



# San Benito Firemen's Relief and Retirement Fund

Actuarial Valuation Report  
As of December 31, 2015

Prepared by  
**Retirement Horizons Inc.**  
October 13, 2016



September 29, 2016

Board of Trustees  
San Benito Firemen's Relief and Retirement Fund  
P. O. Box 1870  
San Benito, Texas 78586

Re: 2015 ACTUARIAL VALUATION

Ladies and Gentlemen:

The Board of Trustees for the San Benito Firemen's Relief and Retirement Fund retained Retirement Horizons Inc. (RHI) to perform an actuarial valuation of the Fund as of December 31, 2015. 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 \$2.154 million (60.5% funded status) as of December 31, 2015, compared to \$2.073 million (60.8% 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 21.7 years based on the 2015 valuation (no change 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 15-25 years, not to exceed a maximum of 40 years. Therefore, the 2015 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 2015 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 2015 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 2015 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.

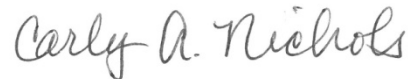
Board of Trustees  
September 29, 2016

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 have met the "Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States" and are 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, 2013	December 31, 2015
Fair Value of Assets	\$3,216,957	\$3,301,643
Average Annual Return: valuation year ended	13.5%	-2.1%
Average Annual Return: prior year ended	9.5%	3.8%
Average Annual Return: two year average	11.5%	0.8%
Present Value of Projected Benefits	\$7,137,495	\$7,241,899
% funded	45.1%	45.6%
Actuarial Accrued Liability (AAL)	\$5,289,745	\$5,455,731
% funded	60.8%	60.5%
Unfunded Actuarial Liability (UAAL)	\$2,072,788	\$2,154,088
% of valuation compensation	169.9%	156.7%
Expected Unfunded AAL Amortization Period (years)	21.7	21.7
Firefighter Contribution Rate (% of Pay)	12.00%	12.00%
City Contribution Rate (% of Pay)	12.00%	12.00%
Total Contribution Rate	24.00%	24.00%
PRB Contribution Rate Guidelines (as a % of payroll)		
- Minimum UAL Amortization Period (40 years)	20.53%	20.88%
- Preferred UAL Amortization Period (25 years)	22.96%	23.07%
- Preferred UAL Amortization Period (15 years)	27.47%	27.19%
<b>DEMOGRAPHICS</b>		
Active	25	25
Terminated with Deferred Benefits	2	1
Retirees and Beneficiaries in Pay	8	10
Total	35	36
Valuation Compensation	\$1,220,173	\$1,374,573
<b>ASSUMPTIONS</b>		
Investment Return	7.00%	7.50%
Salary Scale	5.50%	5.50%
Payroll Growth Assumption	4.00%	4.00%
Administrative Expense (as a % of assets)	N/A	75 basis points

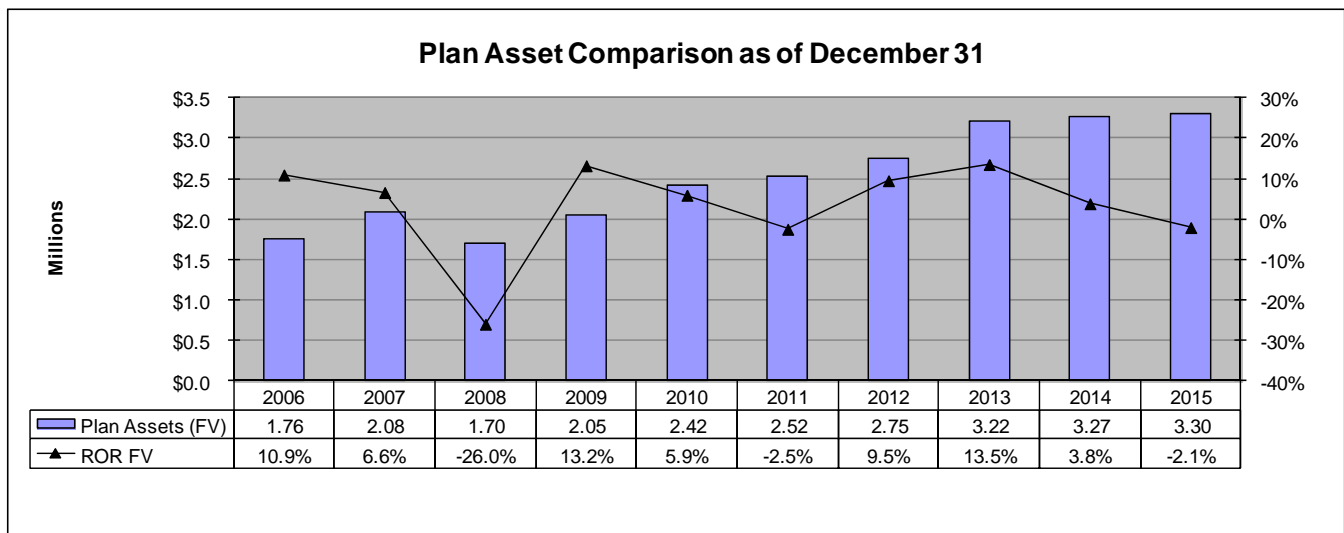
# 1. Valuation Highlights (continued)

<b>GASB 67 PLAN ACCOUNTING DISCLOSURE</b>	<b>December 31, 2013</b>	<b>December 31, 2014</b>	<b>December 31, 2015</b>
Total Pension Liability	\$5,289,745	\$5,479,305	\$5,455,731
Plan Fiduciary Net Position	\$3,216,957	\$3,267,892	\$3,301,643
Fund Net Pension Liability	\$2,072,788	\$2,211,413	\$2,154,088
Interest Rate	7.00%	7.00%	7.50%
<b>GASB 68 EMPLOYER ACCOUNTING DISCLOSURE</b>		<b>Fiscal Year Ending September 30, 2015</b>	<b>Fiscal Year Ending September 30, 2016</b>
Total Pension Liability		\$5,479,305	\$5,455,731
Plan Fiduciary Net Position		\$3,267,892	\$3,301,643
Net Pension Liability		\$2,211,413	\$2,154,088
Measurement Date		December 31, 2013	December 31, 2015
Pension Expense		\$210,404	\$217,282

## 2.1 Value of Plan Assets

The *fair value (FV)* of plan assets was \$3.302 million as of December 31, 2015, compared to \$3.217 million for the prior valuation at December 31, 2013. The net increase of \$0.085 million over the two-year period is attributable to the total contributions of \$0.631 million plus an investment return of \$0.050 million (net of expenses), less total disbursements of \$0.596 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 3.8% for plan year 2014 and -2.1% for plan year 2015, producing an average annual rate of return of 0.8% over the two-year period. As summarized in the graph below, the annual rate of return on a fair market value basis exceeded the 7.0% long-term interest rate assumption in 2 of the last 5 years (period 2011-2015), producing an average rate of return of 4.3%. Furthermore, due to the severity of the financial market downturn during 2008, the average annual rate of return was only 2.6% over the last 10 years (period 2006-2015).



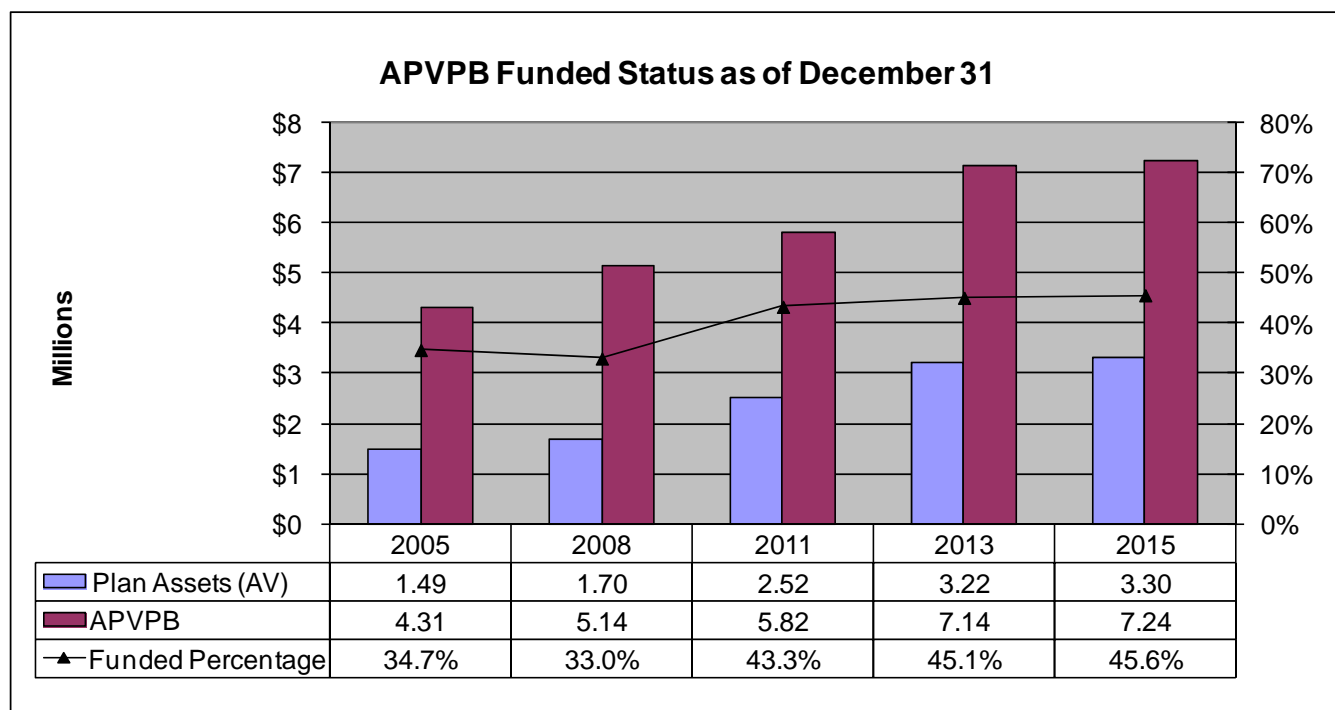
## 2.2 Actuarial Present Value of Projected Benefits

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 \$7.242 million as of December 31, 2015, compared to \$7.137 million for the prior valuation as of December 31, 2013. The net increase of \$0.105 million is primarily attributable to the normal operation of the plan and the change in the marriage assumption, partially offset by the increase in the discount rate and 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 45.6% as of December 31, 2015, compared to 45.1% for the prior valuation as of December 31, 2013. Below is a historical comparison of plan assets to the APVPB.



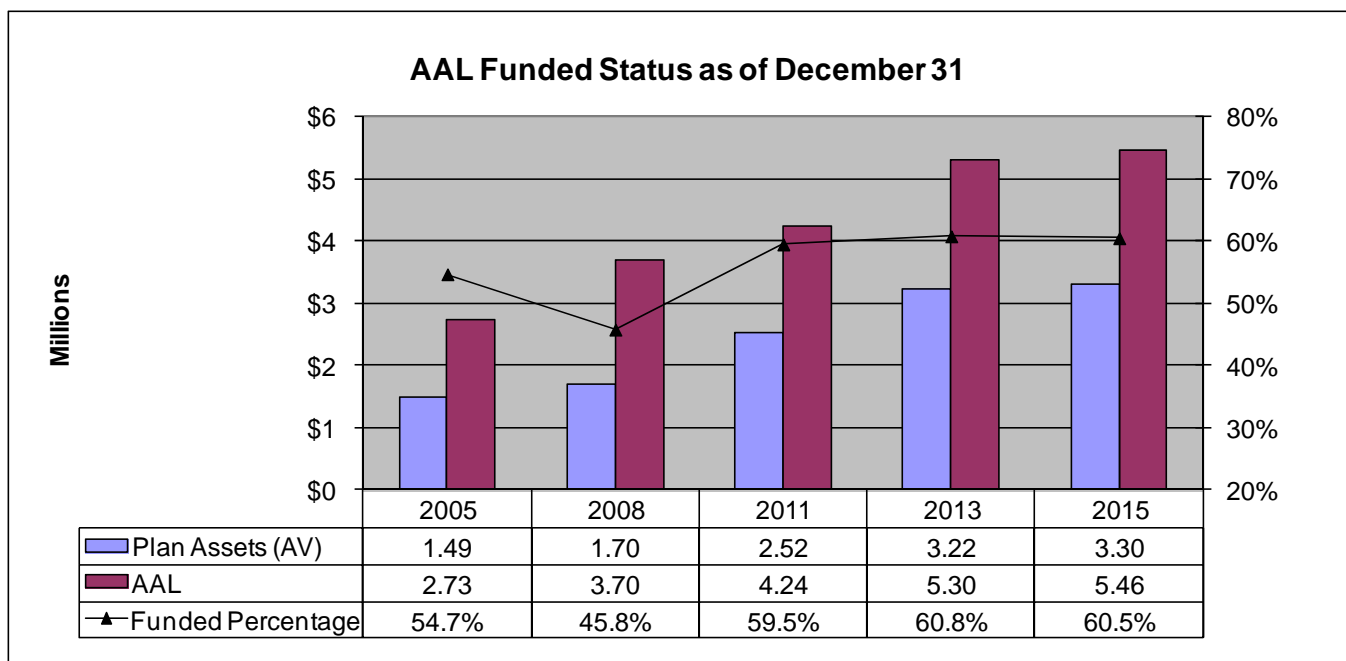


## 2.3 Actuarial Accrued Liability

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 \$2.154 million (60.5% funded status) as of December 31, 2015, compared to \$2.073 million (60.8% funded status) as of December 31, 2013.

The net UAAL increase of \$0.081 million is primarily attributable to the normal operation of the plan and 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.



## 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 15-25 years, not to exceed a maximum period of 40 years. Furthermore, plan improvements should not be considered if the resulting expected amortization period would exceed 25 years.

Based on the 2015 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 21.7 years (no change from 2013 valuation). The expected amortization period remained the same primarily because plan experience and unfavorable asset experience were offset by changes in the assumptions. 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 15-25 years. As illustrated in the table below, the UAAL amortization period has shown steady progress despite the difficult financial markets during this period.

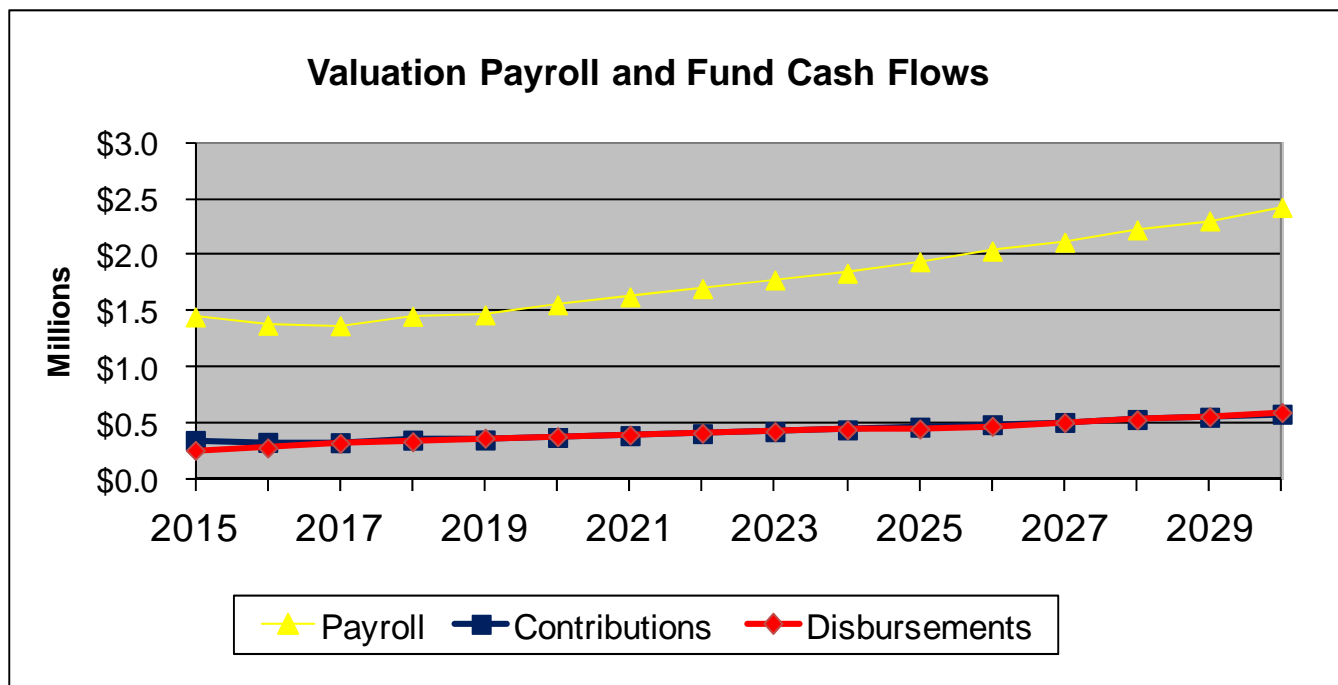
	2002	2005	2008	2011	2013	2015
UAAL Amortization Period	25.0	28.5	18.7	14.8	21.7	21.7

## 2.5 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 2015 workforce, we expect total payroll will increase from \$1.375 million to \$2.532 million over the next 15 years.

It is important to note that under this projection, total payroll is expected to grow around 4.2% per annum over the next 15 years assuming a stable number of active members. While this open group projection is consistent with the 4.0% payroll growth long-term assumption, it is higher than the recent plan experience (averaged 1.9% 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.

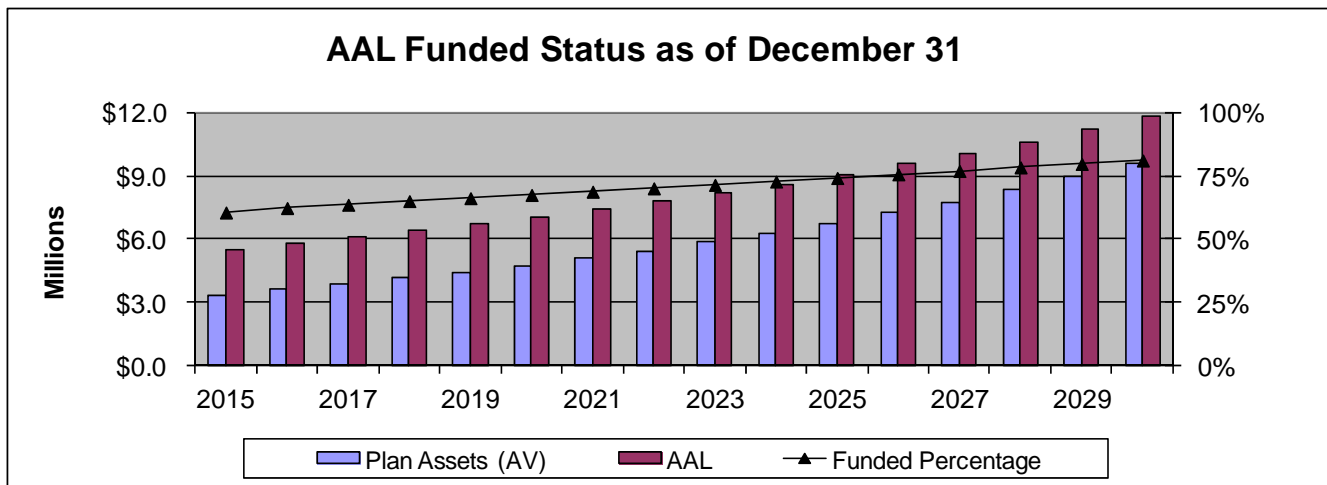


Total contributions are expected to increase from \$0.35 million in 2015 to \$0.58 million over the next 15 years. Total benefit payments plus expenses are also expected to increase from \$0.26 million to \$0.60 million over the same period. This indicates that the Fund net cash flows will move from a surplus of \$0.09 million to a shortfall of \$0.02 million over the next 15 years.

## 2.5 Open Group Forecast Valuation (continued)

Like most TLFFRA retirement systems, the actuarial methodology adopted by the Board to calculate the expected amortization period under the Texas PRB actuarial soundness guidelines is based on open period amortization of the unfunded liability as a level percentage of covered payroll. Assuming plan experience is consistent with the actuarial assumptions, including an average annual rate of return of 7.5% earned by the Fund assets and 4.0% annual growth in covered payroll, the current valuation indicates the unfunded liability will be fully amortized in 21.7 years.

Below is a projection of plan assets compared to the AAL, assuming plan experience is consistent with the actuarial assumptions, including an average annual return on the Fund of 7.5% (net of investment expenses). Plan assets are projected to grow more rapidly than AAL, resulting in an expected increase in funded status from 60.5% to 81.1% over the next 15 years.



These projections assume future plan experience will be consistent with the current actuarial valuation basis – assumptions and methods, plan provisions and member demographics. Actuarial losses resulting from unfavorable plan experience could have a significant impact future valuation results, for example lower than expected rates of return on Fund assets, plan amendments increasing future benefits, or annual payroll growth lower than 4%.

## 2.6 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:

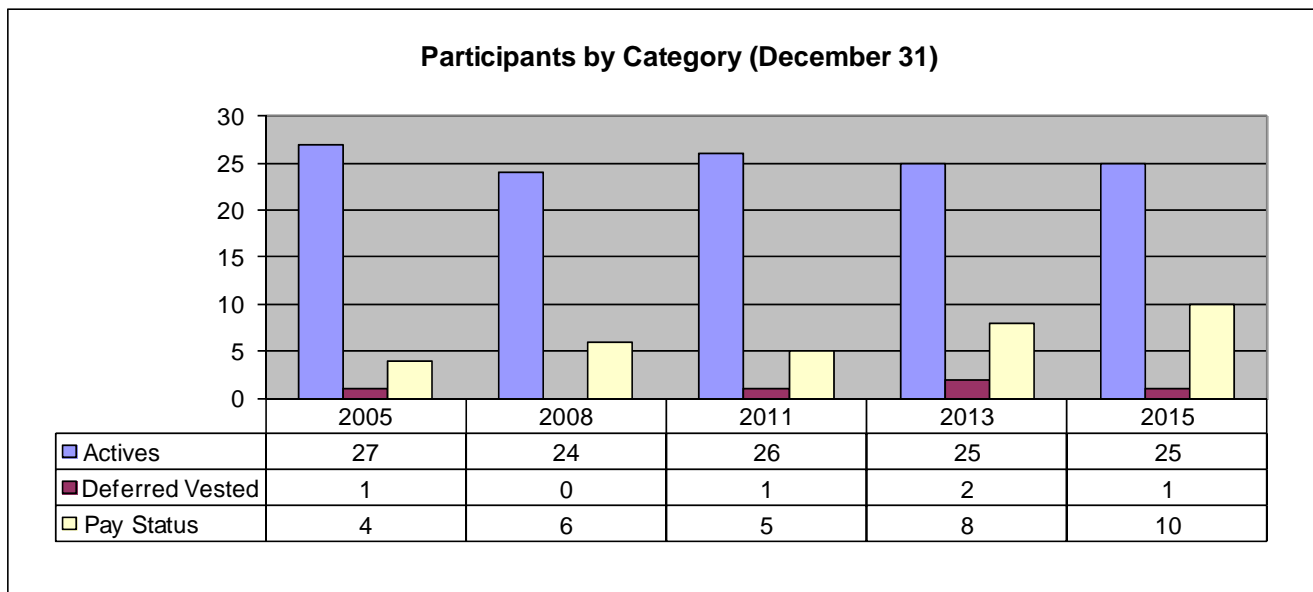
- New Terminology – GASB 67 and 68 introduce new labels for the traditional actuarial terminology that was used in GASB 25 and 27. The actuarial accrued liability is referred to as the Total Pension Liability, the market value of assets is referred to as the Plan Fiduciary Position, and the unfunded 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 2015 actuarial valuation and applying the “look back” approach, the City’s September 30, 2016 Net Pension Liability will increase to \$2.154 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 2015 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 8.9 years).
    - Impact of assumption changes amortized over future service (about 8.9 years).
- Expanded Disclosure – Exhibit 3.6 provides the GASB 67 disclosure information assuming a fresh start approach from December 31, 2011 through December 31, 2015. Exhibit 3.7 provides GASB 68 disclosure information for City fiscal year end September 30, 2016, using the “look back” approach for the plan year end measurement date of December 31, 2015.

## 2.7 Membership Demographics

The number of active members remained at 25 since the last valuation. Total eligible payroll increased from \$1.220 million to \$1.375 million (about 6.1% annual) while average pay increased from \$48,807 to \$54,983 (about 6.1% annual). Average age of the group remained at 36.4 years and average service decreased from 11.4 years to 10.9 years.

The number of retired and disabled members in pay status increased from 8 to 10, while average annual benefits increased from \$20,845 to \$23,082 (about 5.2% annual). The number of terminated vested members remained at 1. The number of participants due a refund of contributions decreased from 1 to 0. 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.



## 2.8 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 2015 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 following changes were made to assumptions in this valuation:

- The investment return assumption was changed to 7.50% net of investment expenses only, with an explicit expense assumption of 0.75% for other plan administration costs.
- The mortality assumption was updated to the RP-2014 blue collar tables with Scale MP-2015.
- The percent marriage assumption was increased from 65% to 80%.

## 2.8 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 3.8% for 2014 and -2.1% for 2015, producing an average annual rate of return during the two-year period of 0.8%, compared to the long-term actuarial assumption of 7.00% (net of 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 7.00% (net of expenses) only 2 out of the last 5 years (period 2011-2015), producing an average annual rate of return of 4.3%. Furthermore, due to the severity of the financial market downturn during 2008, the average rate of return was only 2.6% over the last 10 years (period 2006-2015).

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	7.00%
U.S. Equity – Small Cap	7.25%
International Equity – EAFE	7.75%
International Equity – Emerging Markets	10.00%
U.S. Treasury Bonds	3.00%
U.S. Corporate Bonds – Investment Grade	4.75%
U.S. Direct Real Estate	5.50%

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.



## 2.8 Actuarial Assumptions and Methods (Continued)

### Salary Scale

The salary scale used to project expected future pay increase for active members is also an important assumption used in actuarial valuation model. It is important to note that the salary scale assumption should encompass more than just cost-of-living increases, and should take into account other sources of pay increase including merit, promotion and periodic changes in the overall compensation structure.

The Fund currently uses a salary scale assumption of 5.5% per annum. Based on a review of recent census data (2002-2015), it appears that actual rates of increase are higher in early-career, but lower in late-career as promotional and step-rate increases tend to taper off as these employees reach the top of the pay scale. However, as recent experience is low and we have limited data, we recommend leaving the salary scale assumption at 5.5% per annum. We will continue to monitor the experience to see if a change is necessary in future valuations.

Service	Experience (2002-2015)
0 – 4	7.3%
5 – 9	6.0%
10 – 14	6.5%
15 – 19	5.5%
20 – 24	5.2%
25 – 29	5.7%
30+	2.3%

### 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 3.6% over the period 2005-2015. However, even with the dramatic increase in 2015, the actual rate of growth in total payroll averaged 1.9% over the period 2010-2015. We suggest the Board continue to monitor this assumption, but we are not recommending changes at this time.

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Avg.
Payroll (\$ millions)	\$1.017	\$1.130	\$1.188	\$1.290	\$1.254	\$1.316	\$1.195	\$1.161	\$1.202	\$1.179	\$1.449	n/a
Rate of Increase	n/a	11.1%	5.1%	8.6%	-2.8%	5.0%	-9.2%	-2.8%	3.5%	-1.9%	22.9%	3.6%

## 2.8 Actuarial Assumptions and Methods (Continued)

### 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 from the RP -2000 combined healthy tables with generational mortality improvement using Scale BB to the RP-2014 blue collar mortality tables with generational longevity projection using Scale MP-2015.

Using the new assumption, a 55 year old member is expected to live to 84.1 years of age. This is a future life expectancy of 29.1 years compared to 30.3 years under the prior assumption. As shown in the table below, this new mortality basis reflects slight decreases in life expectancy ranging from 0 to 2 years based on gender and age as of the measurement date. This decrease is a result of shifting from combined healthy to blue collar mortality tables. Blue collar tables are generally expected to better represent the mortality rates for public safety workers.

Age	Future Life Expectancy in Years - Males			Future Life Expectancy in Years- Females		
	Prior Basis	Revised Basis	Change	Prior Basis	Revised Basis	Change
25	62.1	60.6	-1.5	64.5	63.8	-0.7
35	51.3	49.8	-1.5	53.7	52.9	-0.8
45	40.7	39.1	-1.6	43.1	42.2	-0.9
55	30.3	29.1	-1.2	32.7	32.1	-0.6
65	20.7	20.2	-0.5	23.0	22.7	-0.3
75	12.5	12.5	0.0	14.6	14.4	-0.2

## 2.9 Plan Provisions

We are not aware of any changes to the plan provisions since the prior valuation, but understand the Board is considering a one-time ad hoc 5% COLA for those retired as of December 31, 2015. This COLA could be paid for with a 1% of payroll increase in member contributions or by extending the UAAL amortization period from 21.7 years to 23.8 years (2.1 year increase). As the extended UAAL amortization period is still within the PRB Preferred Period, no contribution increase is required. If this change is adopted, it will be reflected in the December 31, 2017 funding valuation results, but will require interim measurement for the December 31, 2016 GASB 67 and September 30, 2017 GASB 68 disclosures.

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

	Asset Values as of December 31		
	2013	2014	2015
<b>A. Fair Value of Plan Assets</b>			
1. Fixed Income	\$839,915	\$0	\$0
2. Equities	\$1,957,403	\$3,179,802	\$3,124,846
3. Cash Equivalents	\$419,639	\$88,090	\$176,797
4. Alternatives	\$0	\$0	\$0
5. Total Fair Value	\$3,216,957	\$3,267,892	\$3,301,643
<b>B. Change in Fair Value</b>	<b>Change</b>	<b>Change</b>	
1. Contributions			
a. Firefighters	\$141,509	\$173,862	
b. City	\$141,509	\$173,862	
c. Total	\$283,018	\$347,724	
2. Disbursements			
a. Monthly Payments	(\$197,037)	(\$230,817)	
b. Refund of Contributions	(\$155,237)	(\$12,519)	
c. Administrative Expenses	(\$15,409)	(\$16,031)	
d. Total	(\$367,683)	(\$259,367)	
3. Investment Return			
a. Interest and Dividends	\$64,452	\$72,873	
b. Realized and Unrealized Gain/(Loss)	\$103,678	(\$93,091)	
c. Investment Expenses	(\$32,530)	(\$34,388)	
d. Total Return	\$135,600	(\$54,606)	
4. Net Change	\$50,935	\$33,751	
5. Average Rate of Return			
a. Average Asset Value	\$3,182,329	\$3,320,086	
b. Income Net of All Expenses	\$120,191	(\$70,637)	
c. Annual Rate of Return Net of All Expenses	3.8%	-2.1%	
6. Investment Gain/(Loss)	(\$102,572)	(\$303,043)	

## 3.2 Actuarial Present Value of Projected Benefits

	<u>December 31, 2013</u>	<u>December 31, 2015</u>
A. Discount Rate	7.00%	7.50%
B. Present Value of Projected Benefits		
1. Active	\$4,687,815	\$4,565,214
2. Contribution Refund Payable	\$3,035	\$4,946
3. Terminated Vested	\$394,008	\$0
4. Retired	\$2,020,785	\$2,641,172
5. Disabled	\$31,852	\$30,567
6. Beneficiary	\$0	\$0
7. Total	<u>\$7,137,495</u>	<u>\$7,241,899</u>
C. Change in Present Value of Projected Benefits		<u>Change</u>
1. Benefits Accumulated		\$0
2. Benefits Paid		(\$595,610)
3. Decrease in Discount Period		\$991,071
4. Plan Experience		\$375,264
5. Actuarial Assumptions		(\$666,321)
6. Actuarial Methods		\$0
7. Plan Amendments		\$0
8. Net Change		<u><u>\$104,404</u></u>
D. Actuarial Value of Assets	<u>\$3,216,957</u>	<u>\$3,301,643</u>
E. Funded Status	45.1%	45.6%
F. Present Value of Future Payroll	\$13,909,000	\$15,042,900
G. Present Value of Future Contributions		
1. Firefighter	\$1,669,080	\$1,805,148
2. City	\$1,669,080	\$1,805,148
3. Total	<u>\$3,338,160</u>	<u>\$3,610,296</u>

### 3.3 Actuarial Accrued Liability and Normal Cost

	<u>December 31, 2013</u>	<u>December 31, 2015</u>
A. Discount Rate	7.00%	7.50%
B. Actuarial Accrued Liability (EAN)		
1. Active	\$2,840,065	\$2,779,046
2. Contribution Refund Payable	\$3,035	\$4,946
3. Terminated Vested	\$394,008	\$0
4. Retired	\$2,020,785	\$2,641,172
5. Disabled	\$31,852	\$30,567
6. Beneficiary	\$0	\$0
7. Total	<u>\$5,289,745</u>	<u>\$5,455,731</u>
C. Actuarial Value of Assets	<u>\$3,216,957</u>	<u>\$3,301,643</u>
D. Unfunded Actuarial Liability	<u><u>\$2,072,788</u></u>	<u><u>\$2,154,088</u></u>
E. Change in Unfunded Actuarial Accrued Liability		<u>Change</u>
1. Contributions		(\$630,742)
2. Benefits Accumulated		\$355,734
3. Decrease in Discount Period		\$295,540
4. Plan Asset Experience		\$412,795
5. Plan Liability Experience		\$35,434
6. Actuarial Assumptions		(\$387,461)
7. Actuarial Methods		\$0
8. Plan Amendments		\$0
9. Net Change		<u><u>\$81,300</u></u>
F. Funded Status	60.8%	60.5%
G. Present Value of Future Normal Cost	\$1,847,750	\$1,786,168
H. Present Value of Future Payroll	\$13,909,000	\$15,042,900
I. Normal Cost Rate	13.28%	11.87%

### 3.4 Expected Amortization Period

	<u>December 31, 2013</u>	<u>December 31, 2015</u>
A. Discount Rate	7.00%	7.50%
B. Present Value Future Compensation (PVFComp)	\$13,909,000	\$15,042,900
C. Present Value Future Contributions (PVFContrb)	\$3,338,160	\$3,610,296
% of Compensation	24.00%	24.00%
D. Present Value Projected Benefits (PVFB)	\$7,137,495	\$7,241,899
E. Actuarial Accrued Liability (AAL)	<u>\$5,289,745</u>	<u>\$5,455,731</u>
F. Present Value of Future Normal Costs (PVFNC)	\$1,847,750	\$1,786,168
% of PVFComp	13.28%	11.87%
G. PVFContrb available to payoff UAL	\$1,490,410	\$1,824,128
% of PVFComp	10.72%	12.13%
H. Valuation Compensation	\$1,220,173	\$1,374,573
I. Current Contribution Available to pay off UAL		
1. Current Contribution in Excess of PVFNC	\$126,452	\$160,814
2. Administrative Expenses	N/A	(\$23,883)
3. Current Contribution Available to pay off UAL	<u>\$126,452</u>	<u>\$136,931</u>
J. Unfunded Actuarial Liability (UAL)	\$2,072,788	\$2,154,088
K. Expected Amortization Period (4% Payroll Growth)	21.7	21.7
L. Expected Amortization Period Sensitivity		
1. Annual Payroll Growth 3.00%	25.0	25.2
2. Annual Payroll Growth 5.00%	19.4	19.4

### 3.5 Recommended Funding Policy

	<u>December 31, 2013</u>	<u>December 31, 2015</u>
<b>A. PRB Minimum Funding Policy</b>		
1. Normal Cost	13.28%	11.87%
2. Administrative Expenses	N/A	1.80%
3. 40-year Amortization Payment:	7.25%	7.21%
4. Total Minimum Funding	<u>20.53%</u>	<u>20.88%</u>
<b>B. PRB Preferred Funding Policy</b>		
1. Normal Cost	13.28%	11.87%
2. Administrative Expenses	N/A	1.80%
3. 25-year Amortization Payment:	9.68%	9.40%
4. Total Preferred Funding	<u>22.96%</u>	<u>23.07%</u>
<b>C. PRB Preferred Funding Policy - High</b>		
1. Normal Cost	13.28%	11.87%
2. Administrative Expenses	N/A	1.80%
3. 15-year Amortization Payment:	14.19%	13.52%
4. Total Preferred Funding	<u>27.47%</u>	<u>27.19%</u>

#### Notes

(1) Recommended minimum funding policy under Texas Pension Review Board (PRB) guidelines based on amortization of Unfunded Actuarial Liability not to exceed 40 years. PRB preferred funding policy, adopted September 2011, based on maximum amortization period of 15 - 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 as of December 31**

	<u>2013</u>	<u>2014</u>	<u>2015</u>
<b>Total Pension Liability</b>			
Service Cost	\$165,568	\$171,852	\$183,882
Interest	\$305,759	\$369,982	\$387,907
Changes of benefit terms	\$350,345	\$0	\$0
Differences between expected and actual experience	\$96,397	\$0	\$35,434
Changes of assumptions	\$168,322	\$0	(\$387,461)
Benefit payments, including refunds of member contributions	(\$199,367)	(\$352,274)	(\$243,336)
<b>Net change in total pension liability</b>	<b>\$887,024</b>	<b>\$189,560</b>	<b>(\$23,574)</b>
<b>Total pension liability - beginning</b>	<b>\$4,402,721</b>	<b>\$5,289,745</b>	<b>\$5,479,305</b>
<b>Total pension liability - ending (a)</b>	<b>\$5,289,745</b>	<b>\$5,479,305</b>	<b>\$5,455,731</b>
<b>Plan fiduciary net position</b>			
Contributions - employer	\$139,550	\$141,509	\$173,862
Contributions - member	\$144,247	\$141,509	\$173,862
Net investment income	\$414,197	\$135,600	(\$54,606)
Benefit payments, including refunds of member contributions	(\$199,367)	(\$352,274)	(\$243,336)
Administrative expense	(\$36,106)	(\$15,409)	(\$16,031)
Other	\$0	\$0	\$0
<b>Net change in plan fiduciary net position</b>	<b>\$462,521</b>	<b>\$50,935</b>	<b>\$33,751</b>
<b>Plan fiduciary net position - beginning</b>	<b>\$2,754,436</b>	<b>\$3,216,957</b>	<b>\$3,267,892</b>
<b>Plan fiduciary net position - ending (b)</b>	<b>\$3,216,957</b>	<b>\$3,267,892</b>	<b>\$3,301,643</b>
<b>Fund's net pension liability - ending (a) - (b)</b>	<b>\$2,072,788</b>	<b>\$2,211,413</b>	<b>\$2,154,088</b>
<b>Plan fiduciary net position as a percentage of the total pension liability</b>	<b>60.8%</b>	<b>59.6%</b>	<b>60.5%</b>
Covered-employee payroll	\$1,202,058	\$1,179,242	\$1,448,850
Fund's net position liability as a percentage of covered employee payroll	172.4%	187.5%	148.7%

**Notes to Schedule:**

1. Covered-employee payroll is estimated using firefighter contributions divided by the fixed contribution rate.
2. Administrative expenses shown above for 2011-2013 were total Fund paid expenses and included investment fees.
3. Total Pension Liability (TPL) for the December 31, 2014 measurement date was calculated by rolling forward the TPL from the December 31, 2013 valuation using actual benefit payments and generally accepted actuarial practices.



### 3.6 GASB 67 Accounting Information (continued)

#### Schedule of San Benito's Contributions, as of December 31

	<u>2013</u>	<u>2014</u>	<u>2015</u>
Actuarially determined contribution	\$283,797	\$283,018	\$347,724
Contributions in relation to the actuarially determined contribution	\$283,797	\$283,018	\$347,724
Contribution deficiency (excess)	\$0	\$0	\$0
Covered-employee payroll	\$1,202,058	\$1,179,242	\$1,448,850
Contributions as a percentage of covered-employee payroll	23.6%	24.0%	24.0%

#### Notes to Schedule

Valuation date: December 31, 2015

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 contributing 12.00% of member payroll.

There were no changes to methods or plan provisions since the prior valuation. The mortality assumption was updated to the RP-2014 Blue Collar mortality tables with generational projection using Scale MP-2015. The interest rate assumption was adjusted to 7.5% net of investment expenses with a separate explicit assumption for administrative expenses of 75 basis points. The percent marriage assumption was increased from 65% to 80%. There have been no other assumption changes since the prior valuation.

### 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-estimates 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 (assumed 2.5%). Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocations as of December 31, 2015 (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	4.0%
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 period 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	\$2,910,378	\$2,154,088	\$1,528,605

#### Schedule of Investment Returns

Fiscal Year Ending December 31

	<u>2013</u>	<u>2014</u>	<u>2015</u>
Annual money-weighted rate of return, net of investment expense	14.91%	3.78%	-1.65%

### 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, 2016 reporting period would use the Fund's December 31, 2015 valuation results.

	Increase (Decrease)		
	Total Pension Liability (TPL)	Plan Fiduciary Net Position	Net Pension Liability (NPL)
Balance at 9/30/2015	\$5,479,305	\$3,267,892	\$2,211,413
Changes for the year:			
Service Cost	183,882		183,882
Interest	387,907		387,907
Experience	35,434		35,434
Employer Contributions		173,862	(173,862)
Member Contributions		173,862	(173,862)
Net Investment Income		(54,606)	54,606
Benefit Payments	(243,336)	(243,336)	-
Administrative Expense		(16,031)	16,031
Assumption Changes	(387,461)		(387,461)
Net Change	(23,574)	33,751	(57,325)
Balance at 9/30/2016	<u>\$5,455,731</u>	<u>\$3,301,643</u>	<u>\$2,154,088</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	\$2,910,378	\$2,154,088	\$1,528,605



## 4.1 Demographic Summary

	<u>December 31, 2013</u>	<u>December 31, 2015</u>
A. Active Members		
1. Number	25	25
2. Valuation Compensation	\$1,220,173	\$1,374,573
3. Average pay	\$48,807	\$54,983
4. Average age	36.4	36.4
5. Average service	11.4	10.9
B. Terminated Vested Members - Deferred Contribution Refund		
1. Number	1	1
2. Total benefits	\$3,035	\$5,112
3. Average Annual benefits	\$3,035	\$5,112
4. Average Age	25.9	27.0
C. Terminated Vested Members - Deferred Annuity		
1. Number	1	0
2. Total benefits	\$31,452	\$0
3. Average Annual benefits	\$31,452	N/A
4. Average Age	51.0	N/A
D. Retired and Disabled Members		
1. Number	8	10
2. Total benefits	\$166,761	\$230,816
3. Average Annual benefits	\$20,845	\$23,082
4. Average Age	60.5	61.4
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, 2013 Valuation	25	2	1	7	35
Change Due To:					
New hires and rehires	9	(1)	0	0	8
Termination (Vested)	(1)	1	0	0	0
Termination (Nonvested)	0	0	0	0	0
Retirement	(1)	(1)	0	2	0
Disability	0	0	0	0	0
Death without beneficiary	0	0	0	0	0
Death with beneficiary	0	0	0	0	0
Cashouts	(7)	0	0	0	(7)
Data corrections	0	0	0	0	0
Net change	<u>0</u>	<u>(1)</u>	<u>0</u>	<u>2</u>	<u>1</u>
Included in December 31, 2015 Valuation	<u>25</u>	<u>1</u>	<u>1</u>	<u>9</u>	<u>36</u>

### 4.3 Active Members by Age and Service

Attained Age	Years of Service as of December 31, 2015							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30 & up	
Under 25	4	0	0	0	0	0	0	4
25-29	4	0	0	0	0	0	0	4
30-34	2	2	0	0	0	0	0	4
35-39	0	0	5	0	0	0	0	5
40-44	0	0	2	1	0	0	0	3
45-49	0	0	0	0	2	0	0	2
50-51	0	0	0	0	1	0	0	1
52-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	1	1	2
60 & up	0	0	0	0	0	0	0	0
<b>Total</b>	<b>10</b>	<b>2</b>	<b>7</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>25</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 0.75% per annum.
- 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 with Scale MP-2015.
  - 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 with Scale MP-2015.
- 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 discount rate was changed to 7.50% net of investment expenses only, with a separate assumption that annual administrative expenses will equal 75 basis points of the fair value of assets. The mortality assumption was updated to the RP-2014 blue collar mortality tables adjusted backward to 2006 with Scale MP-2014 and projected with Scale MP-2015. The percent marriage assumption was increased from 65% to 80%. There have been no other changes in principal actuarial assumptions from the prior valuation.

## 4.4 Assumptions and Methods (continued)

### Methods

Valuation Date	December 31, 2015
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 to increase the benefit formula with an effective date of 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

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

➤ Spouse

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

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.

➤ Spouse

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.