Selection—Non-Local 1014 Firefighter Retirees—Males							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
201	1	0.1%	0.1%				
202	1	0.1%	0.1%				
203	1	0.1%	0.1%				
204							
205							
211	2	0.2%	0.2%			0.5%	
212							
213							
214							
215							
221	10	0.9%	0.8%	0.1%	1.0%	1.0%	
222	20	1.9%	2.4%	-0.5%	3.5%	2.5%	
223	8	0.8%	0.9%	-0.1%	1.0%	1.0%	
224	2	0.2%	0.2%			0.5%	
225							
240	72	6.8%	7.2%	-0.4%	6.5%	7.0%	8.5%
241	2	0.2%	0.2%				
242	58	5.5%	5.3%	0.2%	6.5%	5.5%	8.0%
243	78	7.4%	7.1%	0.3%	6.5%	7.0%	7.0%
244							
245	5	0.4%	0.4%		0.5%	0.5%	1.0%
246							
247	14	1.3%	1.2%	0.1%		1.0%	2.0%
248	1	0.1%	0.1%				
249	6	0.5%	0.5%			0.5%	0.5%
250	2	0.2%	0.3%	-0.1%		0.5%	0.5%
301			0.1%	-0.1%			
302	1	0.1%	0.1%				
303							



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Post-64 Medical Plan Selection—Non-Local 1014 Firefighter Retirees—Males							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
304							
305							
321							
322	1	0.1%	0.1%				
324							
325							
327							
329							
401	14	1.3%	1.2%	0.1%			
402							
403	178	16.9%	17.1%	-0.2%	20.0%	18.0%	19.5%
404	3	0.3%	0.3%		1.0%	0.5%	
405	14	1.3%	1.2%	0.1%	2.0%	1.0%	
406			0.1%	-0.1%			
411	22	2.1%	2.0%	0.1%	19.5%		
412							
413	222	21.1%	21.5%	-0.4%	1.0%	21.0%	22.5%
414	2	0.2%	0.3%	-0.1%		0.5%	
415							
416							
417							
418	144	13.7%	13.1%	0.6%	14.0%	16.0%	16.0%
419	1	0.1%	0.1%		0.5%		
420					0.5%		
421							
422	9	0.9%	0.9%		2.0%	1.0%	
423					1.0%		
424							
425							
426							
427							
428							
429							
430	2	0.2%	0.2%				
431							
432							
450							
451							



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Post-64 Medical Plan Selection—Non-Local 1014 Firefighter Retirees—Males							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
452							
453							
454							
455							
456							
457							
458							
459							
460							
440							
441							
442							
443							
444							
445							
446							
461							
462							
463							
464							
465							
466							
467							
468							
469							
470							
471							
472							
473							
474							
475							
476							
477							
478							
479							
481							
482							
483							



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Post-64 Medical Plan Selection—Non-Local 1014 Firefighter Retirees—Males							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
484							
485							
486							
487							
488	1	0.1%	0.1%				
489							
490							
491							
492							
493							
494							
495							
496							
497							
498							
611	3	0.3%	0.3%		0.5%	0.5%	0.5%
613	4	0.4%	0.4%		0.5%	0.5%	0.5%
701	47	4.5%	4.2%	0.3%	3.0%	4.0%	4.0%
702	49	4.6%	4.6%		3.5%	4.5%	4.5%
703	34	3.2%	3.1%	0.1%	3.5%	3.0%	3.0%
704	17	1.6%	1.6%		1.5%	1.5%	1.5%
705	3	0.3%	0.3%		0.5%	0.5%	0.5%
706							
707							
708							
709							
Total	1,054	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%
Milliman	1,117						



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Post-64 Medical Plan Selection—Local 1014 Firefighter Retirees—Males							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
801							
802							
803							
804					7.0%	7.0%	7.0%
805	2	40.0%	50.0%	-10.0%			
806	1	20.0%	16.7%	3.3%	47.0%	39.0%	39.0%
807	2	40.0%	33.3%	6.7%			
808					46.0%	54.0%	54.0%
809							
810							
811							
812							
813							
814							
815							
Total	5	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%
Milliman	6						



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**ANALYSIS OF FEMALE MEMBER INITIAL POST-64 MEDICAL PLAN AND TIER SELECTION PERCENTAGES**

CMC independently developed initial post-64 medical plan and tier selection percentages for female members during the period from June 30, 2015 to June 30, 2018. The following tables compare the results of our analyses with those proposed in Exhibit 4–4 of the 2018 Investigation of OPEB Program Experience Report.

Post-64 Medical Plan Selection—Non-Local 1014 Firefighter Retirees—Females							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
201	3	0.1%	0.1%				
202							
203							
204							
205							
211	3	0.1%		0.1%	0.5%		
212	1	0.1%	0.1%				
213							
214							
215							
221	28	1.6%	1.6%		2.0%	1.5%	
222	12	0.6%	0.8%	-0.2%	1.0%	1.0%	
223	3	0.1%	0.1%				
224	1	0.1%		0.1%			
225							
240	213	11.4%	11.8%	-0.4%	10.5%	11.5%	13.0%
241	1	0.1%	0.1%				
242	21	1.1%	1.2%	-0.1%	1.0%	1.0%	2.0%
243	79	4.2%	4.5%	-0.3%	4.0%	4.5%	4.5%
244	3	0.1%	0.1%				
245	2	0.1%	0.1%				
246							
247	2	0.1%	0.1%				
248							
249	3	0.1%	0.1%				
250							
301							
302							
303							
304							
305							



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Post-64 Medical Plan Selection—Non-Local 1014 Firefighter Retirees—Females							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
321							
322							
324							
325							
327							
329							
401	51	2.7%	2.9%	-0.2%			
402							
403	655	35.0%	34.1%	0.9%	39.5%	38.5%	42.0%
404	14	0.8%	0.8%		2.0%	1.0%	
405	50	2.7%	2.7%		3.0%	2.5%	
406							
411	11	0.6%	0.7%	-0.1%			
412							
413	86	4.6%	4.9%	-0.3%	4.5%	5.0%	5.5%
414	1	0.1%	0.1%				
415							
416							
417							
418	299	16.0%	15.9%	0.1%	15.5%	16.5%	17.0%
419	3	0.1%	0.1%		0.5%		
420							
421							
422	9	0.5%	0.5%		0.5%	0.5%	
423							
424							
425							
426	3	0.2%	0.2%			0.5%	
427							
428							
429							
430							
431							
432							
450							
451	2	0.1%	0.1%				
452							
453							



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Post-64 Medical Plan Selection—Non-Local 1014 Firefighter Retirees—Females							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
454							
455							
456							
457							
458							
459							
460							
440							
441							
442							
443							
444							
445							
446							
461							
462	1	0.1%		0.1%			
463							
464							
465							
466							
467							
468							
469							
470							
471							
472							
473							
474							
475							
476							
477							
478							
479							
481							
482	1	0.1%		0.1%			
483							
484							
485							



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Post-64 Medical Plan Selection—Non-Local 1014 Firefighter Retirees—Females							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
486							
487							
488							
489							
490							
491							
492							
493							
494							
495							
496							
497							
498							
611	14	0.8%	0.8%		1.0%	1.0%	1.0%
613	10	0.5%	0.5%		0.5%	0.5%	0.5%
701	180	9.6%	9.3%	0.3%	9.5%	9.5%	9.5%
702	24	1.3%	1.3%		1.0%	1.0%	1.0%
703	74	3.9%	4.0%	-0.1%	3.5%	4.0%	4.0%
704	3	0.2%	0.2%				
705	4	0.2%	0.2%				
706							
707							
708							
709							
Total	1,870	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%
Milliman	2,046						



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Post-64 Medical Plan Selection—Local 1014 Firefighter Retirees—Females							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
801							
802							
803							
804	1	50.0%	50.0%		7.0%	7.0%	7.0%
805	1	50.0%	50.0%				
806					47.0%	39.0%	39.0%
807							
808					46.0%	54.0%	54.0%
809							
810							
811							
812							
813							
814							
815							
Total	2	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%
Milliman	2						

As with the pre-65 assumptions, we find the results reasonable, but believe that some simplification might be considered.



**Section VIII — Review of Dental / Vision Plan and Tier Selection Assumptions**

**ANALYSIS OF MALE MEMBER INITIAL DENTAL / VISION PLAN AND TIER SELECTION PERCENTAGES**

CMC independently developed initial dental / vision plan and tier selection percentages for male members during the period from June 30, 2015 to June 30, 2018. The following tables compare the results of our analyses with those proposed in Exhibit 4–5 of the 2018 Investigation of OPEB Program Experience Report.

Initial Dental / Vision Plan Selection—Males							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
501	600	18.8%	18.7%	0.1%	20.0%	19.0%	19.0%
502	2,198	68.7%	69.0%	-0.3%	67.0%	68.0%	68.0%
503							
901	124	3.9%	3.8%	0.1%	4.0%	4.0%	4.0%
902	276	8.6%	8.5%	0.1%	9.0%	9.0%	9.0%
903							
Total	3,198	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%
Milliman	3,154						

**ANALYSIS OF FEMALE MEMBER INITIAL DENTAL / VISION PLAN AND TIER SELECTION PERCENTAGES**

CMC independently developed initial dental / vision plan and tier selection percentages for female members during the period from June 30, 2015 to June 30, 2018. The following tables compare the results of our analyses with those proposed in Exhibit 4–5 of the 2018 Investigation of OPEB Program Experience Report.

Initial Dental / Vision Plan Selection—Females							
Deduction Code	Number Enrolled	CMC Pct.	Milliman Pct.	Difference	Current Assumption	Proposed Assumption Tier 1	Proposed Assumption Tier 2
501	1,898	45.4%	45.3%	0.1%	46.0%	46.0%	46.0%
502	1,727	41.4%	41.6%	-0.2%	39.0%	40.0%	40.0%
503							
901	330	7.9%	7.8%	0.1%	9.0%	8.0%	8.0%
902	222	5.3%	5.3%		6.0%	6.0%	6.0%
903							
Total	4,177	100.0%	100.0%	0.0%	100.0%	100.0%	100.0%
Milliman	4,133						



**Section IX — Review of Pre-65 to Post-64 Medical Plan Migration Assumptions**

CMC independently developed the frequencies of member medical plan enrollment decisions for those who reached Medicare-eligibility age during the period from June 30, 2015 to June 30, 2018 and were enrolled in a pre-65 medical plan immediately prior to attaining age 65. The following tables compare the results of our analyses with those proposed in Exhibit 4–6 of the 2018 Investigation of OPEB Program Experience Report.

Pre-65 to Post-64 Medical Plan Migration Assumptions					
Eligible Plan	Pre-Medicare	Post-Medicare	Number of Enrollments		Difference
			CMC	Milliman	
Anthem Blue Cross I					
		Anthem Blue Cross I	31	32	-1
		Anthem Blue Cross II	0	0	
		Anthem Blue Cross III	36	42	-6
		Other	<u>1</u>	<u>1</u>	
		<b>Total</b>	<b>68</b>	<b>75</b>	<b>-7</b>
Anthem Blue Cross II					
		Anthem Blue Cross I	0	0	
		Anthem Blue Cross II	324	324	
		Anthem Blue Cross III	404	404	
		United Healthcare Medicare Advantage	0	0	
		Excess II	0	0	
		Two+ Advantage	1	1	
		Other	<u>6</u>	<u>7</u>	-1
		<b>Total</b>	<b>735</b>	<b>736</b>	<b>-1</b>
Anthem Blue Cross Prudent Buyer Plan					
		Anthem Blue Cross I	0	0	
		Anthem Blue Cross II	4	4	
		Anthem Blue Cross III	53	54	-1
		Anthem Blue Cross Prudent Buyer Plan	36	43	-7
		Other	<u>1</u>	<u>1</u>	
		<b>Total</b>	<b>94</b>	<b>102</b>	<b>-8</b>



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Pre-65 to Post-64 Medical Plan Migration Assumptions					
Eligible Plan	Pre-Medicare	Post-Medicare	Number of Enrollments		
			CMC	Milliman	Difference
CIGNA Network Model Plan					
		Anthem Blue Cross I	0	0	
		Anthem Blue Cross II	0	0	
		Anthem Blue Cross III	11	12	-1
		CIGNA Medicare Select Plus Rx (AZ)	2	4	-2
		CIGNA Network Model Plan	18	21	-3
		United Healthcare Medicare Advantage	5	7	-2
		Senior Advantage	1	1	
		One Advantage, Others Basic	0	0	
		SCAN Health Plan	3	4	-1
		Other	<u>0</u>	<u>0</u>	
		<b>Total</b>	<b>40</b>	<b>49</b>	<b>-9</b>
United Healthcare					
		United Healthcare Medicare Advantage	280	281	-1
		CIGNA Network Model Plan	2	2	
		Anthem Blue Cross I	1	1	
		Anthem Blue Cross II	7	7	
		Anthem Blue Cross III	31	32	-1
		SCAN Health Plan	8	8	
		Senior Advantage	8	8	
		One Advantage, Others Basic	0	0	
		One Advantage, One Excess II	0	0	
		Excess II	10	11	-1
		One Excess II, One Basic	6	8	-2
		One Excess III (MNP), One Basic	0	0	
		Other	<u>5</u>	<u>4</u>	<u>1</u>
		<b>Total</b>	<b>358</b>	<b>362</b>	<b>-4</b>



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Pre-65 to Post-64 Medical Plan Migration Assumptions					
Eligible Plan	Pre-Medicare	Post-Medicare	Number of Enrollments		
			CMC	Milliman	Difference
Kaiser Retiree Basic					
		Senior Advantage	775	777	-2
		Excess I	29	30	-1
		Excess II	133	134	-1
		Excess III (MNP)	30	32	-2
		Anthem Blue Cross I	1	1	
		Anthem Blue Cross III	18	19	-1
		United Healthcare Medicare Advantage	0	0	
		Kaiser Retiree Basic	5	9	-4
		One Advantage, Others Basic	5	6	-1
		One Excess III (MNP), One Basic	0	0	
		Other	13	13	
		<b>Total</b>	<b>1,009</b>	<b>1,021</b>	<b>-12</b>
Kaiser Family Basic					
		Two+ Advantage	91	91	
		One Advantage, One Excess II	1	1	
		One Advantage, One Excess III (MNP)	2	3	-1
		One Advantage, Others Basic	398	400	-2
		One Excess I, One Advantage	4	4	
		One Excess I, Others Basic	29	30	-1
		One Excess I, Others Excess II	1	1	
		One Excess II, One Basic	80	79	1
		One Excess II, Others Excess III (MNP)	0	0	
		One Excess III (MNP), One Basic	20	21	-1
		Two+ Excess II - Part B	1	1	
		CIGNA Network Model Plan	0	0	
		Excess II	3	4	-1
		Excess III (MNP)	1	1	
		Anthem Blue Cross III	8	8	
		United Healthcare Medicare Advantage	0	0	
		Senior Advantage	21	22	-1
		Kaiser Family Basic	1	1	
		Other	19	14	5
		<b>Total</b>	<b>680</b>	<b>681</b>	<b>-1</b>



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Pre-65 to Post-64 Medical Plan Migration Assumptions					
Eligible Plan	Pre-Medicare	Post-Medicare	Number of Enrollments		
			CMC	Milliman	Difference
One Advantage, Others Basic					
		Senior Advantage	2	2	
		Two+ Advantage	307	308	
		One Advantage, One Excess II	7	7	
		One Advantage, One Excess III (MNP)	7	7	
		One Advantage, Others Basic	42	41	1
		One Excess I, One Advantage	7	7	
		Anthem Blue Cross III	3	3	
		Anthem Blue Cross I	0	0	
		Anthem Blue Cross II	0	0	
		Excess III (MNP)	0	0	
		One Excess III (MNP), One Basic	0	1	-1
		Other	<u>6</u>	<u>5</u>	1
		<b>Total</b>	<b>381</b>	<b>381</b>	<b>0</b>
Firefighters Local 1014					
		Firefighters Local 1014	146	155	-9
		Other	<u>0</u>	<u>0</u>	
		<b>Total</b>	<b>146</b>	<b>155</b>	<b>-9</b>
<b>All Pre-Medicare Plans</b>		<b>Total</b>	<b>3,511</b>	<b>3,562</b>	<b>-51</b>

The Plan's experience during the three year study period is consistent with current assumptions, and the adjustments recommended by Milliman appear to be reasonable. Additionally, we agree with the proposed assumptions for Tier 2 members, because our understanding is that these members must enroll in Medicare when they reach Medicare-eligibility age in order to be eligible to elect a post-64 medical plan.



**Section X — Review of Retirement Rates for Deferred Vested Members**

**ANALYSIS OF ASSUMED RETIREMENT RATES FOR DEFERRED VESTED MEMBERS—GENERAL PLANS A, B, C, AND D**

CMC independently developed the percentages of members with deferred vested pension benefits under General Plans A, B, C, and D who will retire at a given age based on experience during the period from June 30, 2015 to June 30, 2018. Milliman actually used two additional years of data, so we would expect there to be some differences in our results. The general concurrence of the two sets of results actually further strengthens our confidence in the resulting conclusion, because the possible influence of some unusual year is significantly reduced by not using all of the same years. The following table compares the results of our analyses with those proposed in Exhibit 5–1 of the 2018 Investigation of OPEB Program Experience Report.

Age	Observed Rates		Ratio of Rates (CMC / Milliman)
	CMC	Milliman	
50	12.8%	18.5%	0.690
51	3.6%	4.5%	0.812
52	5.2%	5.8%	0.890
53	2.3%	3.9%	0.589
54	6.8%	5.3%	1.275
55	10.8%	10.3%	1.041
56	6.3%	6.6%	0.955
57	6.2%	5.9%	1.055
58	8.2%	6.5%	1.249
59	8.6%	8.6%	0.994
60	10.3%	11.7%	0.880
61	8.2%	10.2%	0.804
62	14.0%	15.3%	0.915
63	22.9%	20.9%	1.092
64	19.5%	20.7%	0.940
65	38.3%	27.6%	1.387
66	22.3%	26.3%	0.849
67	14.4%	17.4%	0.832
68	20.2%	21.9%	0.923
69	28.3%	29.9%	0.947
70	56.3%	44.4%	1.266
71	41.7%	50.0%	0.833
72	50.0%	42.9%	1.167
73	40.0%	63.6%	0.629
74	66.7%	10.0%	6.667
75+	22.7%	15.4%	1.477
Total	11.0%	11.6%	0.948



**ANALYSIS OF ASSUMED RETIREMENT RATES FOR DEFERRED VESTED MEMBERS—GENERAL PLAN E**

CMC independently developed the percentages of members with deferred vested pension benefits under General Plan E who will retire at a given age based on experience during the period from June 30, 2015 to June 30, 2018. As with Plans A-D, Milliman used two additional years of data, so the comments made earlier apply here as well. The following table compares the results of our analyses with those proposed in Exhibit 5–2 of the 2018 Investigation of OPEB Program Experience Report.

Age	Observed Rates		Ratio of Rates
	CMC	Milliman	(CMC / Milliman)
55	15.3%	25.3%	0.603
56	5.4%	6.2%	0.883
57	3.4%	5.6%	0.614
58	4.2%	3.3%	1.261
59	4.5%	5.4%	0.847
60	5.3%	6.3%	0.836
61	5.3%	7.2%	0.738
62	7.0%	7.5%	0.938
63	6.5%	7.4%	0.882
64	21.5%	22.4%	0.962
65	36.4%	38.4%	0.946
66	11.4%	13.3%	0.856
67	7.3%	7.3%	1.000
68	4.1%	8.7%	0.469
69	5.4%	10.4%	0.520
70	11.7%	14.5%	0.810
71	10.8%	21.4%	0.503
72	17.1%	12.7%	1.347
73	0.0%	10.5%	0.000
74	0.0%	19.2%	0.000
75+	1.8%	7.4%	0.237
Total	7.6%	11.7%	0.650

The total number of members with deferred vested pension benefits under Safety Plans A and B shown in Exhibit 5-3 are low relative to the other Plan groups (99 total actual retirement observations). As a result, CMC did not independently develop rates of retirement for these members.



## Section XI — Review of Other OPEB Demographic Assumptions

### ANALYSIS OF DIFFERENCES IN MEMBER AGES AND AGES OF ENROLLED SPOUSES

CMC performed a high-level review of the average differences in member ages and the ages of enrolled spouses based only on the experience of retired members who were enrolled in a medical plan as of June 30, 2018, and had a spouse date of birth on his or her record. This method of collection differs from Milliman since they have been able to accumulate new retirees each year over a period of time. As a result, we do not have some individuals who are no longer in the data (because of discontinuing coverage or death), or possibly where spousal coverage has changed. Thus, our counts are lower, but we do not anticipate a significant bias in the results.

The following table summarizes the results:

Actual Experience	Male Retirees		Female Retirees	
	Number	Average Age Difference in Years (Males Older Than Females)	Number	Average Age Difference in Years (Males Older Than Females)
CMC—All Retirees	14,860	3.8	7,186	1.9
CMC—Recent Retirees	3,558	3.2	2,542	2.1
Milliman—All Retirees	17,110	4.4	9,060	1.5
Milliman—Recent Retirees	3,825	3.7	2,919	1.7

A more in-depth review would have considered historical spouse information, information for spouses of survivors (if eligible), and/or the relevant spouse information for those retirees who elected to only enroll in a dental / vision coverage option (as we believe Milliman has done). However, as shown in the table above, the average age differences produced by this streamlined method are consistent with the results contained in Section 6 of the 2018 Investigation of OPEB Program Experience Report.

We also note that the proposed assumptions concerning the average difference in male and female member ages and the ages of enrolled spouses provided in the 2018 Investigation of OPEB Program Experience Report are consistent with the assumptions used in the 2018 Retirement Plan Actuarial Valuation Report (please see the description under “Probability of Eligible Survivors” on page A-6). This consistency is an additional support of Milliman’s proposed assumption.



### **ANALYSIS OF MEDICARE ENROLLMENT FOR ANTHEM BLUE CROSS I, II, AND PRUDENT BUYER PLANS**

Section 6 of the 2018 Investigation of OPEB Program Experience Report contains the following description of the Medicare enrollment assumptions for members who are enrolled in Anthem Blue Cross I, II, and Prudent Buyer Plans:

*“Our July 1, 2017 OPEB valuation assumed that members in Blue Cross I, II, and Prudent Buyer were not eligible for Medicare Part B premium reimbursement. We checked the validity of this assumption based on July 1, 2016, 2017 and 2018 enrollment information. Medicare Part A information from LACERA for both inactives and actives was incomplete, so we relied on the Medicare Part B indicator. There were not any members in the Blue Cross I, II, and Prudent Buyer plans who were in Medicare Part B. We recommend continuing with the current assumption for Tier 1. We will assume Tier 2 members will enroll in Medicare Parts A and B.”*

CMC reviewed the OPEB Program census data provided by Milliman, and agree that records for members who are age 65 or older and enrolled in Anthem Blue Cross I, II, and Prudent Buyer Plans do not contain Medicare Part B premium amounts.

### **ANALYSIS OF SURVIVOR AND NEW DEPENDENT ENROLLMENT ASSUMPTIONS**

CMC did not review the results that support the survivor and new dependent enrollment assumptions provided in Section 6 of the 2018 Investigation of OPEB Program Experience Report because (1) the number of observations is small relative to the total population of retirees and their dependents and (2) any variance in these rates are unlikely to have a material impact on the OPEB Program actuarial valuation as of June 30, 2018.



## Section XII — Review of OPEB Program Economic Assumptions

### DISCOUNT RATE

ASOP 6 does not provide specific guidance concerning the selection of discount rates for the purpose of measuring retiree group benefit plan obligations or establishing actuarially determined contribution amounts for these plans. In this case, Section 3.12.1 in that Standard requires the actuary to comply with the guidance contained in ASOP 27<sup>1</sup>, Selection of Economic Assumptions for Measuring Pension Obligations. Actuaries are instructed to give the purpose of the measurement a significant weighting among the factors considered in the selection of a discount rate (ASOP 27 Section 3.9).

The OPEB Program has dedicated assets, and our understanding is that the development of an actuarially determined contribution rate (as a percentage of covered payroll) for the Plan is a potential objective for the forthcoming 2018 OPEB Program Actuarial Valuation Report. As a result, CMC believes that the appropriate basis for the selection of a discount rate as of June 30, 2018 is the anticipated investment return for the OPEB Program fund (i.e. the expected long-term rate of return on plan assets) based on the guidance in Section 3.9(a) of ASOP 27, in large part, because the alternative bases listed in that Section would likely not be appropriate for contribution budgeting purposes. (Note that if some employers are not funding their portion of the OPEB Program, a different rate may be more appropriate.)

An expected long-term rate of return on plan assets assumption equal to 6.00% as of June 30, 2018 was disclosed in the 2018 Investigation of OPEB Program Experience Report. This assumption was selected “based on the Trust’s investment policy and Meketa’s current capital market assumptions and investment forecast model”.

CMC reviewed the expected long-term rate of return assumption contained in the 2018 Investigation of OPEB Program Experience Report based on the guidance provided in Section 3.8 of ASOP 27 addressing the selection of an investment return assumption. Our review is based on a model that uses expected arithmetic returns for a given investment horizon to determine the underlying log-normally distributed (i.e. “geometric”) returns for each asset class and for the entire portfolio, and reflects the following inputs:

- The 2.75% expected long-term rate of inflation (CPI-U) as of June 30, 2018 provided in the 2018 Investigation of OPEB Program Experience Report. Although we did not explicitly review the expected long-term rate of inflation, we believe that the assumption selected by LACERA is reasonable for the purposes stated herein;
- The OPEB Program asset allocation<sup>2</sup> provided in the 2018 Investigation of OPEB Program Experience Report; and,
- Expected future nominal and real (expected return, net of investment expense and inflation) rates of return, standard deviations of returns, and correlation coefficients (relative to all other returns) for each major asset class published by Horizon Actuarial Services, LLC in its “*Survey of Capital Market Assumptions, 2018 Edition*”.

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<sup>1</sup> Please note that ASOP No. 27 can also apply to measurements of obligations and determinations of costs and/or actuarially determined contributions for retiree group benefit programs even though their titles only refer to “pensions”.

<sup>2</sup> We did not verify the asset allocation that appears in the 2018 Investigation of OPEB Plan Experience Report because this exercise does not fall within the scope of this assignment.



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The resulting long-term expected rate of return is equal to the geometric combination of the allocation-weighted average expected future real rate of return of the portfolio and the expected long-term rate of inflation.

The development of the expected long-term rate of return based on the OPEB Program's asset allocation and the estimates of arithmetic real rates of return for each major asset class is provided in the table below:

Asset Class <sup>1</sup>	Target Allocation	Expected 10-Year Arithmetic Real Rate of Return	Standard Deviation
US Equity—Large Cap	35.00%	5.10%	16.39%
US Equity—Small/Mid Cap	10.00%	6.25%	20.20%
Non-US Equity—Developed	5.00%	6.12%	18.67%
Non-US Equity—Emerging		8.28%	24.89%
US Corporate Bonds—Core	8.00%	1.30%	5.71%
US Corporate Bonds—Long Duration		1.66%	10.83%
US Corporate Bonds—High Yield	16.00%	3.05%	10.24%
Non-US Debt—Developed		0.13%	6.86%
Non-US Debt—Emerging	4.00%	3.39%	11.43%
US Treasuries (Cash Equivalents)	2.00%	0.31%	2.74%
TIPS (Inflation-Protected)	6.00%	0.84%	6.25%
Real Estate	10.00%	4.65%	13.86%
Hedge Funds		3.05%	7.87%
Commodities	4.00%	3.22%	17.60%
Infrastructure		5.37%	14.74%
Private Equity		8.48%	22.16%
Total Portfolio	100.00%	4.09%	10.90%
Expected Long-term Real Return		3.47%	
Expected Long-term Rate of Inflation		2.75%	
Expected Long-term Rate of Return		$1.0347 \times 1.0275 - 1 = 6.32\%$	
Expected Long-term Rate of Return Selected		6.00%	

Based on the results shown in the table above, CMC agrees that the 6.00% expected long-term rate of return selected by LACERA is reasonable for the purposes described above. We do note that for accounting purposes under Governmental Accounting Standards Board Statements 74 and 75, the effective rate used may be a blend of this long-term rate and a current bond index rate, as required in those standards.

<sup>1</sup> The "Survey of Capital Market Assumptions, 2018 Edition" published by Horizon Actuarial Services, LLC, does not include results for all possible classes of investable assets. As a result, we mapped allocations of OPEB Plan investments to asset classes that were not explicitly represented in survey results to a reasonable alternative that was included.



## LONG-TERM HEALTH CARE COST TREND RATES

Annual per capita health care claims costs are expected to increase in future years as a result of medical inflation, utilization, leverage in the plan design, and improvements in technology adjusted for any implicit and/or explicit cost containment features. Long-term health care trend rates are typically used to reflect an assumed pattern of annual increases in expected health care claims costs and contributions (if applicable) during each period subsequent to the measurement date. ASOP 6 provides specific guidance concerning the selection of long-term health care cost rates for the purpose of measuring retiree group benefit plan obligations or establishing actuarially determined contribution amounts for these plans.

CMC reviewed the proposed long-term medical cost trend rates (Medical Trend Rates) provided in the 2018 Investigation of OPEB Program Experience Report. Milliman selected Medical Trend Rates based on the Society of Actuaries (SOA) Long Term Healthcare Cost Trends Model (v2019\_b), which is often referred to as the “Getzen Model” because it was originally developed by Professor Thomas E. Getzen for the SOA. We note that one common criticism of the Getzen Model is that it generates a longer transition period from short-term trend rates to ultimate trend rates when compared to transition periods produced by other models. Another criticism, somewhat less commonly voiced, is that the Getzen Model is not elastic with respect to the development of trend rates for health care cost components, such as in-patient, out-patient, professional services, and prescription drug costs.

Our understanding is that Milliman has modified the Getzen Model to reflect:

- An offset to correct the implicit aging of the population—an artifact of the Getzen Model development process—included in trend rates as required under Section 3.12.1(a) of ASOP 6;
- An adjustment equal to the expected long-term rate of inflation plus 0.75% to reflect future changes in carrier administrative costs as recommended under Section 3.12.1(a) of ASOP 6;
- Adjustments to reflect the potential cost impacts of changes that may be applicable to certain health care plans under the Affordable Care Act (ACA), including but not limited to the excise tax on high-value health insurance plans, the cost of mandated benefits, and the addition of fees, such as the Patient-Centered Outcomes Research Institute (PCORI) fee, in accordance with the guidance provided in Section 3.12.1(a) of ASOP 6; and,
- Adjustments, if needed, to produce trend rates that are rounded to the nearest 0.1%.

CMC believes that the modifications outlined above are reasonable for the purposes stated herein.

The Getzen Model produces short-term, intermediate-term, and long-term rates based on various inputs provided by the user. Milliman selected the following inputs to calibrate the Getzen Model for the OPEB Program:

- Trends through 2022—These trend rates are based on information provided by LACERA’s health consultant, and reflect actual experience and changes as required under Section 3.7.11 of ASOP 6.
- 2028 GDP Percentage Share—The assumed percentage of the Gross Domestic Product dedicated to health care costs in 2028. The recommended range of percentages provided in the SOA-published “Getzen Model Long-Run Medical Cost Trends: Update for 2019 – 2028+” (2019 Getzen Model Manual) for the assumed health share of GDP in 2028 is 17.5% to 23.5%. Milliman selected the recommended value from the 2019 Getzen Model Manual—a 20.5% health share of GDP in 2028.



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- **Inflation Rate**—The recommended range for inflation rates provided in the 2019 Getzen Model Manual is 1.50% to 4.00%. As required under Section 3.12 of ASOP 27, Milliman selected a 2.75% inflation assumption, which is consistent with the expected long-term rate of inflation selected by LACERA and used for various purposes as of June 30, 2018.
- **Real GDP Per Capita Growth**—The expected growth in Real GDP during future periods. Table II.C1 in the 2018 Medicare Trustees Report shows a range of real wage growth rates from 0.60% (“Low-Cost”) to 1.80% (“High-Cost”). Milliman selected the recommended value from the 2019 Getzen Model Manual—1.50% per year growth in Real GDP.
- **Excess Medical Cost Growth**—The ratio of expected increases in health care expenditures over expected increases in income and wages. Milliman selected the 1.20% recommended value for this parameter provided in the 2019 Getzen Model Manual.
- **GDP Resistance Point and Limit Year**—The projected health share of GDP percentage where additional increases in costs meet resistance and the year in which this limit is expected to be reached. Milliman selected the 25.0% recommended value for the GDP Resistance Point, and 2075 for the GDP Limit Year, provided in the 2019 Getzen Model Manual.

The values listed above for the parameters used in the Getzen Model are all within ranges produced and accepted by researchers, forecasters, government officials, and other interested parties, and appear to meet the criteria outlined in Section 3.6 of ASOP 27, as well as the requirements in Section 3.12.5 of ASOP 6, concerning the selection of reasonable assumptions. As a result, CMC believes that the inputs selected by Milliman for the purposes of calibrating the Getzen Model for the OPEB Program are reasonable. Overall, CMC did not uncover any concerns with the parameters or modifications employed by Milliman in their use of the Getzen Model, and we have determined that the Getzen Model described above is an acceptable basis for the selection of long-term medical cost trend rates for the OPEB Program.

CMC also reviewed the proposed long-term dental / vision cost trend rates provided in the 2018 Investigation of OPEB Program Experience Report. Milliman selected a 4.25% underlying dental / vision trend rate, which was developed based on the expected long-term rate of inflation (2.75%) plus 1.50%. As required under Section 3.12 of ASOP 27, these parameters are consistent with the values selected for similar inputs used in the development of long-term medical cost trend rates. CMC believes that the inputs selected by Milliman for the purposes of developing the 4.25% underlying dental / vision trend rate are reasonable.

### **MEDICARE PART B PREMIUM TREND RATES**

CMC reviewed the proposed Medicare Part B premium trend rates contained in Exhibit 7–6 in the 2018 Investigation of OPEB Program Experience Report. The proposed Medicare Part B premium trend rates initially start at 9.40% and grade down to an ultimate rate equal to 4.30%. Medicare Part B Premium increases are subject to a statutory “hold harmless” provision that limits annual increases in Part B premiums to the increase, if any, included in Social Security benefits. According to a 2017 CMS announcement, this “hold harmless” provision usually applies to approximately 70% percent of Part B enrollees each year, but the percentage of “hold harmless Part B enrollees” who will pay less than the full monthly premium was projected to drop to around 28% in 2018. In late 2018, CMS estimated that only about 3.50% of “hold-harmless Part B enrollees” were expected to pay less than the full 2019 monthly premium. Based on this anecdotal evidence, we would expect to see a large initial trend rate followed by more-or-less steady state trends in subsequent periods. The proposed Medicare Part B trend rates follow this pattern. As a result, we believe that the proposed trend rates are reasonable for the purposes stated herein.



## Section XIII — Findings and Conclusions from the Actuarial Review

**In general, we find Milliman’s work to be accurate and complete, and we have not identified any material findings.**

We have no findings of material discrepancies with generally accepted actuarial principles or professional standards, and our recommendations are limited to suggesting minor improvements to the OPEB Program Experience Study process. We have summarized our recommendations for future experience studies:

- In our report, we identified some areas in which we believe there could be some simplification of assumptions. We recognize that there may be valid reasons for the more complex assumptions, and do not disagree with those assumptions. However, some simplification could be made with only a very minor change in results.
- In our opinion, it is helpful to add some commentary as to the rationale in changing assumptions. This helps provide documentation of the thought process behind the recommended changes. While Milliman does this to some extent, we would suggest they expand this discussion. This is a preference issue, of course, and we recognize that each firm and consultant have personal styles, and that the client’s wishes are also a significant consideration.

As part of the actuarial review of the 2018 OPEB Program Actuarial Valuation Report scheduled later this year, we will be reviewing Milliman’s valuation process and confirming the valuation results. As part of that project, we will be reviewing the reasonableness of Milliman’s estimated cost impact of the proposed assumption changes. While we are not able to fully quantify the changes at this point, we believe the changes are reasonable in light of general actuarial rules of thumb and our experience with other OPEB plans.