



# San Benito Firemen Relief and Retirement Fund

Actuarial Valuation Report  
As of September 30, 2017

**Prepared by**  
**Retirement Horizons Inc.**  
**August 20, 2018**



August 20, 2018

Board of Trustees  
San Benito Firemen Relief and Retirement Fund  
1201 S. Sam Houston Blvd.  
San Benito, Texas 78586

Re: 2017 ACTUARIAL VALUATION

Ladies and Gentlemen:

The Board of Trustees for the San Benito Firemen Relief and Retirement Fund retained Retirement Horizons Inc. (RHI) to perform an actuarial valuation of the Fund as of September 30, 2017. This report summarizes the results of our study including analysis of current funded status and a projection of valuation results. Our report also provides financial accounting and disclosure information in accordance with GASB Nos. 67 and 68 with results organized as follows:

- Section 1 – Valuation Highlights
- Section 2 – Executive Summary
- Section 3 – Actuarial Exhibits
- Section 4 – Valuation Basis

The unfunded actuarial liability was \$2.270 million (60.7% funded status) as of September 30, 2017, compared to \$2.154 million (60.5% funded status) in the prior valuation. Provided future plan experience is consistent with the underlying methods and assumptions, the current contribution policy (total 24.00% of payroll) will be sufficient to amortize the unfunded actuarial liability over 21.8 years based on the 2017 valuation (0.1 years increase from the prior valuation).

Texas Pension Review Board guidelines for actuarial soundness require a contribution policy that will amortize the unfunded liability over a preferred period of 10-25 years, not to exceed a maximum of 30 years. Therefore, the 2017 valuation confirms that the current financing arrangement remains sufficient to satisfy the PRB actuarial soundness guidelines, provided future plan experience is consistent with the underlying methods and assumptions.

We certify the amounts presented in the 2017 valuation report have been determined according to the actuarial assumptions and methods selected by the Board of Trustees, with review and concurrence by RHI. However, it is important to note that future results may be materially different if actual plan experience varies significantly from the underlying valuation basis. Differences could occur for a number of reasons such as plan experience differing from underlying demographic and economic assumptions, changes in the plan provisions, or changes in the law or accounting standards. Due to the limited scope of this report, an analysis of the potential range of impact on results from any such future measurements has not been performed.

The 2017 actuarial valuation was based upon member census data, financial information and plan provisions as provided by the Plan Administrator. We relied on the member census data provided, and performed testing as needed to assure the reasonableness of the underlying input and the results of the study, but RHI did not perform a full audit of the member census data. The 2017 valuation was prepared in accordance with generally accepted actuarial principles and practices including compliance with applicable Actuarial Standards of Practice issued by the Actuarial Standards Board.

Board of Trustees  
August 20, 2018

Information contained in this report was prepared for the Board of Trustees as well as the respective auditors of the GASB No. 67 and 68 financial disclosure information. It is not intended for any other purposes, and it should not be distributed to any outside party without the express written consent of RHI, as significantly different results from those contained in this report may be needed for other purposes.

The undersigned has met the “Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States” and is available to respond to any questions regarding the information contained in this report or provide further details or explanations as needed, respectfully submitted by Retirement Horizons Inc.



David A. Sawyer  
Fellow of the Society of Actuaries  
Member of the American Academy of Actuaries

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# 1. Valuation Highlights

FUNDING VALUATION	December 31, 2015	September 30, 2017
Fair Value of Assets	\$3,301,643	\$3,503,753
Average Return: valuation year ended	-2.1%	7.9%
Average Return: prior year ended	3.8%	1.2%
Present Value of Projected Benefits	\$7,241,899	\$7,562,769
% funded	45.6%	46.3%
Actuarial Accrued Liability (AAL)	\$5,455,731	\$5,774,598
% funded	60.5%	60.7%
Unfunded Actuarial Liability (UAAL)	\$2,154,088	\$2,270,845
% of valuation compensation	156.7%	152.3%
Expected Unfunded AAL Amortization Period (years)	21.7	21.8
Normal Cost as a % of Payroll	11.9%	12.2%
Firefighter Contribution Rate (% of Pay)	12.0%	12.0%
City Contribution Rate (% of Pay)	12.0%	12.0%
Total Contribution Rate	24.0%	24.0%
PRB Contribution Rate Guidelines (as a % of payroll)		
- Minimum UAL Amortization Period (30 years)	22.1%	22.1%
- Preferred UAL Amortization Period (25 years)	23.1%	23.1%
- Preferred UAL Amortization Period (10 years)	32.5%	32.2%
<b>DEMOGRAPHICS</b>		
Active	25	26
Terminated with Deferred Benefits	1	1
Retirees and Beneficiaries in Pay	10	10
Total	36	37
Valuation Compensation	\$1,374,573	\$1,491,018
<b>ASSUMPTIONS</b>		
Investment Return	7.50%	7.50%
Salary Scale	5.50%	5.50%
Payroll Growth Assumption	4.00%	4.00%
Administrative Expense (as a % of assets)		
- as a % of assets	0.75%	0.75%
- as a % of payroll		1.75%

# 1. Valuation Highlights (continued)

<b>GASB 67 PLAN ACCOUNTING DISCLOSURE</b>	<b>December 31, 2015</b>	<b>September 30, 2016</b>	<b>September 30, 2017</b>
Total Pension Liability	\$5,455,731	\$5,648,797	\$5,774,598
Plan Fiduciary Net Position	\$3,301,643	\$2,987,515	\$3,503,753
Fund Net Pension Liability	\$2,154,088	\$2,661,282	\$2,270,845
Effective Discount Rate	7.50%	7.50%	7.50%

<b>GASB 68 EMPLOYER ACCOUNTING DISCLOSURE</b>	<b>September 30, 2016</b>	<b>September 30, 2017</b>	<b>September 30, 2018</b>
Total Pension Liability	\$5,455,731	\$5,648,797	\$5,774,598
Plan Fiduciary Net Position	\$3,301,643	\$2,987,515	\$3,503,753
Net Pension Liability	\$2,154,088	\$2,661,282	\$2,270,845
Measurement Date	December 31, 2015	September 30, 2016	September 30, 2017
Pension Expense	\$217,282	\$245,493	\$260,101
Effective Discount Rate	7.50%	7.50%	7.50%

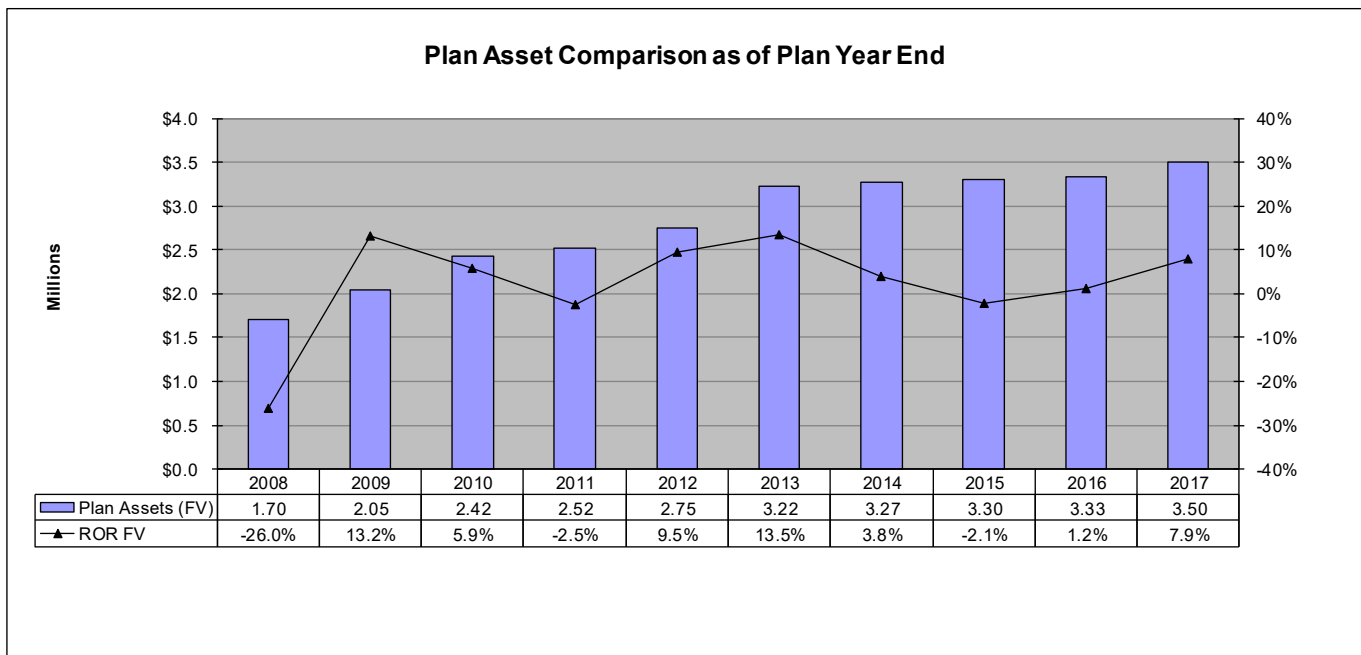
<b>DEMOGRAPHICS</b>	<b>December 31, 2015</b>	<b>September 30, 2017</b>
Active	25	26
Terminated with Deferred Benefits	1	1
Retirees and Beneficiaries in Pay	10	10
Total	<u>36</u>	<u>37</u>
Valuation Compensation	\$1,374,573	\$1,491,018
Average Pay	\$54,983	\$57,347
Average Age	36.4	36.3
Average Service	10.9	10.4

<b>ASSUMPTIONS</b>		
Investment Return	7.50%	7.50%
Salary Scale	5.50%	5.50%
Payroll Growth	4.00%	4.00%

## 2.1 Value of Plan Assets

The *fair value (FV)* of plan assets was \$3.503 million as of September 30, 2017, compared to \$3.302 million for the prior valuation at December 31, 2015. The net increase of \$0.201 million over the two-year period is attributable to the total contributions of \$0.576 million plus an investment return of \$0.298 million (net of investment expenses), less total disbursements and administrative expenses of \$0.673 million. Please see Exhibit 3.1 for more details on the development of the fair value of plan assets.

The net rate of return on the fair value of assets was 1.2% for plan year 2016 and 7.9% for plan year 2017, producing an average annual rate of return of 4.5% over the two-year period. As summarized in the graph below, the annual rate of return on a fair market value basis exceeded the 7.5% long-term interest rate assumption in 2 of the last 5 years (period 2013-2017), producing an average rate of return of 4.7%. Furthermore, due to the severity of the financial market downturn during 2008, the average annual rate of return was only 1.8% over the last 10 years (period 2008-2017).



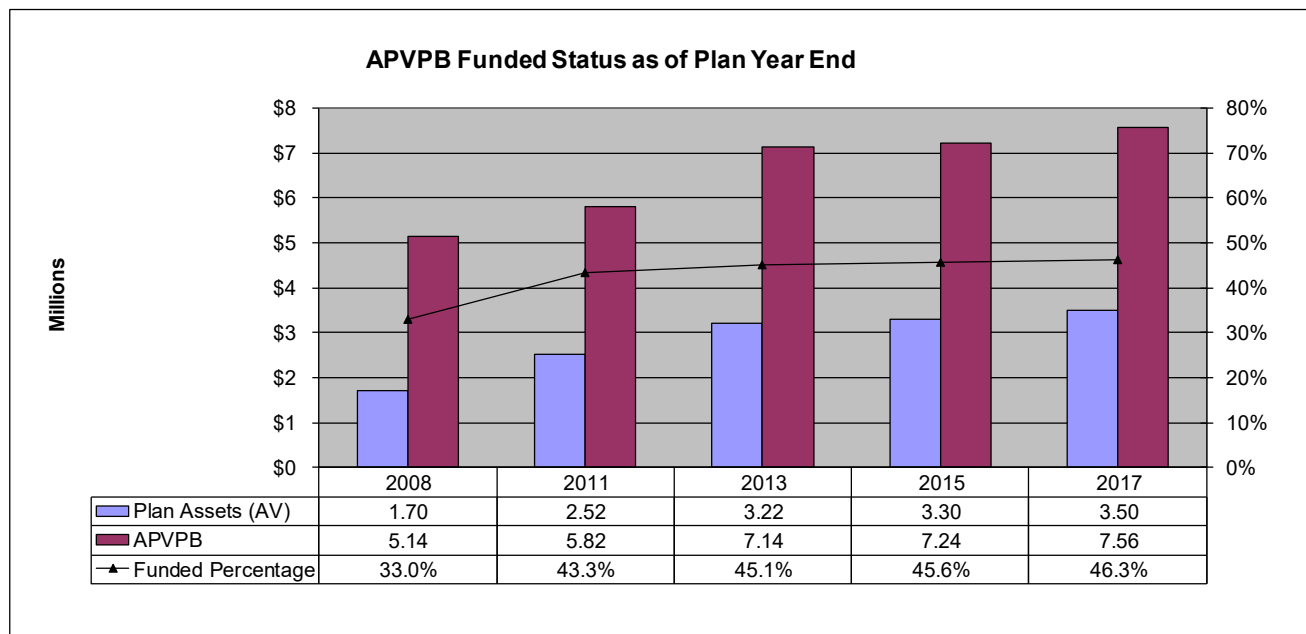
## 2.2 Actuarial Present Value of Projected Benefits

The true cost of a pension plan is the accumulation of benefit payments less investment income (net of expenses), over the lifetime of the program. In the actuarial valuation process, we use a mathematical model to project the future stream of plan benefits. The model incorporates current plan provisions and member census data, using the actuarial assumptions to predict future events.

Discounting the stream of expected future benefit payments for the time value of money produces the *actuarial present value of projected benefits (APVPB)*. This represents the hypothetical amount of plan assets necessary to fully fund/endow all future plan costs for the current population – assuming future plan experience follows the actuarial assumptions. This measure of pension liability includes benefits that have not yet been earned for current employees, based on expected future pay increases as well as projected service, a portion of which will be funded by future contributions.

The total APVPB was \$7.563 million as of September 30, 2017, compared to \$7.242 million for the prior valuation as of December 31, 2015. The net increase of \$0.321 million is primarily attributable to the normal operation of the plan and the higher than expected pay increases, partially offset by the change in the mortality assumption. Please see Exhibit 3.2 for more details on the development of the APVPB.

Comparing the value of plan assets to the APVPB provides one measure of long-term funding policy progress. The funded status on this basis was 46.3% as of September 30, 2017, compared to 45.6% for the prior valuation as of December 31, 2015. Below is a historical comparison of plan assets to the APVPB.



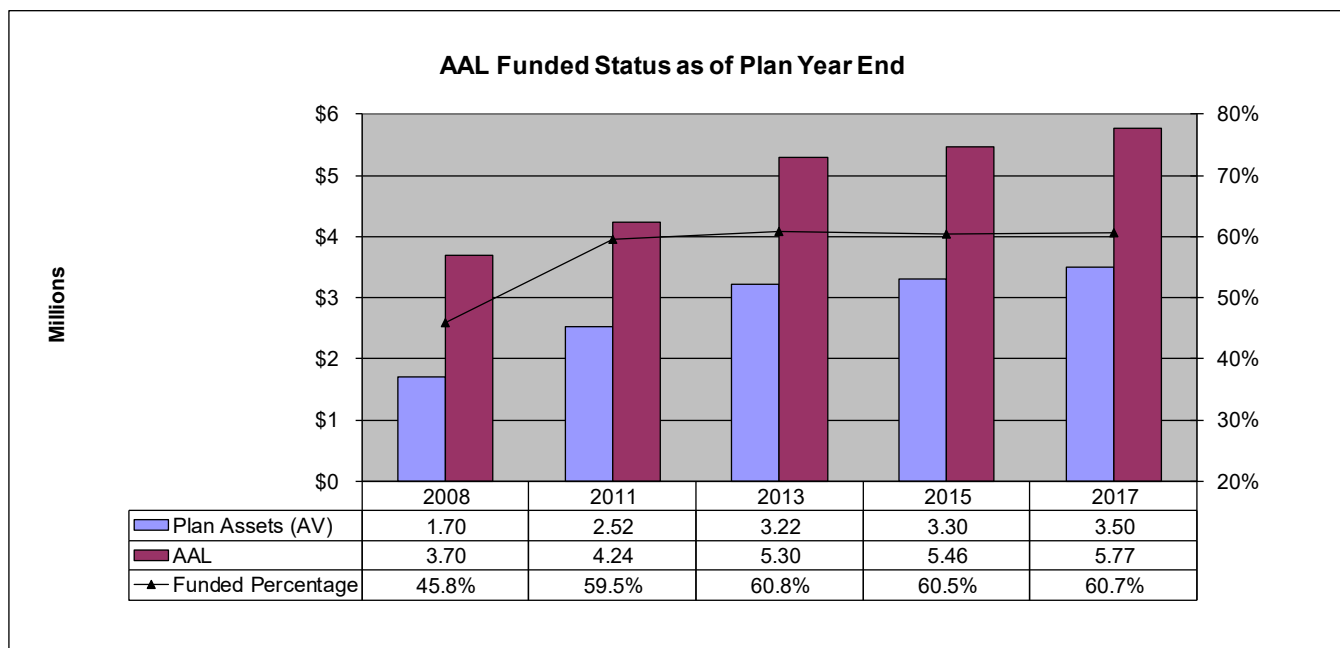


## 2.3 Actuarial Accrued Liability

As a practical matter, few plan sponsors can afford to fully fund benefits before they have been earned. Generally accepted actuarial principals apply a mathematical formula known as an actuarial cost method to allocate the APVPB over periods of employee service. The portion of cost attributable to periods of employee service rendered prior to the valuation date is the *actuarial accrued liability (AAL)*, and the allocation to the current year is referred to as *normal cost (NC)*. The difference between the APVPB and the AAL represents the present value of all future normal costs (PVFNC).

Comparing AAL to plan assets provides a more appropriate measure of progress in the long-term funding policy. The *unfunded actuarial accrued liability (UAAL)* was \$2.271 million (60.7% funded status) as of September 30, 2017, compared to \$2.154 million (60.5% funded status) as of December 31, 2015.

The net UAAL increase of \$0.117 million is primarily attributable to unfavorable asset experience, partially offset by assumption changes previously discussed. Please see Exhibit 3.3 for more details on the development of the UAAL. As illustrated in the historical comparison below, the UAAL funded status has improved significantly over the last 10 years, but the trend has been relatively flat in recent years.



## 2.4 Funding Policy Analysis

### Texas Pension Review Board Guidelines

Under generally accepted actuarial practice, a sound funding policy should provide monies sufficient to cover the current year normal cost and amortize the UAAL over a reasonable period, which generally should not extend beyond the average future working lifetime of the active members.

Recently revised Texas Pension Review Board guidelines for actuarial soundness recommend a funding policy that will amortize the UAAL over a period of 10-25 years, not to exceed a maximum period of 30 years. Furthermore, plan improvements should not be considered if the resulting expected amortization period would exceed 25 years.

Based on the 2017 actuarial valuation and provided future plan experience is consistent with the actuarial methods and assumptions, current plan contributions (total 24.00% of pay) will be sufficient to amortize the unfunded actuarial liability in 21.8 years (0.1 years increase from 2015 valuation). The expected amortization period remained the same primarily because the unfavorable asset experience was offset by the expectation of larger contributions in the future due to the recent payroll growth. Please see Exhibits 3.4 and 3.5 for more details.

The current financing arrangement is sufficient to satisfy the PRB minimum contribution rate and is below the top end of the PRB preferred period of 10-25 years. As illustrated in the table below, the UAAL amortization period has stayed level the last few years. While the Fund remains in compliance with PRB funding policy guidelines, we would like the trend to show a general reduction in the expected amortization period.

	2005	2008	2011	2013	2015	2017
UAAL Amortization Period	28.5	18.7	14.8	21.7	21.7	21.8

## 2.5 Deterministic Forecast of UAL Amortization Period

Based on the results of the current valuation, the expected UAL amortization period is 21.8 years. Assuming the future asset returns are equal to 7.50% per year, the amortization period is projected to decrease annually by 1 year. That is, the expected UAL amortization period is projected to be 16.8 years as of September 30, 2022 (5 years from now). However, if actual returns are lower than 7.50%, the actual amortization period will not decrease as quickly, and may increase. Below is an illustration demonstrating the expected amortization period if asset returns are equal to 7.00% per year.

(\$ Millions)

Valuation Date	Actuarial Liability	Actuarial Value of Assets	Unfunded Actuarial Liability (UAL)	UAL Amortization Period
September 30, 2017	\$5.775	\$3.504	\$2.271	21.8 years
September 30, 2018	\$6.081	\$3.778	\$2.303	21.0 years
September 30, 2019	\$6.373	\$4.041	\$2.332	20.1 years
September 30, 2020	\$6.680	\$4.321	\$2.359	19.4 years
September 30, 2021	\$7.004	\$4.623	\$2.381	18.6 years
September 30, 2022	\$7.342	\$4.941	\$2.401	17.8 years

As shown in the table above, the UAL Amortization Period is projected to be 17.8 years as of September 30, 2022 (5 years in the future), compared to an expected 16.8 years if all valuation assumptions, including the 7.50% return, are met. At the end of 10 years, the projected amortization period would be 15.5 years using the 7.00% return, compared to 11.8 years using the valuation assumptions.

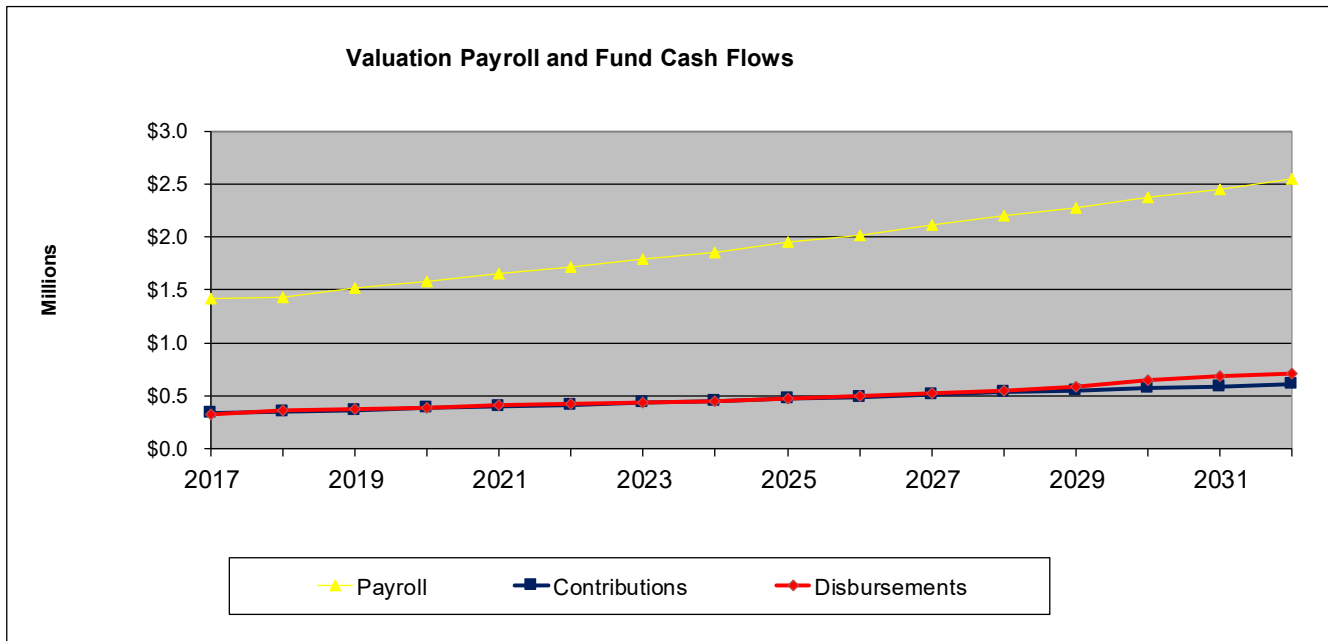
If the Board were to reduce its long-term return assumption to 7.00%, the actual amortization period would be closer to 32 years assuming no other changes to the valuation assumptions. Reducing the long-term return assumption will increase the unfunded liability expected amortization period in the short-run, but the continued use of an overly optimistic rate of return assumption increases the risk that the funding policy may eventually prove to be inadequate.

## 2.6 Open Group Forecast Valuation

The measurements of liabilities and costs summarized in the funding policy analysis are based only on the current group of plan members as of the measurement date, what is generally referred to as a closed group valuation. Based on the results from the 2015 valuation, we can project pension plan liabilities and costs using an open group forecast assuming a stable number of active employees.

As current active Firefighters are projected to exit according to expected rates of termination, disability, retirement and death, we assume they will be replaced by entry-level Firefighters with an average age of 25 and average salary of \$39,600 (current dollars). Applying these assumptions to the 2017 workforce, we expect total payroll will increase from \$1.491 million to \$2.546 million over the next 15 years.

It is important to note that under this projection, total payroll is expected to grow around 3.6% per annum over the next 15 years assuming a stable number of active members. While this is less than the 4.0% total payroll growth assumption, it may be explained by expected retirements of more than 45% of the current active membership over the projection period. As more senior firefighters retire and are replaced by promotions within the current membership, we assume there will also be a corresponding new class of younger, lower paid, entry-level Firefighters temporarily holding down the growth in payroll. It is important to also note the projected payroll growth rate is higher than the recent plan experience (averaged 3.4% over the last 5 years). We should monitor the growth rate in total payroll closely in the future to ensure the long range actuarial assumption remains reasonable.



Total contributions are expected to increase from \$0.33 million in 2017 to \$0.61 million over the next 15 years. Total benefit payments plus expenses are also expected to increase from \$0.41 million to \$0.71 million over the same period. This indicates that the Fund net cash flows will move from a shortfall of \$0.08 million to a shortfall of \$0.10 million over the next 15 years.

## 2.7 GASB 67/68 Accounting Information

The GASB adopted changes to GASB Statement Nos. 25 and 27, creating GASB statement Nos. 67 and 68. These new statements apply solely to the accounting valuation and do not require any change to the calculation of the actuarially determined financing arrangement. The new accounting statements expand the disclosure information required for both the Fund and the sponsoring employer and also increase the complexity of the actuarial calculations. Below is a high-level summary of the potential impact for the City of San Benito based on our current understanding of the guidance issued to date:

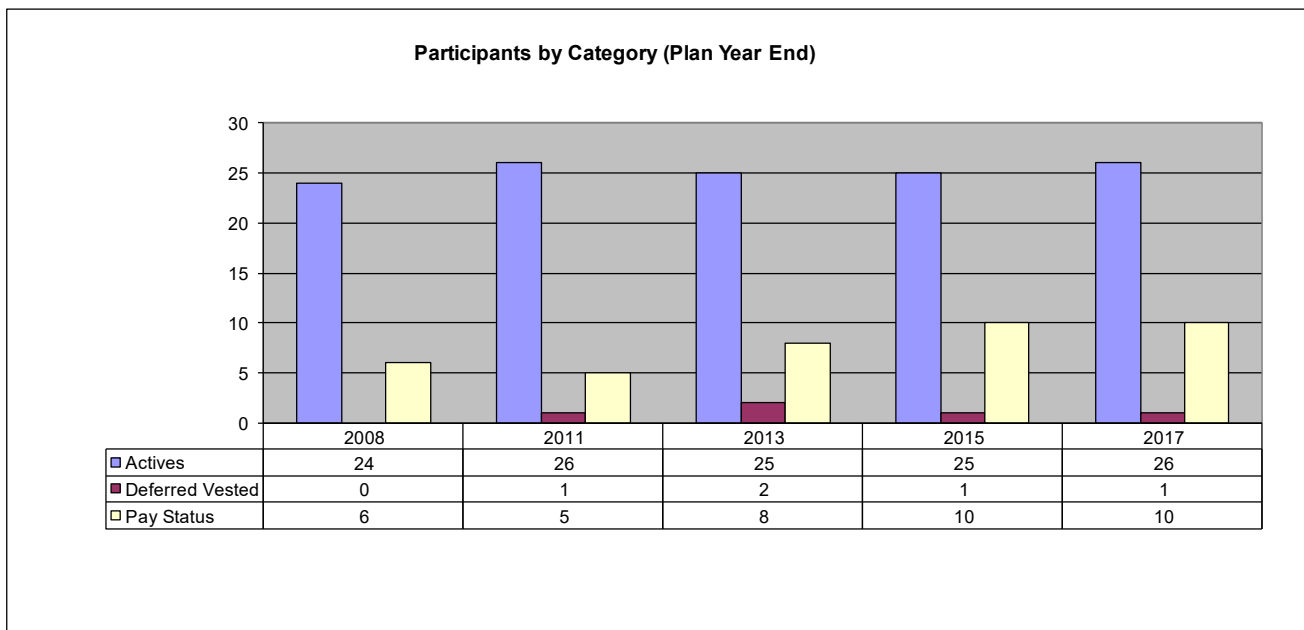
- New Terminology – GASB 67 and 68 introduce new labels for the traditional actuarial terminology that was used in GASB 25 and 27. The actuarial accrued liability is referred to as the Total Pension Liability, the market value of assets is referred to as the Plan Fiduciary Position, and the unfunded actuarial liability and balance sheet liability are now referred to as the Net Pension Liability.
- Net Pension Liability – Under GASB 68, the City must recognize the unfunded actuarial liability on its balance sheet. Based on the 2017 actuarial valuation and applying the “look back” approach, the City’s September 30, 2018 Net Pension Liability will increase to \$2.271 million.
- Discount Rate Assumption – To the extent current plan assets and funding policy are not sufficient to cover projected plan benefit payments, the net pension liability would be measured using a blended discount rate based on the plan’s long-term actuarial assumption for the funded portion and a 30-year municipal bond index rate (AA/Aa or higher) for the unfunded portion. Based on the 2017 valuation projections, we do not believe this provision will impact the Fund.
- Pension Expense – Under GASB 67, the pension expense will equal the Fund’s fixed contribution rate. However, GASB 68 requires a completely separate calculation of pension expense for the City’s financial statements that will result in more rapid cost recognition of changes in the Net Pension Liability than prior rules. The GASB 68 pension expense will equal the sum of the following components:
  - Service Cost (Normal Cost) for additional benefits accrued.
  - Interest Cost on Total Pension Liability less Expected Return on Plan Fiduciary Position.
  - Amortization of changes in the components of Net Pension Liability:
    - Full and immediate recognition of plan changes and improvements.
    - Plan asset experience gains and losses amortized over 5 years.
    - Plan liability experience gain/loss amortized over future service (about 8.1 years).
    - Impact of assumption changes amortized over future service (about 8.1 years).
- Expanded Disclosure – Exhibit 3.6 provides the GASB 67 disclosure information assuming a fresh start approach from December 31, 2011 through September 30, 2017. The measurement date was changed to September 30<sup>th</sup> effective with the 2016 fiscal year end. Exhibit 3.7 provides GASB 68 disclosure information for City fiscal year end September 30, 2018, using the look back approach for the plan year end measurement date of September 30, 2017. Please note the City Contribution made for the fiscal year ending September 30, 2018 will need to be added to the Deferred Outflow of Resources once the amount is known.

## 2.8 Membership Demographics

The number of active members increased from 25 to 26 since the last valuation. Total eligible payroll increased from \$1.375 million to \$1.491 million (about 4.7% annual) while average pay increased from \$54,983 to \$57,347 (about 2.4% annual). Average age of the group decreased from 36.4 to 36.3 years and average service decreased from 10.9 years to 10.4 years.

The number of retired and disabled members in pay status remained at 10 and average annual benefits remained at \$23,082. The number of terminated vested members remained at 0. The number of participants due a refund of contributions remained at 1. The number of beneficiaries in pay status remained at 0.

Please see Exhibit 4.1 for a summary of member census data used in the current valuation, along with a comparison to the prior valuation. Exhibit 4.2 provides a reconciliation of data by member group and exhibit 4.3 provides an age/service distribution of active members.



## 2.9 Actuarial Assumptions and Methods

### Introduction

Sponsoring a defined benefit pension plan is a long-term commitment, with the ultimate cost dependent on a number of financial and demographic variables. The actuarial valuation process uses a mathematical model and applies actuarial assumptions to predict these future events. Periodic updates of the actuarial valuation process are necessary to ensure the model is financially sound, comparing emerging plan asset and liability experience to valuation projections to measure actuarial gains and losses, making adjustments to the long-term actuarial assumptions if appropriate.

### Actuarial Standards of Practice (ASOP)

ASOP No. 27 provides a framework for the actuary in providing advice on development of economic actuarial assumptions. Because no one knows for certain what the future holds with respect to volatile financial markets and a dynamic global economy, ASOP No. 27 emphasizes the use of professional judgment to develop a best estimate for each economic assumption.

Under generally accepted actuarial principles, each individual assumption should represent a best estimate of expected long-term experience, and should also be reasonable and realistic in the aggregate. The GASB accounting standards confirm that actuarial assumptions should be based on the actual plan experience (to the extent credible), emphasizing expected long-term future trends rather than giving undue weight to recent past experience.

ASOP No. 35 requires the actuary to use professional judgment in the selection of demographic and other non-economic actuarial assumptions considering the relevant universe of possible choices. It also directs the actuary to consider the specific characteristics of the particular benefit provisions and covered group of the plan being valued.

Reasonable demographic assumptions are defined as those that are expected to model the contingency being measured appropriately without producing any significant cumulative actuarial gains and losses over the measurement period. ASOP No. 35 encourages the use of more sophisticated approaches if appropriate for the situation (e.g. large plans) while also acknowledging that simplified techniques may actually be more accurate in other situations (e.g. small plans).

Please see Exhibit 4.4 for a summary of actuarial assumptions and methods used for the 2017 valuation of the Fund. The amounts presented in this actuarial report have been determined according to the actuarial assumptions and methods selected by the Board of Trustees with review and concurrence by RHI. The longevity improvement assumption was updated from Scale MP-2015 to Scale MP-2016. There were no other assumptions changes recognized in this valuation.

## 2.9 Actuarial Assumptions and Methods (Continued)

### Interest Rate

The interest rate is the most powerful assumption in the actuarial valuation process, used to project the average rate of return expected on assets and also used to discount future benefit payments in the actuarial present value calculations. To illustrate the sensitivity, a one-percentage-point decrease in the interest rate assumption will generally increase plan liabilities and cost 10% to 15% based on plan demographics.

The net rate of return on the *fair value of assets (FV)* was 1.2% for 2016 and 7.9% for 2017, producing an average annual rate of return during the two-year period of 4.5%, compared to the long-term actuarial assumption of 7.50% (net of investment expenses). As summarized in Section 2.1, the actual FV rate of return of the Fund has been higher than the long-term actuarial assumption of 7.50% (net of investment expenses) only 2 out of the last 5 years (period 2013-2017), producing an average annual rate of return of 4.7%. Furthermore, due to the severity of the financial market downturn during 2008, the average rate of return was only 1.8% over the last 10 years (period 2008-2017).

The long-term interest rate assumption was recently revised by the Board to 7.50% net of investment management expenses only, with other plan administrative expenses separately accounted for as required under GASB rules. As the investment expenses have averaged about 75 basis points in recent years, the Fund will need to earn a gross rate of return of about 8.25% in order to achieve the long-term actuarial assumption of 7.50% net of investment expenses.

Based on long-term historical capital market performance and the current Fund asset allocation of 70% equity and 30% fixed income and cash, an expected rate of return of 8.25% is still within a reasonable range – but certainly on the higher end. Furthermore, forward looking capital market expectations over the next 10-15 years from organizations like J.P. Morgan indicate it may be difficult to achieve an 8.25% rate of return within a traditional diversified investment allocation model:

<b>Capital Market Expectations</b>	<b>Total Expected Return</b>
U.S. Equity – Large Cap	5.50%
U.S. Equity – Small Cap	5.75%
International Equity – EAFE	6.25%
International Equity – Emerging Markets	8.00%
U.S. Treasury Bonds	2.50%
U.S. Corporate Bonds – Investment Grade	3.75%
Private Equity	7.25%

We encourage the Board to review this critical assumption with its investment advisors, to confirm that 7.50% (net of investment expenses) is consistent with their expectations for the Fund under the current asset allocation strategy and financial market outlook. Reducing the long-term return assumption will increase the unfunded liability expected amortization period in the short-run, but the continued use of an overly optimistic rate of return assumption increases the risk that the funding policy may eventually prove to be inadequate.



## 2.9 Actuarial Assumptions and Methods (Continued)

### Amortization Method and Payroll Growth Rate

For the level percent of pay method, the assumption used to project growth in total payroll for calculating amortization of the UAAL should not necessarily be the same as the salary scale assumption. Individual members may experience this rate of pay growth as they progress through their careers, but those exiting the workforce (due to termination, retirement, etc.) will in effect be replaced by lower paid entry level employees. Assuming the number of employees remains constant (i.e. no increase in head count), the net growth in total payroll will generally be less than the salary scale and closer to the basic inflation rate.

The Fund currently uses a payroll growth rate assumption of 4.00% per annum. The actual rate of growth in total payroll averaged 1.4% over the period 2007-2017, but 3.4% since 2012. We recommend the Board consider lowering the payroll growth assumption to 3.50% for the next valuation. As developed in Exhibit 3.4, a payroll growth assumption of 3.5% would have increased the expected UAAL amortization period from 21.8 to 23.3 years.

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Avg.
Payroll (\$ millions)	\$1.19	\$1.29	\$1.25	\$1.32	\$1.20	\$1.16	\$1.20	\$1.18	\$1.45	\$1.04	\$1.36	n/a
Rate of Increase	5.1%	8.6%	-2.8%	5.0%	-9.2%	-2.8%	3.5%	-1.9%	22.9%	-28.2%	30.7%	1.4%

Please note the 2016 payroll only covers the 9-month period from December 31, 2015 to September 30, 2016.

### Mortality Assumption

Although not as powerful in the valuation model as investment return, the mortality assumption is still an important factor in the actuarial valuation process. The baseline mortality assumption has been updated to use the MP-2016 longevity improvement scale (previously MP-2015 was used).

Using the new assumption, a 55-year-old member is expected to live to 83.5 years of age. This is a future life expectancy of 28.5 years compared to 29.1 years under the prior assumption. As shown in the table below, this new mortality basis reflects slight decreases in life expectancy ranging from 0.3 to 0.8 years based on gender and age as of the measurement date. This decrease is a result of the new longevity scale project a smaller mortality improvement over the projection period.

Age	Future Life Expectancy in Years - Males			Future Life Expectancy in Years- Females		
	Prior Basis	Revised Basis	Change	Prior1 Basis	Revised Basis	Change
25	60.6	59.8	-0.8	63.8	63.1	-0.7
35	49.8	49.1	-0.7	52.9	52.3	-0.6
45	39.1	38.4	-0.7	42.2	41.5	-0.7
55	29.1	28.5	-0.6	32.1	31.4	-0.7
65	20.2	19.8	-0.4	22.7	22.2	-0.5
75	12.5	12.2	-0.3	14.4	14.0	-0.4

## 2.10 Plan Provisions

We are not aware of any changes to the plan provisions since the prior valuation. We have assumed the current contribution rates – 12.0% firefighters and 12.0% City – will remain constant in the future. Please see Exhibit 4.5 for a summary of provisions included in the current year valuation.

### 3.1 Fair Value of Plan Assets

	<u>12/31/2015</u>	<u>09/30/2016</u>	<u>09/30/2017</u>
<b>A. Fair Value of Plan Assets</b>			
1. Fixed Income	\$0	\$0	\$376,683
2. Equities	\$3,124,846	\$2,573,126	\$2,314,081
3. Cash Equivalents	\$176,797	\$461,428	\$53,561
4. Alternatives	\$0	\$293,557	\$759,428
5. Total Fair Value	<u>\$3,301,643</u>	<u>\$3,328,111</u>	<u>\$3,503,753</u>
<b>B. Change in Fair Value</b>	<u>Change</u>	<u>Change</u>	
1. Contributions			
a. Firefighters	\$124,833	\$163,218	
b. City	\$124,833	\$163,218	
c. Total	<u>\$249,666</u>	<u>\$326,436</u>	
2. Disbursements			
a. Monthly Payments	(\$173,112)	(\$230,817)	
b. Refund of Contributions	(\$70,020)	(\$154,903)	
c. Administrative Expenses	(\$20,216)	(\$23,611)	
d. Total	<u>(\$263,348)</u>	<u>(\$409,331)</u>	
3. Investment Return			
a. Interest and Dividends	\$45,377	\$51,731	
b. Realized and Unrealized Gain/(Loss)	\$20,335	\$245,428	
c. Investment Expenses	(\$25,562)	(\$38,622)	
d. Total Return	<u>\$40,150</u>	<u>\$258,537</u>	
4. Net Change	<u>\$26,468</u>	<u>\$175,642</u>	
5. Average Rate of Return			
a. Average Asset Value	\$3,294,802	\$3,286,664	
b. Income Net of Investment Expenses	\$40,150	\$258,537	
c. Rate of Return Net of Investment Expenses	1.2%	7.9%	
6. Investment Gain/(Loss)	(\$206,960)	\$12,037	

### 3.2 Actuarial Present Value of Projected Benefits

	<u>December 31, 2015</u>	<u>September 30, 2017</u>
A. Discount Rate	7.50%	7.50%
B. Present Value of Projected Benefits		
1. Active	\$4,565,214	\$4,952,129
2. Contribution Refund Payable	\$4,946	\$5,255
3. Terminated Vested	\$0	\$0
4. Retired	\$2,641,172	\$2,575,595
5. Disabled	\$30,567	\$29,790
6. Beneficiary	\$0	\$0
7. Total	<u>\$7,241,899</u>	<u>\$7,562,769</u>
C. Change in Present Value of Projected Benefits		<u>Change</u>
1. Benefits Accumulated		\$0
2. Benefits Paid		(\$628,852)
3. Decrease in Discount Period		\$934,647
4. Plan Experience		\$70,091
5. Actuarial Assumptions		(\$55,016)
6. Actuarial Methods		\$0
7. Plan Amendments		\$0
8. Net Change		<u><u>\$320,870</u></u>
D. Actuarial Value of Assets	<u>\$3,301,643</u>	<u>\$3,503,753</u>
E. Funded Status	45.6%	46.3%
F. Present Value of Future Payroll	\$15,042,900	\$14,641,600
G. Present Value of Future Contributions		
1. Firefighter	\$1,805,148	\$1,756,992
2. City	<u>\$1,805,148</u>	<u>\$1,756,992</u>
3. Total	<u>\$3,610,296</u>	<u>\$3,513,984</u>

### 3.3 Actuarial Accrued Liability and Normal Cost

	<u>December 31, 2015</u>	<u>September 30, 2017</u>
A. Discount Rate	7.50%	7.50%
B. Actuarial Accrued Liability (EAN)		
1. Active	\$2,779,046	\$3,163,958
2. Contribution Refund Payable	\$4,946	\$5,255
3. Terminated Vested	\$0	\$0
4. Retired	\$2,641,172	\$2,575,595
5. Disabled	\$30,567	\$29,790
6. Beneficiary	\$0	\$0
7. Total	<u>\$5,455,731</u>	<u>\$5,774,598</u>
C. Actuarial Value of Assets	<u>\$3,301,643</u>	<u>\$3,503,753</u>
D. Unfunded Actuarial Liability	<u><u>\$2,154,088</u></u>	<u><u>\$2,270,845</u></u>
E. Change in Unfunded Actuarial Accrued Liability		<u>Change</u>
1. Contributions		(\$576,102)
2. Benefits Accumulated		\$321,400
3. Decrease in Discount Period		\$274,917
4. Plan Asset Experience		\$156,383
5. Plan Liability Experience		(\$16,067)
6. Actuarial Assumptions		(\$43,774)
7. Actuarial Methods		\$0
8. Plan Amendments		\$0
9. Net Change		<u><u>\$116,757</u></u>
F. Funded Status	60.5%	60.7%
G. Present Value of Future Normal Cost	\$1,786,168	\$1,788,171
H. Present Value of Future Payroll	\$15,042,900	\$14,641,600
I. Normal Cost Rate	11.87%	12.21%

### 3.4 Expected Amortization Period

	<u>December 31, 2015</u>	<u>September 30, 2017</u>
A. Discount Rate	7.50%	7.50%
B. Present Value Future Compensation (PVFComp)	\$15,042,900	\$14,641,600
C. Present Value Future Contributions (PVFContrb)	\$3,610,296	\$3,513,984
% of Compensation	24.00%	24.00%
D. Present Value Projected Benefits (PVFB)	\$7,241,899	\$7,562,769
E. Actuarial Accrued Liability (AAL)	<u>\$5,455,731</u>	<u>\$5,774,598</u>
F. Present Value of Future Normal Costs (PVFNC)	\$1,786,168	\$1,788,171
% of PVFComp	11.87%	12.21%
G. PVFContrb available to payoff UAL	\$1,824,128	\$1,725,813
% of PVFComp	12.13%	11.79%
H. Valuation Compensation	\$1,374,573	\$1,491,018
I. Current Contribution Available to pay off UAL		
1. Current Contribution in Excess of PVFNC	\$160,814	\$169,548
2. Administrative Expenses	(\$23,883)	(\$25,345)
3. Current Contribution Available to pay off UAL	<u>\$136,931</u>	<u>\$144,203</u>
J. Unfunded Actuarial Liability (UAL)	\$2,154,088	\$2,270,845
K. Expected Amortization Period (4% Payroll Growth)	21.7	21.8
L. Expected Amortization Period Sensitivity		
1. Annual Payroll Growth 3.00%	25.2	25.2
2. Annual Payroll Growth 3.50%	23.3	23.3

### 3.5 Recommended Funding Policy

	<u>December 31, 2015</u>	<u>September 30, 2017</u>
A. PRB Minimum Funding Policy		
1. Normal Cost	11.87%	12.21%
2. Administrative Expenses	1.80%	1.76%
3. 30-year Amortization Payment:	8.41%	8.17%
4. Total Minimum Funding	<u>22.08%</u>	<u>22.14%</u>
B. PRB Preferred Funding Policy		
1. Normal Cost	11.87%	12.21%
2. Administrative Expenses	1.80%	1.76%
3. 25-year Amortization Payment:	9.40%	9.14%
4. Total Preferred Funding	<u>23.07%</u>	<u>23.11%</u>
C. PRB Preferred Funding Policy - High		
1. Normal Cost	11.87%	12.21%
2. Administrative Expenses	1.80%	1.76%
3. 10-year Amortization Payment:	18.78%	18.25%
4. Total Preferred Funding	<u>32.45%</u>	<u>32.22%</u>

#### Notes

(1) Recommended minimum funding policy under Texas Pension Review Board (PRB) guidelines based on amortization of Unfunded Actuarial Liability not to exceed 30 years. PRB preferred funding policy, based on an amortization period of 10 - 25 years.

(2) Amortization calculated under the level percent of pay method, with fresh start each valuation date. Payroll is assumed to grow 4.00% per year.

### 3.6 GASB 67 Accounting Information

**Schedule of Changes in San Benito Firemen's Relief and Retirement Fund  
Net Pension Liability and Related Ratios**

	<u>December 31, 2015</u>	<u>September 30, 2016</u>	<u>September 30, 2017</u>
<b>Total Pension Liability</b>			
Service Cost	\$183,882	\$136,151	\$182,053
Interest	\$387,907	\$300,047	\$389,309
Changes of benefit terms	\$0	\$0	\$0
Differences between expected and actual experience	\$35,434	\$0	(\$16,067)
Changes of assumptions	(\$387,461)	\$0	(\$43,774)
Benefit payments, including refunds of member contributions	(\$243,336)	(\$243,132)	(\$385,720)
<b>Net change in total pension liability</b>	<b>(\$23,574)</b>	<b>\$193,066</b>	<b>\$125,801</b>
<b>Total pension liability - beginning</b>	<b>\$5,479,305</b>	<b>\$5,455,731</b>	<b>\$5,648,797</b>
<b>Total pension liability - ending (a)</b>	<b>\$5,455,731</b>	<b>\$5,648,797</b>	<b>\$5,774,598</b>
<b>Plan fiduciary net position</b>			
Contributions - employer	\$173,862	\$124,833	\$163,218
Contributions - member	\$173,862	\$124,833	\$163,218
Net investment income	(\$54,606)	(\$300,446)	\$599,133
Benefit payments, including refunds of member contributions	(\$243,336)	(\$243,132)	(\$385,720)
Administrative expense	(\$16,031)	(\$20,216)	(\$23,611)
Other	\$0	\$0	\$0
<b>Net change in plan fiduciary net position</b>	<b>\$33,751</b>	<b>(\$314,128)</b>	<b>\$516,238</b>
<b>Plan fiduciary net position - beginning</b>	<b>\$3,267,892</b>	<b>\$3,301,643</b>	<b>\$2,987,515</b>
<b>Plan fiduciary net position - ending (b)</b>	<b>\$3,301,643</b>	<b>\$2,987,515</b>	<b>\$3,503,753</b>
<b>Fund's net pension liability - ending (a) - (b)</b>	<b>\$2,154,088</b>	<b>\$2,661,282</b>	<b>\$2,270,845</b>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	<b>60.5%</b>	<b>52.9%</b>	<b>60.7%</b>
Covered-employee payroll	\$1,448,850	\$1,040,275	\$1,360,150
Fund's net position liability as a percentage of covered employee payroll	148.7%	193.4%	167.0%

**Notes to Schedule:** Covered-employee payroll is estimated using firefighter contributions divided by the contribution percentage. The Fund's FY 2016 net pension liability as a percentage of covered employee payroll was based on the annual compensation for the twelve month period ending September 30, 2016 rather than the nine months of payroll shown above. The plan fiduciary net position as of September 30, 2016 was subsequently revised to be \$3,328,111. As the amount shown above was in a published audit report, the net investment income for the period ending September 30, 2017 was increased by \$340,596 to reconcile to the September 30, 2017 plan fiduciary net position.



### 3.6 GASB 67 Accounting Information (continued)

#### Schedule of San Benito's Contributions

	<u>December 31, 2015</u>	<u>September 31, 2016</u>	<u>September 31, 2017</u>
City Required Contribution	\$347,724	\$249,666	\$326,436
Contributions in relation to the City required contribution	\$347,724	\$249,666	\$326,436
Contribution deficiency (excess)	\$0	\$0	\$0
Covered-employee payroll	\$1,448,850	\$1,040,275	\$1,360,150
Contributions as a percentage of covered-employee payroll	24.0%	24.0%	24.0%

#### Notes to Schedule

Valuation date: September 30, 2017

Contributions to the fund are based on negotiations between the members and the City rather than an actuarially determined rate. The funding policy of the San Benito Firemen's Relief and Retirement Fund requires contributions from both the City and the firefighters. The City's contribution rate is currently 12.00% of member payroll with each active member contribution 12.00% of member payroll.

Other than the update to the mortality improvement scale, there were no changes to assumptions, methods or plan provisions since the prior valuation.

Inflation:	2.50%
Payroll Growth:	4.00%
Salary Increases:	5.5% per annum.
Investment Rate of Return	7.50% net of pension plan investment expenses
Mortality:	RP-2014 mortality tables with blue collar adjustment, projected back to 2006 using Scale MP-2014 and forward generationally using Scale MP-2016

### 3.6 GASB 67 Accounting Information (continued)

#### Notes to Schedule

The long-term expected rate of return on pension plan investments was determined using a building block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of September 30, 2017 (see the discussion of the pension plan's investment policy) are summarized in the following table:

<u>Asset Class</u>	<u>Long-Term Expected Real Rate of Return</u>
Equity	6.5%
Fixed Income	3.5%
Cash	0.0%

*Discount rate.* The discount rate used to measure the total pension liability was 7.50%. The projection of cash flows used to determine the discount rate assumed that the City contribution would equal the actuarially determined contribution rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension investments was applied to all periods of benefit payments to determine the total pension liability.

*Sensitivity of the net pension liability to changes in the Discount rate:* The following presents the net pension liability of the City, calculated using the discount rate of 7.50% as well as what the City's net pension liability would be if it were to be calculated using the discount rate that is 1-percentage-point lower (6.50%) or 1-percentage-point higher (8.50%) than the current rate:

	<u>1% Decrease (6.50%)</u>	<u>Current Discount Rate (7.50%)</u>	<u>1% Increase (8.50%)</u>
City's net pension liability	\$3,025,634	\$2,270,845	\$1,641,846

#### Schedule of Investment Returns

Fiscal Year Ending

	<u>12/31/2015</u>	<u>09/30/2016</u>	<u>09/30/2017</u>
Annual money-weighted rate of return, net of investment expense	-1.65%	-11.98%	20.34%

### 3.7 GASB 68 City Accounting Information

#### Changes in Net Pension Liability

The Net Pension Liability amounts shown below assume the City will use a measurement date equal to the Fund's prior fiscal year end. Under this method, the City's fiscal year end September 30, 2018 reporting period would use the Fund's September 30, 2017 valuation results.

	Increase (Decrease)		
	Total Pension Liability (TPL)	Plan Fiduciary Net Position	Net Pension Liability (NPL)
Balance at 9/30/2017	\$5,648,797	\$2,987,515	\$2,661,282
Changes for the year:			
Service Cost	182,053		182,053
Interest	389,309		389,309
Experience	(16,067)		(16,067)
Employer Contributions		163,218	(163,218)
Member Contributions		163,218	(163,218)
Net Investment Income		599,133	(599,133)
Benefit Payments	(385,720)	(385,720)	-
Administrative Expense		(23,611)	23,611
Assumption Changes	(43,774)		(43,774)
Net Change	125,801	516,238	(390,437)
Balance at 9/30/2018	<u>\$5,774,598</u>	<u>\$3,503,753</u>	<u>\$2,270,845</u>

#### Sensitivity of the Net Pension Liability to Changes in the Discount Rate.

The following presents the net pension liability, calculated using the discount rate of 7.50%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.50%) or 1-percentage-point higher (8.50%) than the current rate:

	1% Decrease 6.50%	Current Discount Rate of 7.50%	1% Increase 8.50%
Firefighters' Fund Net Pension Liability	\$3,025,634	\$2,270,845	\$1,641,846

### 3.7 GASB 68 City Accounting Information (continued)

#### **Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions**

<b>Pension Expense Components</b>	FYE 9/30/2018
Service Cost	\$ 182,053
Interest on TPL	389,309
Differences between expected and actual experience	1,997
Changes in Assumptions	(48,939)
Changes in Benefit Terms	-
Employee Contributions	(163,218)
Projected Earnings on Pension Plan Investments	(220,955)
Differences between projected and actual earnings on plan investments	96,243
Pension Plan Administrative Expenses	23,611
Other Changes in Fiduciary Net Position	-
<b>Total Pension Expense</b>	<u>\$ 260,101</u>

For the year ended September 30, 2018, the City recognizes pension expense of \$260,101. At September 30, 2018, the City reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Differences between expected and actual experience	24,486	14,083
Changes in assumptions	-	306,110
Net difference between projected and actual investment earnings	163,906	-
City Contributions subsequent to Measurement Date	<u>To be determined</u>	<u>                    </u>
<b>Total</b>	<b>To be determined</b>	<b>320,193</b>

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year Ended September 30:	
2019	\$49,301
2020	\$36,224
2021	(\$11,099)
2022	(\$98,288)
2023	(\$46,942)
Thereafter	(\$60,997)

### 3.7 GASB 68 City Accounting Information (continued)

#### Recognition of Changes in TPL

Year	Differences Between Expected and Actual Experience	Recognition Period (Years)	Year											
			2015						2016					
			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
2016	\$35,434	8.9	\$0	\$3,981	\$2,986	\$3,981	\$3,981	\$3,981	\$3,981	\$3,981	\$3,981	\$3,981	\$600	\$0
2018	(\$16,067)	8.1	\$0	\$0	\$0	(\$1,984)	(\$1,984)	(\$1,984)	(\$1,984)	(\$1,984)	(\$1,984)	(\$1,984)	(\$1,984)	(\$195)
			\$0	\$3,981	\$2,986	\$1,997	\$1,997	\$1,997	\$1,997	\$1,997	\$1,997	\$1,997	(\$1,384)	(\$195)

Year	Changes in Assumptions	Recognition Period (Years)	Year											
			2015						2016					
			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
2016	(\$387,461)	8.9	\$0	(\$43,535)	(\$32,651)	(\$43,535)	(\$43,535)	(\$43,535)	(\$43,535)	(\$43,535)	(\$43,535)	(\$43,535)	(\$6,530)	\$0
2018	(\$43,774)	8.1	\$0	\$0	\$0	(\$5,404)	(\$5,404)	(\$5,404)	(\$5,404)	(\$5,404)	(\$5,404)	(\$5,404)	(\$5,404)	(\$542)
			\$0	(\$43,535)	(\$32,651)	(\$48,939)	(\$48,939)	(\$48,939)	(\$48,939)	(\$48,939)	(\$48,939)	(\$48,939)	(\$11,934)	(\$542)

#### Recognition of Investment (Gains) / Losses

Year	Differences between Projected and Actual Earnings on Pension Plan Investment	Recognition Period (Years)	Year											
			2015						2016					
			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
2015	\$87,163	5	\$17,433	\$17,433	\$13,075	\$17,433	\$17,433	\$4,356	\$0	\$0	\$0	\$0	\$0	\$0
2016	\$286,451	5	\$0	\$57,290	\$42,968	\$57,290	\$57,290	\$57,290	\$14,323	\$0	\$0	\$0	\$0	\$0
2017	\$485,779	5	\$0	\$0	\$72,867	\$97,156	\$97,156	\$97,156	\$97,156	\$24,288	\$0	\$0	\$0	\$0
2018	(\$378,178)	5	\$0	\$0	\$0	(\$75,636)	(\$75,636)	(\$75,636)	(\$75,636)	(\$75,634)	\$0	\$0	\$0	\$0
			\$17,433	\$74,723	\$128,910	\$96,243	\$96,243	\$83,166	\$35,843	(\$51,346)	\$0	\$0	\$0	\$0
Total			\$17,433	\$35,169	\$99,245	\$49,301	\$49,301	\$36,224	(\$11,099)	(\$98,288)	(\$46,942)	(\$46,942)	(\$13,318)	(\$737)

## 4.1 Demographic Summary

	<u>December 31, 2015</u>	<u>September 30, 2017</u>
A. Active Members		
1. Number	25	26
2. Valuation Compensation	\$1,374,573	\$1,491,018
3. Average pay	\$54,983	\$57,347
4. Average age	36.4	36.3
5. Average service	10.9	10.4
B. Terminated Vested Members - Deferred Contribution Refund		
1. Number	1	1
2. Total benefits	\$5,112	\$5,255
3. Average Annual benefits	\$5,112	\$5,255
C. Terminated Vested Members - Deferred Annuity		
1. Number	0	0
2. Total benefits	\$0	\$0
3. Average Annual benefits	N/A	N/A
4. Average Age	N/A	N/A
D. Retired and Disabled Members		
1. Number	10	10
2. Total benefits	\$230,816	\$230,816
3. Average Annual benefits	\$23,082	\$23,082
4. Average Age	61.4	63.3
E. Beneficiaries		
1. Number	0	0
2. Total benefits	\$0	\$0
3. Average Annual benefits	N/A	N/A
4. Average Age	N/A	N/A

## 4.2 Data Reconciliation

	<u>Active</u>	<u>Deferred Inactive</u>	<u>Disabled</u>	<u>Retired</u>	<u>Total</u>
Included in December 31, 2015 Valuation	25	1	1	9	36
Change Due To:					
New hires and rehires	11	0	0	0	11
Termination (Vested)	(1)	1	0	0	0
Termination (Nonvested)	0	0	0	0	0
Retirement	0	0	0	0	0
Disability	0	0	0	0	0
Death without beneficiary	0	0	0	0	0
Death with beneficiary	0	0	0	0	0
Cashouts	(9)	(1)	0	0	(10)
Data corrections	0	0	0	0	0
Net change	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>
Included in September 30, 2017 Valuation	<u><u>26</u></u>	<u><u>1</u></u>	<u><u>1</u></u>	<u><u>9</u></u>	<u><u>37</u></u>

### 4.3 Active Members by Age and Service

Attained Age	Years of Service as of September 30, 2017							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30 & up	
Under 25	5	0	0	0	0	0	0	5
25-29	5	0	0	0	0	0	0	5
30-34	3	1	0	0	0	0	0	4
35-39	0	0	2	1	0	0	0	3
40-44	0	0	1	2	1	0	0	4
45-49	0	0	0	0	0	1	0	1
50-51	0	0	0	0	0	1	0	1
52-54	0	0	0	0	1	0	0	1
55-59	0	0	0	0	0	0	1	1
60 & up	0	0	0	0	0	0	1	1
<b>Total</b>	<b>13</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>26</b>

Not Vested	Vested	Retirement Eligible
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## 4.4 Assumptions and Methods

### Economic Assumptions

#### Interest Rates:

- Investment Return 7.50% per annum (net of investment expenses).
- Administrative Expense 1.75% of payroll.
- Salary Increases 5.50% per annum.
- Total Payroll Growth 4.00% per annum.

### Demographic Assumptions

- Mortality
  - Healthy RP-2014 Blue Collar Mortality tables adjusted backward to 2006 with Scale MP-2014 and projected generationally with Scale MP-2016.
  - Disabled Disabled firefighters are assumed to experience higher mortality during their disability as based on the RP-2014 Disabled Mortality tables adjusted backward to 2006 with Scale MP-2014 and projected generationally with Scale MP-2016.
- Termination Custom table based on service of firefighter.

Sample rates per 100 firefighters:

<u>Service</u>	<u>Rate</u>
1	10.70
6	5.40
11	2.80
16	1.80

## 4.4 Assumptions and Methods (continued)

- **Disability** Active firefighters are assumed to incur disabilities based on experience firefighter rates that vary by age as shown below, assuming 50% of future disabilities are duty related and 50% non-duty related. Sample rates per 100 firefighters are shown below:

<u>Age</u>	<u>Rate</u>
25	0.06
30	0.08
35	0.10
40	0.23
45	0.39
50	0.70

- **Retirement** Custom table based on age of the firefighter, resulting in an average retirement age of 54.2:

<u>Age</u>	<u>Rate</u>
52-59	20%
60	100%

- **Marital Status** 80% of all active firefighters are assumed to be married at the time benefits commence. Males are assumed to be two years older than their spouses.
- **Changes in Assumptions** The mortality assumption was updated to the RP-2014 mortality tables adjusted backward to 2006 with Scale MP-2014 and projected generationally with Scale MP-2016. There have been no other changes in principal actuarial assumptions from the prior valuation.

## 4.4 Assumptions and Methods (continued)

### Methods

Valuation Date	September 30, 2017
Valuation Compensation	Valuation Compensation is equal to the actual pension eligible compensation for the current active members projected one year into the future using the salary scale.
Asset Valuation Method	Actual Market Value
Entry Age Normal Actuarial Cost Method	<p>The <u>Entry Age Normal Actuarial Cost Method</u> is a method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age. The portion of this actuarial present value allocated to a valuation year is called the <i>normal cost</i>. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the <i>actuarial accrued liability</i>.</p>
Changes in Methods	There have been no changes in the actuarial methods from the prior valuation.

## 4.5 Plan Provisions

Effective Date	The Plan was most recently amended December 1, 2013.
Eligibility	A firefighter shall become a participant when he first becomes employed with the San Benito Fire Department.
Service	A firefighter receives credit for the number of years and months of continuous employment with the Fire Department. The records of the Fire Department will determine service prior to 1990. After January 1, 1990, service will be credited for each month the firefighter holds a position in the Department and contributes to the plan.
Compensation	<p>Compensation includes all elements of pay except lump sum distributions for unused sick leave or vacation.</p> <p>Highest 60-Month Average Salary is the average of the firefighter's total pay for the highest 260 weekly pay periods with the department during which his total pay was the highest multiplied by 4.333.</p>
Contributions	<p>The City contributes 12.00% of compensation. Active firefighters contribute 12.00% of their compensation.</p> <p>The City may elect to contribute amounts that exceed those required amounts.</p>

## 4.5 Plan Provisions (continued)

### Service Retirement

The retirement eligibility date is the attainment of age 52 and the completion of 20 years of service.

Each firefighter who retires on or after his retirement eligibility date receives a monthly retirement income equal to the sum of (a) and (b), where:

- (a) A base benefit of 45.00% of the Highest 60-Month Average Salary; plus
- (b) A longevity benefit equal to \$70 per month for each whole year of service in excess of 20 years. Partial credit will be given to a year based on the number of completed months of service.

### Disability Retirement

An active firefighter is eligible for a disability benefit if he becomes disabled from any cause and is unable to perform the duties of a position offered to him in the fire department at an equal or higher pay level.

The disability allowance will commence after the expiration of all vacation and sick leave, and will continue as long as the participant remains disabled as defined above.

The monthly benefit for duty-related disability is determined in the same manner as Service Retirement as defined above. The monthly benefit for non-duty-related disability is determined as 5% of the duty-related disability benefit for each completed year and fractional year of service (maximum 100%).

The Board of Trustees shall have the ability to continue, to terminate, to reduce or to reinstate a firefighter's disability benefit based on prescribed conditions as defined in the plan document.

## 4.5 Plan Provisions (continued)

### Termination Benefit

Upon a firefighter's termination, he is eligible for a deferred benefit if he has completed at least 10 years of service and agrees to leave his contributions in the Fund.

The monthly benefit is equal to his service retirement benefit determined as of the date of separation from service multiplied by the Vested Percentage based on his years and completed months of service at time of termination, as illustrated in the following schedule:

Years of Service	Vested Percentage
10	50%
11	55%
12	60%
13	65%
14	70%
15	75%
16	80%
17	85%
18	90%
19	95%
20	100%

Full benefits may not commence prior to the end of the month of attainment of age 52.

### Refund of Contributions

If a firefighter terminates with less than 10 years of service, he will receive an amount equal to the excess of his own contributions to the fund over the amount of benefits that he has previously received from the fund. A firefighter with 10 or more years of service may elect a refund of his own contributions, however he will forfeit his right to all future benefits he otherwise would have been entitled to receive.

## 4.5 Plan Provisions (continued)

### Pre-Retirement Death Benefit

- Spouse

Upon the death of an active firefighter, a benefit is payable to his beneficiaries commencing at the end of the month of death.

The duty-related death benefit payable to the eligible surviving spouse of a firefighter who was not yet eligible for retirement is equal to 2/3 of the Service Retirement Benefit the firefighter would have been entitled to receive as of the date of death (using the maximum of service at date of death or 20 years). This benefit shall be paid as long as the surviving spouse is living and does not remarry. The not duty-related death benefit payable to the eligible surviving spouse of a firefighter is equal to 5% of the on-duty death benefit for each completed year and fractional year of service (maximum 100%).
- Child

Each surviving unmarried child under age 18 shall receive a monthly benefit equal to 7.6% of the Highest 60-Month Average Salary of the firefighter as of the date of death. If there is no surviving spouse, an unmarried child will receive 15.2% of the Service Retirement Benefit the firefighter would have been entitled to receive. This death benefit shall be paid until age 18, or continue until age 25 as long as the child remains a full-time student. In addition, benefits are payable after age 17 for as long as a child remains totally disabled.

### Post-Retirement Death Benefit

- Spouse

Upon the death of a service retiree or disabled retiree, a benefit is payable to his beneficiaries commencing at the end of the month of death.

The benefit payable to the eligible surviving spouse of a service retiree or disabled retiree is equal to 2/3 of the Service Retirement or Disability Retirement Benefit the firefighter was receiving as of the date of death. This benefit shall be paid until the spouse's death or remarriage.
- Child

Same as Pre-Retirement Child Death Benefit.

## 4.5 Plan Provisions (continued)

### Limitation on Death Benefits

The sum of all death benefits payable on behalf of a retired firefighter may not exceed the benefit he was receiving as of the date of his death. The sum of all death benefits payable on behalf of a non-retired firefighter may not exceed the retirement benefit that he would have been entitled to receive as of his date of death. In the event this limit is exceeded, each beneficiary's benefit is reduced pro-rata until the limit is met.

### Partial Lump Sum Option (PLSO)

A firefighter eligible for normal service retirement who is at least age 55 with at least 23 years of service can elect the PLSO option. At retirement the firefighter will receive a reduced monthly benefit based on the service retirement benefit formula multiplied by a percentage factor based on the firefighter's age at retirement and the number of months included in the PLSO lump sum elected by the retiring firefighter. In addition, the firefighter will receive a lump sum amount based on the reduced monthly benefit multiplied by the number of applicable months elected.

### Changes in plan provisions

There were no changes in plan provisions since the prior valuation.