



# San Antonio Fire and Police Pension Fund

## 2023 Actuarial Audit for the City of San Antonio

*Final Actuarial Audit Report in Accordance with Section 802.1012(h) of the Texas Government Code*

Prepared by:

**R. Ryan Falls, FSA, EA**  
Consulting Actuary

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May 2, 2024

Ms. Melanie S Keeton, CPA  
Assistant Finance Director, Accounting  
City of San Antonio, Finance Department  
PO Box 839966  
San Antonio, Texas 78283-3966

Re: 2023 Actuarial Audit in Accordance with Texas Government Code §802.1012  
**San Antonio Fire and Police Pension Fund**

Dear Ms. Keeton:

Milliman is pleased to present this report of an actuarial audit of the San Antonio Fire and Police Pension Fund (SAFPPF) and SAFPPF's retained actuary, Segal, for the City of San Antonio, Texas. The following documents are intended to demonstrate that the plan sponsor has complied with Section 802.1012 of the Texas Government Code which requires an actuarial audit of public retirement systems with total assets of at least \$100 million every five years.

The following three documents will constitute the final actuarial audit report, as required by Section 802.1012(h) of the Texas Government Code:

1. This cover letter,
2. Preliminary draft of the actuarial audit report, dated March 21, 2024, which was provided to SAFPPF and SAFPPF's retained actuary on March 21, 2024, and
3. The retained actuary's response to the preliminary draft of the actuarial audit report, dated April 16, 2024.

Following the delivery of the preliminary draft of the actuarial audit report to SAFPPF and SAFPPF's retained actuary on March 21, 2024, Milliman requested a response to the preliminary draft, as required by Section 802.1012(g) of the Texas Government Code. The retained actuary provided a response to the preliminary draft on behalf of SAFPPF on April 16, 2024.

Milliman is pleased to report that, based on our review of the census data, experience study documents, liability replications, and actuarial valuation reports, we believe the January 1, 2023 actuarial valuation for SAFPPF is reasonable, based on reasonable assumptions and methods, and the report generally complies with the Actuarial Standards of Practice.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuary is independent of SAFPPF, SAFPPF's retained actuary, and the City of San Antonio. I am not aware of any relationship that would impair the objectivity of our work.



City of San Antonio, Texas  
May 2, 2024  
Page 2

I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

I respectfully submit the following report, and I look forward to discussing it with you.

Sincerely,

A handwritten signature in black ink that reads "R. Ryan Falls". The signature is written in a cursive, flowing style.

---

R. Ryan Falls, FSA, EA  
Consulting Actuary



# San Antonio Fire and Police Pension Fund

## 2023 Actuarial Audit for the City of San Antonio

*Preliminary Draft in Accordance with Section 802.1012(f) of the Texas Government Code*

Prepared by:

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March 21, 2024

Ms. Melanie S Keeton, CPA  
Assistant Finance Director, Accounting  
City of San Antonio, Finance Department  
PO Box 839966  
San Antonio, Texas 78283-3966

Re: 2023 Actuarial Audit in Accordance with Texas Government Code §802.1012  
**San Antonio Fire and Police Pension Fund**

Dear Ms. Keeton:

The enclosed report presents the findings from our actuarial audit of the San Antonio Fire and Police Pension Fund (SAFPPF) and SAFPPF's retained actuary, Segal, for the City of San Antonio, Texas. An overview of our major recommendations is included in the Executive Summary section of the report. More detailed commentary on our review process is included in the latter sections.

All calculations are based on SAFPPF's benefit provisions and the actuarial assumptions adopted by the SAFPPF Board of Trustees (the Board). Our actuarial audit uses the same benefit provisions, assumptions and methods as those disclosed in the retained actuary's January 1, 2023 valuation report and additional actuarial valuations, studies, and reports for SAFPPF over the past five years. As discussed in our report, we believe the package of actuarial assumptions and methods is reasonable, taking into account the experience of SAFPPF and reasonable expectations for future experience. Nevertheless, the emerging costs will vary from those presented in this report to the extent that actual experience differs from that projected by the actuarial assumptions. Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as the following:

- System experience differing from the actuarial assumptions,
- Future changes in the actuarial assumptions,
- Increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as potential additional contribution requirements due to changes in SAFPPF's funded status), and
- Changes in the benefit provisions or accounting standards.

Due to the scope of this assignment, we did not perform an analysis of the potential range of such measurements.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the SAFPPF staff and the retained actuary. This information includes, but is not limited to, statutory provisions, employee data, and financial information. In our examination of these data, we have found them to be reasonably consistent and comparable with data used for other purposes. Since the actuarial audit results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete or missing. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

Our replication of valuation results was developed using models intended for valuations that use standard actuarial techniques. We have reviewed the models, including their inputs, calculations, and outputs for consistency, reasonableness, and appropriateness to the intended purpose and in compliance with generally accepted actuarial practice and relevant actuarial standards of practice. When reviewing the long-term investment return assumption discussed in Section 6, we relied upon a model developed by Milliman colleagues who are credentialed investment professionals with expertise in capital market modeling.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the principles prescribed by the Actuarial Standards Board and the *Code of Professional Conduct and Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States*, published by the American Academy of Actuaries.

Milliman's work product was prepared exclusively for the City of San Antonio for a specific and limited purpose. It is a complex, technical analysis that assumes a high level of knowledge concerning SAFPPF's operations, and uses SAFPPF's data, which Milliman has not audited. It is not for the use or benefit of any third party for any purpose. Any third-party recipient of Milliman's work product who desires professional guidance should not rely upon Milliman's work product, but should engage qualified professionals for advice appropriate to its own specific needs.

The consultants who worked on this assignment are actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

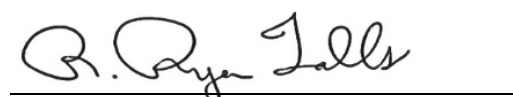
The signing actuary is independent of the City of San Antonio and SAFPPF. We are not aware of any relationship that would impair the objectivity of our work.

We would like to express our appreciation to both Segal and City of San Antonio staff for their assistance in supplying the data and information on which this report is based.

I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

We respectfully submit the following report, and we look forward to discussing it with you.

Sincerely,

A handwritten signature in black ink that reads "R. Ryan Falls". The signature is written in a cursive, flowing style.

R. Ryan Falls, FSA, EA  
Consulting Actuary

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## 1. Summary of the Findings

### Purpose and Scope of the Actuarial Audit

In this actuarial audit, we have reviewed the five previous actuarial valuations, with a focus on the most recent January 1, 2023 actuarial valuation, and any other actuarial studies for the San Antonio Fire and Police Pension Fund (SAFPPF) prepared by SAFPPF's retained actuary. This review focused on the following areas:

- Verify that the demographic data is reasonable – analysis of key components such as age, service, accrued time, average monthly contributions, and benefit amounts. Discuss any significant differences.
- Review the calculations for a sample of members from various groups (“test lives”). Test lives are detailed calculations of plan liabilities for individuals participating in SAFPPF that are prepared by the retained actuary.
- Review the actuarial methods and assumptions for reasonableness.
- Review the funding of the plan.
- Verify funding method is appropriately applied and that contribution rates are correctly calculated.
- Reconcile any material differences with the retained actuary.
- Review the actuarial assumptions and methodology for compliance with applicable statutes, SAFPPF's policies, rules and regulations; and for compliance with generally recognized and accepted actuarial principles and practices which are consistent with Actuarial Standards of Practice, the Code of Professional Conduct, Qualifications Standards for Public Statements of Actuarial Opinion of the American Academy of Actuaries, and applicable GASB Statements.

Additionally, this actuarial audit is intended to satisfy the City's requirement to conduct an actuarial audit of SAFPPF in accordance with Texas Government Code §802.1012.

### Actuarial Audit Conclusion

Based on our review of the census data, experience study documents, liability replications, and actuarial valuation reports, we believe the January 1, 2023 actuarial valuation for SAFPPF is reasonable, based on reasonable assumptions and methods, and the report generally complies with the Actuarial Standards of Practice.

We offer the following observations and recommendations that we believe could further enhance the funding and communication of SAFPPF going forward.

### Membership Data

We performed tests on both the raw data supplied by SAFPPF staff and the processed data used by the retained actuary in the valuation. Based on this review, we believe the individual member data used is appropriate and complete. A summary is shown in Exhibit 2-1.

### Actuarial Value of Assets

We have reviewed the calculation of the actuarial value of assets (AVA) used in the January 1, 2023 valuation. We found the calculations to be reasonable and the methodology to be appropriate and in compliance with Actuarial Standards of Practice. We recommend that the retained actuary review the description of the AVA method in Section 4 of the valuation report and consider aligning the description of the method with the actual method incorporated into the actuarial valuation.



## Actuarial Liabilities

We independently calculated the actuarial liabilities of SAFPPF for an individual sample set of participants as well as for the entire plan in total. We found that all significant benefit provisions were accounted for in an accurate manner, the actuarial assumptions and methods are being applied correctly, and that our liability replications closely matched those calculated by the retained actuary.

We recommend that the retained actuary review the definition of service used in the valuation programming for the determination of retirement eligibility to ensure that the service used for each decrement is consistent with the terms of the plan.

## Funding

We reviewed the calculations of the Board Recommended Contribution (BRC) rate and the Funding Period. Additionally, we have evaluated the Board's Actuarial Funding Policy and the application of the Actuarial Cost Method. We have found that the methodology was applied in a reasonable manner. We have the following recommendations to improve the consistency and transparency of the determination of the Board Recommended Contribution:

1. When the retained actuary presents a recommended contribution based on procedures outside of the Board's Actuarial Funding Policy, the retained actuary should consider clearly disclosing both the actuarially determined contribution calculated in accordance with the existing Actuarial Funding Policy as well as the actuary's recommended contribution rate. This step will improve transparency for the Board about how different the Board Recommended Contribution rate is from the retained actuary's recommended contribution rate.
2. The retained actuary should recommend that the Board update the Actuarial Funding Policy to incorporate the updated recommendations. Updating the Actuarial Funding Policy will ensure that the recommended contributions will be calculated consistently in similar situations in the future.

## Actuarial Assumptions (Economic)

We reviewed the economic assumptions used in the January 1, 2023 actuarial valuation and found them to be reasonable. The economic assumptions used were adopted based on the retained actuary's Actuarial Experience Study for the period ending December 31, 2018.

## Actuarial Assumptions (Demographic)

We completed a high-level review of the demographic assumptions that were adopted based on the retained actuary's Actuarial Experience Study for the period ending December 31, 2018. Based on this review, we believe the demographic assumptions used in the January 1, 2023 valuation are reasonable. We have the following recommendations for future actuarial studies:

In order to minimize actuarial gains and losses in the future, we encourage the retained actuary to consider reviewing the demographic assumptions using an "amount-weighted" approach as part of the next actuarial experience study to see the differences in the resulting termination and retirement patterns.

We recommend that the retained actuary include additional detail of their analysis of each assumption in the next experience study report.

If the retained actuary recommends mortality improvement scales released by the Social Security Administration as part of future actuarial experience studies, we recommend that the experience study report include clear documentation of the source of the rates.

We recommend that the retained actuary closely review the assumption for 13<sup>th</sup>/14<sup>th</sup> checks in the next experience study, potentially utilizing methods such as stochastic modeling, and document the development of the recommended assumption for this difficult-to-measure plan provision.

## Reports

The retained actuary's reports meet the applicable Actuarial Standards of Practice. The discussion in Section 8 of this actuarial audit report includes recommended improvements for the next valuation or experience study that will enhance the overall communication and disclosure in the actuarial reports. These are recommended improvements to the reporting and would not impact the results of the actuarial valuation.

## 2. Membership Data

### Actuarial Audit Conclusion

We performed tests on both the raw data supplied by the SAFPPF staff and the processed data used by the retained actuary in the valuation. Based on this review, we feel the individual member data used is appropriate and complete.

### Comments

Overall, the data process appears to be thorough and accurate. We would add the following comments:

- **Raw Data:** We were provided with the same data that was given by the SAFPPF staff to the retained actuary for use in the actuarial valuation.
- **Completeness:** The data contained all the necessary fields to perform the actuarial valuation.
- **Quality:** Although we did not audit the data at the source, we performed some independent checks to confirm the overall reasonableness of the data. We compared the total retiree and beneficiary benefit amounts on SAFPPF data with the actual benefit payments made, as reported in SAFPPF's financial statements. We also compared the total active member compensation on SAFPPF data with the estimated active payroll for the prior year. Based on this analysis, we found the data to be reasonable.
- **Parallel Data Processing:** We performed independent edits on the raw data and then compared our results with the valuation data used by the retained actuary. We found our results to be consistent.

Our results did not match exactly; however, this is understandable since the retained actuary has more extensive data-editing procedures. Overall, each data key component matched within an acceptable level, and we believe the individual member data used by the retained actuary was appropriate for valuation purposes.

A summary of the data in aggregate is shown in Exhibit 2-1. The "Milliman" column reflects SAFPPF data after adjustments by Milliman. The "Retained Actuary" column reflects the actual data used in the retained actuary's valuation.

In our opinion, there was a very close match between the data provided by SAFPPF and the valuation data used by the retained actuary.

**Exhibit 2-1**  
**Member Statistics as of January 1, 2023**

	Retained Actuary	Milliman	Ratio of Retained Actuary / Milliman
<b>Retired participants and Beneficiaries</b>			
Total number	3,271	3,258	100.4%
Total monthly benefit	\$ 16,187,073	\$ 16,132,680	100.3%
<b>Active</b>			
Total number	4,188	4,151	100.9%
Average age	41.2	41.2	100.0%
Average service	13.4	13.5	99.3%
Total payroll	\$ 350,736,436	\$ 347,990,793	100.8%
<b>Inactives</b>			
Number of vested participants	0	0	100.0%
Number of participants due a refund	19	17	111.8%

**Parallel Data Processing Detail**

The SAFPPF provided Milliman with two text files as of January 1, 2023 that contained the current active members, current annuitants (service retirees, beneficiaries, and disability annuitants), and inactive members due a future benefit. In addition to the files that SAFPPF provided to Milliman, the retained actuary provided Milliman the processed data files containing the final data used in the retained actuary's actuarial valuation. The retained actuary provided one Excel file with all plan participants. The retained actuary also provided a description of the files provided and a key to the codes used on the files.

We compared the data in SAFPPF files to those used by the retained actuary on both an individual and an aggregate level. We found the data to be consistent between the two sets of files. We only compared fields that were directly used in the valuation. Differences on an individual level are to be expected in some records with a plan of this size. We found no differences on an individual level that would have a material effect on the valuation results.

For active members, we compared the following fields: Date of Birth, Sex, Hire Date, Benefit Service, and Salary. Over 99% of these fields for active members match on an individual level.

For terminated employees, we compared the following fields: Service and Account Balance. Over 99% of these fields for terminated members matched on an individual level. Our analysis of the raw data indicated two fewer (or 12%) non-vested terminations. These records hold a very small amount of plan liability.

For annuitants, we compared the following fields: Date of Birth, Sex, Option Elected, Date of Retirement, Retirement Benefit, and Retirement Type (Retired, Beneficiary, or Disabled). Over 99% of all fields for annuitants matched on an individual level.

Our independent edits on the raw data provided by SAFPPF resulted in data consistent with the final data provided by the retained actuary.

### 3. Actuarial Value of Assets

#### Actuarial Audit Conclusion

We have reviewed the calculation of the actuarial value of assets (AVA) used in the January 1, 2023 actuarial valuation. We found the calculations to be reasonable and the methodology to be appropriate and in compliance with Actuarial Standards of Practice. We recommend that the retained actuary review the description of the AVA method in Section 4 of the valuation report and consider aligning the description of the method with the actual method incorporated into the actuarial valuation.

#### Comments

The market value of assets can experience significant short-term swings, which can cause large fluctuations in the development of the contributions necessary to eliminate a system's Unfunded Actuarial Accrued Liability (UAAL). Thus, many systems use an asset valuation method which dampens these short-term volatilities to achieve more stability in the employer contribution. A good asset valuation method places value on a retirement system's assets which are related to the current market value, but which will also produce a smoother pattern of contributions.

ASOP No. 44, Selection and Use of Asset Valuation Methods for Pension Valuations, provides a framework for the determination of the actuarial value of assets (AVA), emphasizing that the method should: (1) bear a reasonable relationship to the market value of assets (MVA), (2) recognize investment gains and losses over an appropriate time period, and (3) avoid systematic bias that would overstate or understate the AVA in comparison to MVA.

The January 1, 2023 actuarial valuation report describes the AVA method as:

*Market value of assets less unrecognized returns in each of the last five years. Unrecognized return is equal to the difference between the actual market return and the expected return on the actuarial value, and is recognized over a five-year period, further adjusted, if necessary, to be within 20% of the market value.*

Based on the calculations in the actuarial valuation report, the unrecognized return is actually equal to the difference between the actual market return and the expected market return, which is a more common approach to calculating the AVA in our experience.

Each year's unrecognized return is spread over a five-year period. Specifically, the Actuarial Value of Assets is equal to the MVA at the actuarial valuation date, less the sum of the following:

1. 80% of the difference between the expected return and actual return in the first year preceding the valuation date,
2. 60% of the difference between the expected return and actual return in the second year preceding the valuation date,
3. 40% of the difference between the expected return and actual return in the third year preceding the valuation date, and
4. 20% of the difference between the expected return and actual return in the fourth year preceding the valuation date.

Additionally, the AVA is limited to be within 80% and 120% of the market value of assets.

The Conference of Consulting Actuaries Public Plans Board published a whitepaper on model actuarial funding policies which include guidelines for asset smoothing. In our opinion, SAFPPF's method used in the actuarial valuation of smoothing with 20% recognition, with a 20% corridor, falls in the "Model Practice" category (one of the highest levels) under these guidelines.

## 4. Actuarial Liabilities

### Actuarial Audit Conclusion

One purpose of this actuarial review is to verify the benefits and liabilities. We replicated the liability for all plan participants based on the plan provisions, the valuation assumptions, and actuarial cost method. Included in the information provided to us by the retained actuary were the individual liability amounts for 13 participants (five active participants, one inactive participant, and seven annuitants). For those 13 participants, we compared on an individual member basis our independent replication of the liabilities to the sample lives provided by the retained actuary. We recommend that the retained actuary review the definition of service used in the valuation programming for the determination of retirement eligibility to ensure that the service used for each decrement is consistent with the terms of the plan.

### Replication Process

We independently calculated the liabilities for the sample of participants, and the entire plan, based on the following:

**Data:** We used the same data used by the retained actuary in its valuation. As discussed in Section 2, we confirmed that this data was consistent with the data provided by SAFPPF staff.

**Assumptions:** We used the assumptions disclosed in the January 1, 2023 actuarial valuation report. This information was provided to us electronically by the retained actuary. We confirmed the assumptions were consistent with those adopted based on the recent experience study report.

**Methods:** We used the actuarial methods disclosed in the January 1, 2023 actuarial valuation report. This was supplemented by discussions between the retained actuary and Milliman on the technical application of these methods.

Note that there will always be differences in the calculated liabilities when different software is used by different actuaries; however, the results should not deviate significantly. Our findings show a high level of consistency between our independent results and the valuation, which should provide assurance that the results of the valuation reasonably reflect the aggregate liabilities of SAFPPF based on the assumptions and methods.

**Benefits:** We obtained this information from the SAFPPF website and the relevant law.

### Comments

We received from the retained actuary the participant data used in the January 1, 2023 valuation. The employee census data is consistent with the information presented in the January 1, 2023 valuation report.

A comparison of the liabilities for the five individual active members, one inactive member, and seven annuitants provided by the retained actuary is shown below. In addition, a comparison to the total plan liabilities is shown below. As noted above, we believe the liability calculations are reasonable.

**Exhibit 4-1: Sample Life Liability Comparison**

Comparison of 5 Active Sample Lives				
	Retained Actuary		Milliman	Ratio
Present Value of Future Benefits	\$	4,359,400	\$ 4,295,022	101.5%
Actuarial Accrued Liability (AAL)	\$	3,546,200	\$ 3,455,701	102.6%
Comparison of 1 Inactive and 7 Annuitant Sample Lives				
	Retained Actuary		Milliman	Ratio
Inactive (AAL)	\$	143,400	\$ 143,545	99.9%
Annuitant (AAL)	\$	3,826,800	\$ 3,829,918	99.9%

We utilized the complete census files provided by the retained actuary to also replicate SAFPPF liability for all plan participants. This process confirms that the liability calculations are reasonable.

**Exhibit 4-2: Total Liability Comparison**

Comparison of Total Actuarial Accrued Liability				
	Retained Actuary		Milliman	Ratio
Active participants	\$	1,807,615,236	\$ 1,794,366,175	100.7%
Retired participants		2,467,869,867	2,465,870,606	100.1%
Beneficiaries		281,150,188	281,287,726	100.0%
Disabled participants		34,198,019	34,201,344	100.0%
Inactive participants		1,227,352	1,028,876	119.3%
<b>Total</b>		<b>\$ 4,592,060,662</b>	<b>\$ 4,576,754,727</b>	<b>100.3%</b>
Comparison of Plan Totals				
	Retained Actuary		Milliman	Ratio
Present Value of Future Benefits	\$	5,446,502,948	\$5,462,833,176	99.7%
Actuarial Accrued Liability		4,592,060,662	4,576,754,727	100.3%
Normal Cost		81,670,689	81,270,851	100.5%

**Review of Individual Liability Calculations**

A person must graduate from fire fighter or police officer training academy and satisfy all other requirements for employment as a fire fighter or police officer in San Antonio before they can become a member of SAFPPF. As a result, most members of the pension fund have a period of roughly 6-9 months of employment between their Date of Hire and the date they begin accruing benefit service in SAFPPF. The census data includes both the Date of Hire and the date the person begins accruing benefit service in SAFPPF.

While reviewing individual liability calculations for active members, we noted that one sample member was not expected to terminate nor retire in the current actuarial valuation model at one particular age. Following an email exchange with the retained actuary, it was confirmed that the liability calculation for retirement benefits was

correctly assuming that members were eligible to retire after accruing 20 years of benefit service; however, the liability calculation for termination benefits (i.e., refunds) was assuming that members were eligible to retire after 20 years from Date of Hire. Since the difference in service amounts is generally around six months, this disconnect does not impact every active member in the actuarial valuation.

This small disconnect does not have a significant impact on the actuarial valuation but it should be reviewed before the next actuarial valuation. The retained actuary has indicated that they intend to correct this disconnect before the next actuarial valuation.



## 5. Funding

### Actuarial Audit Conclusion

We have reviewed the calculations of the Actuarially Determined Contribution (ADC) rate and the Funding Period. Additionally, we have evaluated the Board's Actuarial Funding Policy and the application of the Actuarial Cost Method. We have found that the methodology was applied in a reasonable manner. In this section, we have recommendations for improving the consistency and transparency in the communication of the Board Recommended Contribution.

### Texas Pension Review Board (PRB) Pension Funding Guidelines

Before we assess SAFPPF's Funding Policy and the retained actuary's application of the Funding Policy, it is important to understand the backdrop for public pension funding in the State of Texas. The PRB has published guidelines that are intended to foster communication between plans and their sponsors as they determine a reasonable approach to responsible funding:

1. The funding of a pension plan should reflect all plan obligations and assets.
2. The allocation of the normal cost portion of the contributions should be level or declining as a percentage of payroll over all generations of taxpayers, and should be calculated under applicable actuarial standards.
3. Funding of the unfunded actuarial accrued liability should be level or declining as a percentage of payroll over the amortization period.
4. Actual contributions made to the plan should be sufficient to cover the normal cost and to amortize the unfunded actuarial accrued liability over as brief a period as possible, but not to exceed 30 years, with 10 - 25 years being the preferable target range. For plans that use multiple amortization layers, the weighted average of all amortization periods should not exceed 30 years. Benefit increases should not be adopted if all plan changes being considered cause a material increase in the amortization period and if the resulting amortization period exceeds 25 years.
5. The choice of assumptions should be reasonable, and should comply with applicable actuarial standards.
6. Retirement systems should monitor, review, and report the impact of actual plan experience on actuarial assumptions at least once every five years.

### Board's Actuarial Funding Policy

The SAFPPF Board most recently reviewed the Funding Policy on November 22, 2021. The key points of the Actuarial Funding Policy include:

- Goals of Actuarial Funding Policy
  - To assure long-term funding of the benefits provided by SAFPPF.
  - To seek reasonable and equitable allocation of the cost of benefits over time.
  - To provide a framework for considering plan modifications.
  - To reduce the long-term exposure to investment markets by gradually lowering the Fund's investment risk profile as plan funding improves.
  - To maintain a policy that is both transparent and accountable to the stakeholders of SAFPPF, including plan participants and the taxpayers of San Antonio.
  - To attain a 100% funded ratio or more by December 31, 2044.
- Actuarial Funding Policy provides the Board with a method to assess the appropriateness of the statutory contributions.

- Contribution developed under the Actuarial Funding Policy is called the Board Recommended Contribution (BRC)
  - BRC will equal the statutory required contribution rate.
  - If the effective amortization period is not sufficient to reach a 100% funded ratio by December 31, 2044, BRC is comprised of the Normal Cost plus a contribution to amortize the Unfunded Actuarial Accrued Liability by December 31, 2044.

### Board Recommended Contribution

For the January 1, 2023 actuarial valuation, the effective amortization period based on the statutory contribution rates was 20.11 years. Additionally, the Board's Actuarial Funding Policy includes a goal of attaining a 100% funded ratio by December 31, 2044, which is 22 years from the valuation date. Further, the Policy indicates that the Board and City will work together to address the contribution rate when the effective amortization period is not sufficient to reach a 100% funded ratio by December 31, 2044.

In the January 1, 2023 actuarial valuation, the retained actuary calculates the Board Recommended Contribution (BRC) based on an effective amortization period of 20 years (or, attaining a 100% funded ratio by December 31, 2042). An actuarially determined contribution with a 20-year amortization period is a good standard to set, most likely resulting in positive amortization (i.e., reduction) in the UAAL, and is currently a higher standard than the standard set in the Board's Actuarial Funding Policy. However, this procedure for calculating the BRC does not follow the guidance outlined in the Actuarial Funding Policy.

We believe the retained actuary's recommended contribution calculation is reasonable, but it has no direct basis in the Board's Actuarial Funding Policy. We have two enhancements to the process that we believe will improve consistency and transparency of the determination of the Board Recommended Contribution:

1. When the retained actuary presents a recommended contribution based on procedures outside of the Board's Actuarial Funding Policy, the retained actuary should consider clearly disclosing both the actuarially determined contribution calculated in accordance with the existing Actuarial Funding Policy as well as the actuary's recommended contribution rate. This step will improve transparency for the Board about how different the Board Recommended Contribution rate is from the retained actuary's recommended contribution rate.
2. The retained actuary should recommend that the Board update the Actuarial Funding Policy to incorporate the updated recommendations. Updating the Funding Policy will ensure that the recommended contributions will be calculated consistently in similar situations in the future.

As noted earlier, SAFPPF will receive the statutory contributions regardless of the procedures used to calculate the recommended contribution rate. We believe these enhancements will improve consistency and transparency as the Board assesses the appropriateness of the statutory contributions in the future.

### Actuarial Cost Method

SAFPPF's January 1, 2023 actuarial valuation report prepared by the retained actuary uses the Entry Age Actuarial Cost Method. We agree that it is appropriate for valuing the costs and liabilities of SAFPPF and is the cost method specified in the Actuarial Funding Policy.

**Purpose of a Cost Method:** The purpose of any cost method is to allocate the cost of future benefits to specific time periods. Most public plans follow one of a group of generally accepted funding methods, which allocate the cost over the members' working years. In this way, benefits are financed during the time in which services are provided.

**Most Common Public Plan Cost Method (Entry Age):** The most common cost method used by public plans is the Entry Age Actuarial Cost Method. The focus of the Entry Age Cost Method is the level allocation of costs over the member's working lifetime. For a public plan, this means current taxpayers pay their fair share of the pensions of the public employees who are currently providing services. Current taxpayers are not expected to pay for services received by a past generation, nor are they expected to pay for the services that will be received by a future generation. The cost method does not anticipate increases or decreases in allocated costs.

According to the Public Plans Database, over 90% of the retirement systems surveyed were using the Entry Age Actuarial Cost Method for their FY2022 actuarial valuations. We believe that the use of this cost method is reasonable and appropriate.

For GASB Statements No. 67 and No. 68, the Entry Age Actuarial Cost Method is the only permissible cost method for financial reporting purposes.

## 6. Actuarial Assumptions (Economic)

### Actuarial Audit Conclusion

The purpose of the actuarial valuation is to analyze the resources needed to meet the current and future obligations of SAFPPF. To provide the best estimate of the long-term funded status of SAFPPF, the actuarial valuation should be predicated on methods and assumptions that will estimate the future obligations of SAFPPF in a reasonable manner.

An actuarial valuation uses various methods and two different types of assumptions: economic and demographic. Economic assumptions are related to the general economy and its long-term impact on SAFPPF, or to the operation of SAFPPF itself. Demographic assumptions are based on the emergence of the specific experience of SAFPPF's members. This section of the report will focus on economic assumptions. The next section will address the demographic assumptions.

We reviewed the economic assumptions used in the January 1, 2023 actuarial valuation and found them to be reasonable. The economic assumptions used were adopted based on the retained actuary's Actuarial Experience Study for the period ending December 31, 2018. The following portion of this report discusses three of the key economic assumptions (inflation, wage growth, and investment rate of return).

### Actuarial Standard of Practice No. 27: Selection of Economic Assumptions

The Actuarial Standards Board has adopted Actuarial Standard of Practice (ASOP) No. 27, *Selection of Economic Assumptions for Measuring Pension Obligations*. This Standard provides guidance to actuaries giving advice on selecting economic assumptions for measuring obligations under defined benefit plans, such as SAFPPF.

As the future is unknown, the best an actuary can do is to use professional judgment to estimate possible future economic outcomes. These estimates are based on a mixture of past experience, future expectations, and professional judgment. The actuary should consider a number of factors, including the purpose and nature of the measurement, and appropriate recent and long-term historical economic data. ASOP 27 explicitly advises the actuary not to give undue weight to recent experience.

Each economic assumption should individually satisfy this Standard. Furthermore, with respect to any particular valuation, each economic assumption should be consistent with every other economic assumption over the measurement period.

After completing the selection process, the actuary should review the set of economic assumptions for consistency. This may entail the actuary using the same inflation component in each of the economic assumptions selected.

An actuary's estimate with respect to a particular measurement of pension obligations may change from time to time due to changing conditions or emerging plan experiences. Even if assumptions are not changed, we believe that the actuary should be satisfied that each of the economic assumptions selected for a particular measurement complies with ASOP 27, unless that assumption has been prescribed by someone with the authority to do so.

### Inflation

**Use in the Valuation:** Inflation, as referred to here, means price inflation. The inflation assumption has an indirect impact on the results of the actuarial valuation through the development of the assumptions for investment return, COLA, and wage growth. The Inflation assumption was 3.00% for the January 1, 2023 actuarial valuation.

There is expected to be a long-term relationship between inflation and the investment return assumption. The basic principle is that the investors demand a "real return" – the excess of actual investment returns over inflation. If inflation rates are expected to be high, investors will demand expected investment returns that are also

expected to be high enough to exceed inflation, while lower inflation rates will result in lower demanded expected investment returns, at least in the long run.

**Historical Perspective:** The data for inflation discussed below is based on the national Consumer Price Index, US City Average, All Urban Consumers (CPI-U) as published by the Bureau of Labor Statistics.

There are numerous ways to review historical data, with significantly differing results. The retained actuary points to this by showing many different lengths of historical periods, ending with December 2018. Most notably, average annual inflation has been 2.18% for the last 20 years, 2.54% for the last 30 years, and 2.95% for the last 100 years.

**Forecasts of Inflation:** It is possible to determine the approximate rate of inflation anticipated by the financial markets by comparing the yields on inflation indexed bonds with traditional fixed government bonds. As of December 31, 2022, the yield for 20-year inflation indexed Treasury bonds implied inflation of 2.50% per year.

Although most investment consultants and economists forecast lower inflation, they are generally looking at a shorter time horizon than is appropriate for a pension valuation. To consider a longer, similar time frame, we looked at the expected increase in the CPI by the Office of the Chief Actuary for the Social Security Administration. In the 2022 and 2023 Trustees report, the projected ultimate average increase under the intermediate cost assumptions was 2.40%.

**Peer System Comparison:** Although assumptions should not be set based on what other systems are doing, it is informative to see how SAFPPF compares.

According to the National Association of State Retirement Administrators (NASRA) Public Fund Survey (a survey of approximately 130 large municipal and statewide systems), the average inflation assumption for statewide systems has been steadily declining. In the March 2023 NASRA Issue Brief, the average inflation assumption was 2.52%.

**Conclusion:** The current assumption is higher than most current indicators but was more reasonable at the time of the most recent actuarial experience study in 2018. Additionally, the plan pays a CPI-based COLA and the valuation assumption for the COLA is directly based on the inflation assumption of 3.00%. As a result, a high estimate for inflation also results in a conservative assumption for future COLAs.

We believe that a 3.00% assumption is reasonable for the January 1, 2023 actuarial valuation of SAFPPF but we recommend that the retained actuary monitor this assumption closely, ensure that the assumption is consistent with the other economic assumptions, and assess the reasonableness for future actuarial valuations.

### General Wage Inflation

**Use in the Valuation:** Estimates of future salaries are based on two types of assumptions. Rates of increase in the general wage level of the membership are directly related to inflation, while individual salary increases due to promotion and longevity (referred to as the merit scale) occur even in the absence of inflation. This section will address the general wage inflation assumption (inflation plus productivity increases). The merit, promotion, and longevity increase assumption is discussed in Section 7 of this report (demographic assumptions).

The General Wage Inflation assumption was 3.00% for the January 1, 2023 actuarial valuation. This assumption equals the assumption used for inflation, meaning the assumption does not include any additional component representing wage growth due to productivity (or "real wage growth"). Note this can be seen in the ultimate salary increase assumption for long-service employees of 3.00%.

**Historical Perspective:** As with inflation, historical measures for general wage inflation vary widely depending upon the data source, consideration of mean vs. median, and how far back it is measured. We have used

statistics from the Social Security Administration on the National Average Wage. Using this data implies real wage growth of about 0.6% over the past 50 years.

**Forecasts for Future Wage Growth:** Wage inflation has been projected by the Office of the Chief Actuary of the Social Security Administration. In the 2022 Trustees Report, the long-term ultimate annual increase in the National Average Wage was estimated to be 1.14% higher than the Social Security intermediate ultimate inflation assumption of 2.40% per year.

**Conclusion:** We believe that the current estimate of no future real wage growth is below most current indicators. We recommend that the retained actuary closely consider including a real wage growth (wage inflation in excess of price inflation) assumption in their recommended assumptions as part of the next actuarial experience study.

### Payroll Increase Assumption

Payroll is projected to grow in future years and is a necessary assumption for all calculations that are determined as a level percentage of payroll (including amortization of the Unfunded Actuarial Accrued Liability). The current payroll increase assumption is equal to 3.00%, which is equal to both the cost inflation assumption of 3.00% as well as the wage increase assumption. From our perspective, the payroll increase assumption should generally be more than that inflation assumption and less than, or equal to, the general wage inflation assumption. We believe that the payroll growth assumption of 3.00% is reasonable and consistent with the other assumptions.

### Investment Return (Discount Rate)

**Use in the Valuation:** The investment return assumption is one of the primary determinants in the calculation of the expected cost of SAFPPF's benefits, providing a discount of the estimated future benefit payments to reflect the time value of money. This assumption has a direct impact on the calculations of actuarial accrued liabilities, normal cost rate, and member and employer contribution rates.

The discount rate is the rate used to discount future benefit payments into an actuarial present value. The traditional actuarial approach used for public sector funding sets the discount rate equal to the expected investment return. Under current standards set by the GASB, the "discount rate" should reflect the long-term expected rate of return on pension fund investments to the extent that the pension fund's assets are expected to be sufficient to pay benefits.

The current investment return assumption of 7.25% per year includes two components: (1) inflation of 3.00%, and (2) a net real rate of return equal to 4.25%. This approach of splitting the net return into separate pieces is called the "building block" method.

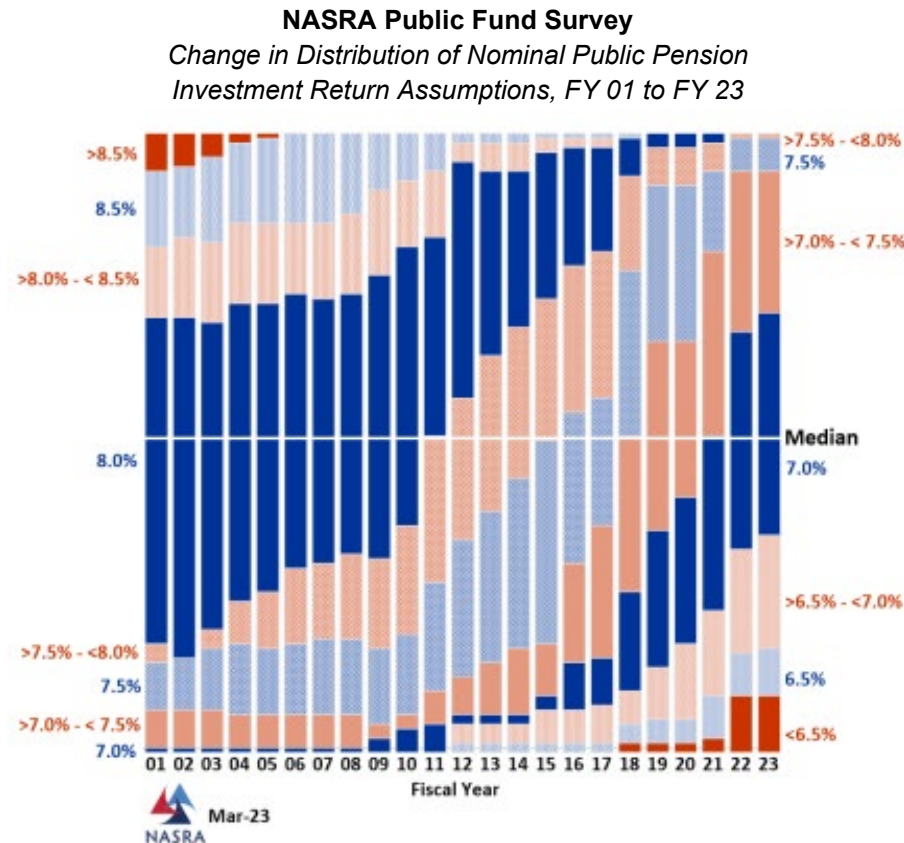
**Long-term Expected Investment Return:** The retained actuary recommended a reduction in the investment return assumption to 7.00% as part of the most recent experience study and the Board elected to maintain the 7.25% assumption.

To develop an analytical basis for assessing the investment return assumption, the retained actuary appeared to rely upon input from SAFPPF's investment consultant and a survey from February 2019 published by the National Association of State Retirement Administrators (NASRA) of 130 of the largest US public sector systems.

To provide some additional perspective on this assumption, the chart below shows the NASRA survey from March 2023. As can be seen from the chart, the trend over time has been for systems to lower their investment return assumptions. Given the consensus view among investment professionals regarding lower long-term expected returns for fixed income investments, we believe that this downward trend in the survey will continue in the future as systems periodically revisit their investment return assumptions. Additionally, some systems share SAFPPF's articulated funding policy goal of reducing the Fund's investment risk profile as plan funding improves.



Such changes to investment risk profile have also contribute to the decrease in median investment return assumption shown in the survey.



Based on Milliman's current capital market assumption model and the Board's target asset allocation, we would expect a 20-year geometric assumed return that is consistent with SAFPPF's current assumption.

**Conclusion:** We find the 7.25% investment return assumption is reasonable for funding and financial reporting purposes.

## 7. Actuarial Assumptions (Demographic)

### Actuarial Audit Conclusion

We completed a review of the demographic assumptions that were adopted based on the retained actuary's Actuarial Experience Study for the period ending December 31, 2018. Based on this review, we believe the demographic assumptions used in the valuation are reasonable. In this section, we provide recommendations for: 1) documenting the rationale for the recommended assumptions in the next experience study report, 2) setting the mortality improvement assumption, and 3) setting the 13<sup>th</sup>/14<sup>th</sup> Check assumption.

Note that we did not independently replicate the detailed experience analysis completed by the retained actuary as it was outside the scope of this actuarial audit.

### Overview of Actuarial Experience Studies

Actuarial experience studies are studies of demographic experience involving a detailed comparison of actual and expected experience. If the actual experience differs significantly from the overall expected results, or if the actual pattern does not follow the expected pattern, new assumptions are considered. Recommended revisions normally are not an exact representation of the experience during the observation period. Judgment is required to predict future experience from past trends and current evidence, including a determination of the amount of weight to assign to the most recent experience.

In an experience study, the actuary first determines the number of actual occurrences (i.e., deaths, terminations, retirements, etc.) that occurred during the experience period. Then the actuary determines the number that were expected to occur, based on the current actuarial assumptions. A comparison of the "actual occurrences" to the "expected occurrences" can determine the appropriateness of a particular assumption and is generally referred to as a "headcount-weighted" experience analysis. Selecting an assumption based on a headcount-weighted analysis is consistent with determining the *expected number of occurrences* in the actuarial valuation.

An actuary can enhance the "headcount-weighted" analysis by considering an "amount-weighted" experience analysis. An amount-weighted analysis will generally use an amount that is relevant to the plan, such as benefits or liabilities, to "weight" the occurrences reviewed as part of the analysis. By weighting the data, the actuary gives more weight to members who have larger benefits (and thus have larger liabilities). Selecting an assumption based on an amount-weighted analysis is consistent with *minimizing actuarial gains and losses* associated with a particular assumption in the actuarial valuation.

Based on the limited documentation in the experience study report, it appears that the retained actuary used a "headcount-weighted" approach when analyzing the retirement and termination assumptions in the most recent experience study. In order to minimize actuarial gains and losses in the future, we encourage the retained actuary to consider reviewing the assumptions using the "amount-weighted" approach as part of the next experience study to see the differences in the resulting termination and retirement patterns.

We also recommend that the retained actuary include additional detail of their analysis of each assumption in the next experience study report. The limited documentation in the most recent experience study report (for the period ending December 31, 2018) makes it difficult for the reader of the report to determine the reasonableness of the recommended assumptions.

We did not independently perform the detailed calculations of the actual and expected rates that the retained actuary did, but we reviewed the assumptions based on our experience with similar systems.

### Actuarial Standard of Practice No. 35: Selection of Demographic Assumptions

Actuarial Standard of Practice No. 35 (ASOP 35) governs the selection of demographic and other noneconomic assumptions for measuring pension obligations. ASOP 35 states that the actuary should use professional



judgment to estimate possible future outcomes based on past experience and future expectations, and select assumptions based upon application of that professional judgment. The actuary should select reasonable demographic assumptions in light of the particular characteristics of the defined benefit plan that is the subject of the measurement. A reasonable assumption is one that is expected to appropriately model the contingency being measured and is not anticipated to produce significant cumulative actuarial gains or losses over the measurement period.

### **Post-Retirement Mortality**

Mortality rates are used to project the length of time benefits will be paid to current and future retirees and beneficiaries. The selection of a mortality assumption affects plan liabilities because the estimated value of retiree benefits depends on how long the benefit payments are expected to continue. There are clear differences in the mortality rates by gender, job categorization, non-annuitant versus annuitant, and non-disabled versus disabled retired members.

The Retirement Plans Experience Board (RPEC) of the Society of Actuaries (SoA) issued the “Pub-2010” family of static base mortality tables in 2019. The ‘2010’ in the title refers to the central year of collected study data. These are the first tables published by the RPEC based solely on public sector experience. The RPEC created separate tables for public safety, teachers, and general employees.

The current base mortality assumption for healthy retirees is the Pub-2010 Safety Healthy Retiree Amount-Weighted Table. Due to the size of the plan, the actual experience does not provide a credible amount of data in order to establish an assumption specific to SAFPPF. As a result, the base Pub-2010 mortality table for public safety officers is a reasonable base mortality table for SAFPPF.

### **Mortality Improvement Scale**

It is difficult to predict how much future mortality will improve compared to mortality today. The Society of Actuaries (SoA) has created very precise projections of mortality improvement in “MP” tables that are generally updated each year and are widely used, in some form or fashion, in the actuarial valuation of public sector retirement plans. The retained actuary recommended two-dimensional mortality improvement rates published by the Social Security Administration in 2019. The two-dimensional assumption allows for varying improvements by age and calendar year.

We were only able to find limited documentation on the tables recommended by the retained actuary. As part of the actuarial audit, the retained actuary provided a copy in Excel of the mortality improvement rates used in the actuarial valuation. Based on a review of the factors in this file, the assumption appears reasonable.

If the retained actuary recommends mortality improvement scales released by the Social Security Administration as part of future actuarial experience studies, we recommend that the experience study report include clear documentation of the source of the rates.

### **Merit, Promotion, and Longevity Salary Increases**

We reviewed the individual salary increase assumptions due to merit (longevity and promotion). These increases are in addition to the assumed increases due to general wage inflation. For SAFPPF, the retained actuary assumes that members with more than nine years of service will receive nominal increases equal to 3.00% per year. As a result, the general wage inflation is assumed to equal 3.00% which is also the assumption for price inflation.

We looked at the magnitude of the assumed increases and they are in line with what we have seen with similar plans. We believe that the assumption for merit salary increases is reasonable.

## Rates of Service Retirement and DROP

We reviewed the retained actuary's discussion of the retirement rates and DROP assumptions in the most recent actuarial experience study report. The assumptions vary depending on the members' years of service and whether they are police or fire. The detail of the development in the experience study report is limited but assumptions are in line with what we have seen with similar plans.

We encourage the retained actuary to include additional detail in future actuarial experience studies as to the basis for their recommendations for important assumptions like retirement rates and DROP election.

## Rates of Disability Retirement

We reviewed the rates of disability retirement. The current assumptions are low and increase with age. The low probabilities are supported by the data, and based on the retained actuary's analysis, the disability assumptions appear reasonable.

## Rates of Termination

We reviewed the rates of termination of employment. The current assumption varies by length of service in SAFPPF and whether the member is police or fire. We agree that these factors are generally the most significant in anticipating termination rates.

Based on the retained actuary's analysis, the termination rates are aligned with actual experience and the assumptions appear reasonable.

## 13<sup>th</sup> and 14<sup>th</sup> Checks

The SAFPPF Board may authorize a 13<sup>th</sup> check when the arithmetic average of the annual rates of return for the most recent five years exceeds the assumed rate by at least 100 basis points. Similarly, the Board may authorize a 14<sup>th</sup> check when the arithmetic average of the annual rates of return for the most recent five years exceeds the assumed rate by at least 300 basis points. The retained actuary incorporates the potential cost of these checks into the actuarial valuation as follows: active liabilities are loaded by 0.03% and non-active liabilities are loaded by 0.1%.

A deterministic projection of investment returns going forward (i.e., 7.25% every year) would indicate that neither a 13<sup>th</sup> check nor a 14<sup>th</sup> check would ever be paid. However, the actual volatility present in the market results in some likelihood that one or both of these benefits could be paid any given year. This type of plan provision is generally referred to as a "difficult-to-measure" plan provision for an actuarial valuation.

For difficult-to-measure plan provisions, ASOP 4 states, "the actuary should consider alternative valuation procedures, such as stochastic modeling, option-pricing techniques, or deterministic procedures in conjunction with assumptions that are adjusted to reflect the impact of variations in experience from year to year." The Standard also states, "When selecting alternative valuation procedures for such plan provisions, the actuary should use professional judgment based on the purpose of the measurement and other relevant factors."

SAFPPF has paid five 13<sup>th</sup>/14<sup>th</sup> checks in the past 20 years. The liability produced by the current load assumption captures the cost of a 13<sup>th</sup> check being paid roughly every 7 years. We recommend that the retained actuary closely review the assumption for 13<sup>th</sup>/14<sup>th</sup> checks in the next experience study, potentially utilizing methods such as stochastic modeling, and document the development of the recommended assumption for this difficult-to-measure plan provision.

Note, likelihood of payment of a 13<sup>th</sup>/14<sup>th</sup> check is directly tied to the investment return assumption. Appropriateness of the 13<sup>th</sup>/14<sup>th</sup> check assumption should be reviewed in conjunction with any changes to the investment return assumption or investment policy statement.

## 8. Content of the Valuation Report

### Actuarial Audit Conclusion

ASOP No. 4, *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions*, and ASOP No. 41, *Actuarial Communications*, provide guidance for measuring pension obligations and communicating the results. These Standards list specific elements to be included, either directly or by reference to prior communication, in pension actuarial communications. The retained actuary's reports meet the applicable Standards. We are recommending improvements for the next valuation or experience study that will enhance the overall communication and disclosure in the actuarial reports. These are recommended improvements to the reporting and would not impact the results of the valuation.

### Comments

Following our review of the retained actuary's actuarial valuation report, we have the following comments and recommendations for future actuarial valuation reports:

#### Section 4, Exhibit I: Actuarial Assumptions, Method and Models

The actuarial valuation utilizes a two-dimensional mortality improvement scale released by the Social Security Administration in 2019, labeled in the actuarial valuation report as "SSA2019-2D". This may be a reasonable assumption, but this is not a widely utilized assumption in our experience. As a result, we recommend that the retained actuary include additional descriptions of this assumption in the actuarial valuation report and consider providing a sample of the rates in future actuarial valuation reports.

The description of the actuarial cost method indicates that the Entry Age is the age at the member's hire date. Based on information provided during the actuarial audit, it is our understanding that the Entry Age is calculated based on the member's current age and benefit service. As discussed previously, most members have a period of employment before they begin to earn benefit service in SAFPPF. We recommend that the retained actuary clarify the description of the actuarial cost method in future actuarial valuation reports.

April 16, 2024

Board of Trustees  
Fire and Police Pension Fund, San Antonio  
11603 W. Coker Loop, Suite 201  
San Antonio, Texas 78216-2820

**Re: Segal's Response to Milliman's March 21, 2024 Actuarial Audit**

Dear Board of Trustees:

We have had the opportunity to assess the independent actuarial audit completed by Milliman, Inc. (Milliman) for the San Antonio Fire and Police Pension Fund (SAFPPF). We are pleased to note on page 1 of the Milliman report that, based on their review, "the January 1, 2023 actuarial valuation for SAFPPF is reasonable, based on reasonable assumptions and methods, and the report generally complies with the Actuarial Standards of Practice." We appreciate the comments that Milliman provided and will consider incorporating their recommendations into future valuations and experience reviews, pending approval of the Trustees and the Plan Administrator. Segal's specific responses are included below.

**Actuarial Liabilities**

Milliman recommended the following regarding Segal's valuation programming:

- *We recommend that the retained actuary review the definition of service used in the valuation programming for the determination of retirement eligibility to ensure that the service used for each decrement is consistent with the terms of the plan.*

We concur with this recommendation. Going forward, Segal will reference Service rather than Date of Hire for application of termination rates. As Milliman indicates on Page 9 of the audit, the impact of this change on the actuarial valuation will be immaterial.

**Funding**

Milliman had the following comments about the Actuarial Cost Method and Funding Policy:

- *When the retained actuary presents a recommended contribution based on procedures outside of the Board's Actuarial Funding Policy, the retained actuary should consider clearly disclosing both the actuarially determined contribution calculated in accordance with the existing Actuarial Funding Policy as well as the actuary's recommended contribution rate. This step will improve transparency for the Board about how different the Board*

*Recommended Contribution rate is from the retained actuary's recommended contribution rate.*

The Board Recommended Contribution (BRC) was developed based on conversations with the Board in an effort to conservatively provide additional cushion to the BRC, as compared to the PRB Guidelines and the goals of the actuarial funding policy. While Segal believes that our method is clearly defined in the actuarial valuation, we agree that it may be beneficial to include both the BRC and the actuarial determined contribution calculated assuming 100% funding ratio by December 31, 2044. We will consider this for the actuarial valuation as of January 1, 2024.

- *The retained actuary should recommend that the Board update the Actuarial Funding Policy to incorporate the updated recommendations. Updating the Actuarial Funding Policy will ensure that the recommended contributions will be calculated consistently in similar situations in the future.*

Segal agrees that aligning the BRC with the Funding Policy Statement may be desirable, and we will work with the Board in 2024 in an effort to bring these items into better agreement. We will also consider any changes to the PRB Guidelines in these discussions.

## **Actuarial Assumptions**

Milliman suggested the following in reference to the Actuarial Assumptions:

- *In order to minimize actuarial gains and losses in the future, we encourage the retained actuary to consider reviewing the demographic assumptions using an “amount-weighted” approach as part of the next actuarial experience study to see the differences in the resulting termination and retirement patterns.*

Segal currently uses an “amount-weighted” approach for mortality. Although the “amount-weighted” approach is not as common for retirement and withdrawal assumptions, we will consider this approach in our upcoming experience review study.

- *We recommend that the retained actuary include additional detail of their analysis of each assumption in the next experience study report.*

We appreciate this suggestion and will review the level of detail provided in our experience review study report in order to enhance reader understanding of the reasonableness of our assumptions.

- *If the retained actuary recommends mortality improvement scales released by the Social Security Administration as part of future actuarial experience studies, we recommend that the experience study report include clear documentation of the source of the rates.*

The assumed Mortality Improvement Scale Segal uses is based on the OASDI Trustees' Report, publicly available on the Social Security Administration's website ([The 2019 OASDI Trustees Report \(ssa.gov\)](https://www.ssa.gov/oasdi/trustees-report)). The cohort life tables are provided thereunder ([Social Security Program Data \(ssa.gov\)](https://www.ssa.gov/oasdi/program-data)). Our mortality improvement scales were developed under the Intermediate II assumption set, which the report describes as the Trustees' best estimate assumptions. We will revisit this assumption as part of the five-year experience review study

later this year. If we retain these rates, we will consider adding additional detail to our future reports.

- *We recommend that the retained actuary closely review the assumption for 13th/14th checks in the next experience study, potentially utilizing methods such as stochastic modeling, and document the development of the recommended assumption for this difficult-to-measure plan provision.*

Segal periodically reviews the assumption for 13<sup>th</sup>/14<sup>th</sup> checks and provides benefit improvement studies at the request of the Board when these are being considered. This assumption will be reviewed in 2024, as part of the five-year experience review study. Although the impact of 13<sup>th</sup>/14<sup>th</sup> checks is relatively small, we will consider additional modeling in our review process.

## Reports

Milliman provided the following comments and recommendations to future actuarial valuations and experience studies

- *The actuarial valuation utilizes a two-dimensional mortality improvement scale released by the Social Security Administration in 2019, labeled in the actuarial valuation report as "SSA2019-2D". This may be a reasonable assumption, but this is not a widely utilized assumption in our experience. As a result, we recommend that the retained actuary include additional descriptions of this assumption in the actuarial valuation report and consider providing a sample of the rates in future actuarial valuation reports.*

As mentioned above, the assumed Mortality Improvement Scale is based on the OASDI Trustees' Report, available on the Social Security Administration's website using the Trustees' best estimate assumptions. We will consider adding additional detail to our report.

- *The description of the actuarial cost method indicates that the Entry Age is the age at the member's hire date. Based on information provided during the actuarial audit, it is our understanding that the Entry Age is calculated based on the member's current age and benefit service. As discussed previously, most members have a period of employment before they begin to earn benefit service in SAFPPF. We recommend that the retained actuary clarify the description of the actuarial cost method in future actuarial valuation reports.*

Segal agrees with this observation, and we will clarify the definition of Entry Age in our valuation report.

We look forward to discussing this with you further as we strive for continued improvement of our processes and the services we provide the Board and staff of the San Antonio Fire and Police Pension Fund, as well as the plan participants you represent.

Sincerely,



Malichi S. Waterman FCA, MAAA, EA  
Vice President and Consulting Actuary

Board of Trustees  
April 16, 2024  
Page 4

cc: Warren J. Schott - San Antonio Fire & Police Pension Fund  
Ryan Falls, FSA, EA, MAAA - Milliman