Intensive Actuarial Review:

Galveston Employees' Retirement Plan for Police

January 2018

PENSION REVIEW BOARD

Table of Contents

Executive Summary

This intensive actuarial review of Galveston Employees' Retirement Plan for Police ("Galveston Police" or "the Plan") is intended to assist the Plan's board of trustees and the City of Galveston ("the City") in assessing the Plan's ability to meet its long-term pension obligation. Overall, the review shows that the Plan is facing significant financial stress and is taking considerable risks in its approach to funding the Plan. The review also highlights that Galveston Police and the City have waited too long to address these challenges, which has exacerbated the situation due to the compound nature of pension liabilities. The Pension Review Board (PRB) encourages the Plan and the City to review the findings and conclusions of this report carefully and jointly adopt a forward-looking funding plan to guide the Plan towards a path of long-term sustainability. The PRB can provide technical assistance in formulating such a plan.

The funded status of Galveston Police has been declining since 2000. Numerous factors have contributed to this deterioration, including inadequate contributions, insufficient investment returns, increased benefit payments, and a low active-to-annuitant ratio in the face of a large unfunded liability. Galveston Police and the City have made incremental plan changes, including contribution increases since 2006 in response to deteriorating conditions, but these changes have not been enough to put the Plan on a solid path to sustainability.

Currently, Galveston Police's ability to meet its long-term obligations, measured by a number of indicators in addition to amortization period, may be threatened and warrants closer scrutiny. **A few of the key indicators include:**

- Galveston Police's funded ratio (assets on hand to cover liabilities) fell from 99% in 2000 to less than 42% in 2017, which is one of the lowest funded ratios in the state.
- Galveston Police's actuarial accrued liability increased by nearly 103% between the end of 2000 and 2017. Conversely, the Plan's actuarial value of assets *declined* by nearly 14% over that same period.
- The single largest increase in unfunded liability over the past 10 years was due to investment returns lower than the assumed rate of return.
- Galveston Police's investment return assumption of 8.00% is one of the highest in the state. The Plan has not achieved an 8.00% return on assets over a consecutive 10-year period in any of the 10 periods ending December 31, 2007 through December 31, 2016. The Plan's board has lowered the return assumption to 7.50% beginning with the 1/1/2018 actuarial valuation, but the Plan's actual returns have not met this revised assumption over the same period.
- Galveston Police's non-investment cash flow, which shows how much the Plan is receiving through contributions in relation to its outflows— benefit payments, withdrawals and expenses— is one of the lowest in the state at -9.79%. If this trend continues, the Plan could face the potential risk of needing to liquidate a portion of existing assets to pay current benefits and/or expenses.
- At 48.7 years, Galveston Police currently has one of the highest amortization periods (the number of years required to pay off any unfunded liability) of all 94 defined benefit pension plans in Texas.[1]
- According to its actuarial valuations, Galveston Police has not received the reported actuarially determined contribution (ADC) every year since 2002 with the exceptions of 2006 and 2008.[2]
- Current members are contributing to not only pay for their own benefit accruals; they are also paying for past benefit accruals of police officers hired before them, contrary to pension funding best practices.

[1] PRB's *Pension Funding Guidelines* recommend a maximum effective amortization period of 30 years, with 10-25 a more preferable target range.

[2] For a pension plan that receives a fixed contribution rate such as Galveston Police, the ADC is the contribution needed to fund the benefits accrued in the current year and maintain an amortization period that does not exceed 30 years, as required to be reported under Texas Government Code §802.101(a).

- As of 2017, the present value of benefits payable to inactive members (retirees and beneficiaries) were only 58% funded, and the liability associated with active members was completely unfunded. While not all inactive benefits are payable immediately, the intent of pre-funding a defined benefit plan is to pay the cost of the benefit as it is earned such that an individual's benefits are fully funded when they retire.

The review measures Galveston Police based on four main risk factors—investment, funding, assumption, and governance risk — and reveal a significant amount of risk being taken in each of these areas, increasing the probability of a continued period of severe financial stress for the Plan. This also raises the likelihood of deteriorating funding conditions in the coming years, further imperiling the Plan's ability to pay promised benefits. **Key findings related to these risks include:**

- The likelihood of Galveston Police *not* meeting or exceeding the 8.00% expected return on assets is significantly greater than the odds that they will do so for the near future. The PRB estimated the Plan would be more than two times as likely to earn less than or equal to a 7.00% return versus greater than or equal to a 9.00% return over the next 30-year period.
- The Plan, along with many public pension plans, could suffer from large losses in a down market year, given its overall portfolio risk.
- Several of the Plan's economic assumptions, including the expected return on assets, may cause liabilities to be understated. While the Plan's actual cost will always be the benefits actually paid, if the liabilities are understated, the contributions necessary to fund the actual costs could be larger than anticipated and could exacerbate the Plan's already precarious actuarial condition.
- The Plan's contributions are calculated as a percent of active members' pay and are back-loaded based on the expected growth in total payroll. If payroll does not increase at this rate, actual contributions will not meet those expected in the Plan's actuarial valuations. Given the Plan's inactive and active liabilities are not fully funded; contributions below expected levels will have serious consequences on the Plan's long-term solvency.
- Galveston Police's fixed-rate contribution structure may provide budgetary stability for the employer in the short term, but does not include any inherent mechanisms for reacting to changes in a plan's financial condition.
- Even though required by state law to jointly formulate a funding soundness restoration plan (FSRP), Galveston Police and the City have yet to work together to make difficult decisions on additional needed changes to benefit or contribution levels. Currently, the Plan and the City have not agreed upon an interpretation of the statutory contribution provision, which can be an important first step towards a collaborative approach.

Finally, the review draws conclusions regarding how these risks might be mitigated and the Plan's overall ability to meet its long-term obligations improved. **Conclusions include the following:**

- Galveston Police, in conjunction with the City, should consider utilizing the FSRP requirement to develop a long-term funding policy for the Plan.
- Galveston Police's board of trustees should work with their actuary to ensure actuarial assumptions are neither too aggressive nor too conservative.
- Galveston Police's board of trustees should closely monitor investment managers' performance against appropriate benchmarks, and should revisit investment manager selection periodically to ensure managers are providing the highest possible value at the lowest possible cost. Asset allocation should also be assessed from a risk perspective to evaluate how the Plan would weather a market correction.

Background

Plan Summary

The Galveston Employees' Retirement Plan for Police ("Galveston Police" or "the Plan") was initially created in 1980 by city ordinance. In 1997, the 75th Legislature enacted Article 6243p, Vernon's Texas Civil Statutes ("governing statute"), establishing the Plan independently in state statute. The Plan covers all police officers employed full-time by the City of Galveston ("the City"). Galveston Police is entirely locally funded.

Benefits

Eligible Members (Group B)*	Member as of 6/30/2008 with less than 15 Years of Credited Service (YCS) as of 1/1/2006 or hired on or after 7/1/2008
Unreduced Retirement Eligibility	50/20 or age 65
Reduced Early Retirement Eligibility	45/20
Vesting	5 YCS if hired before 4/15/2017; 5-year graded vesting beginning with 50% at 5 YCS up to 100% at 10 YCS if hired on or after 4/15/2017
Benefit Formula	YCS x 2.11% x Final Average Salary (FAS) (max 30 YCS)
Final Average Salary (FAS)	Final 60 months
Automatic COLA	No
Retirement Benefit Options	None
Social Security	Yes

*As of 1/1/2017, there were 4 active Group A members remaining, members as of 6/30/2008 with at least 15 YCS as of 1/1/2006, whose benefit formula and retirement eligibility differ from the benefits outlined here.

Contributions

Active members of the Plan contribute 12.00% of pay and the City contributes 12.83%. The Plan's governing statute states that the City, acting under the advice of the Plan's actuary, shall contribute an amount equal to the normal cost and any interest on the unfunded actuarially accrued liability (UAAL) at the rate of interest assumed in the actuarial valuation. The City shall also contribute a sufficient amount to pay the costs of administration of the Plan. The City should ensure that its contributions meet the statutory requirements.

Membership

Total Active Members	Terminated Vested	Total Annuitants	Total Members	Active-to-Annuitant Ratio
145	16	144	305	1.01

*Data from the Plan's 12/31/2016 financial audit

Board Structure

Active Members	1 - President of municipal police association, or next-highest ranked member if President is not a plan member. Term equal to President's term of office. 3 – Members of the Plan; elected by plan members. Three-year term.
Sponsor Government	1 – Municipal finance staff employee; designated by and serving at the pleasure of the city manager. No term Specified.
Taxpayer, Not Affiliated with Plan/Sponsor Govt.	1 – Legally qualified voter; designated by the mayor. Two-year term. 1 – Legally qualified voter; designated by city council. Two-year term.

Contribution and Benefit Decision-Making

Under the Plan's governing statute, the board may modify the following plan provisions with the approval of at least four board members:

- benefit changes to the Plan as long as any increase in benefit is approved by a majority vote of plan members;
- future membership qualifications and eligibility requirements for pension or benefits; and
- member contributions, with any increase being subject to a majority vote of plan members. If the Plan's actuary certifies that an increase is necessary to maintain an actuarially sound plan, member approval can be foregone.

Funding Soundness Restoration Plan (FSRP)

Texas Government Code §802.2015 requires the governing body of a public retirement system and its governmental sponsor formulate an FSRP if the system's actuarial valuation shows its amortization period exceeds 40 years for three consecutive annual actuarial valuations, or two consecutive actuarial valuations if the system conducts valuations less frequently.

The Plan was required to submit an FSRP in 2016, because the actuarial valuations prepared as of January 1, 2014, January 1, 2015, and January 1, 2016 reported amortization periods greater than 40 years. The FSRP consisted of an increase in the City's contribution from 12.00% to 12.83% and the following change to the vesting schedule for members hired on or after April 15, 2017: 0% vesting up to 5 years; 50% vesting after 5 years increasing 10% each subsequent year reaching full vesting after 10 years. These changes were expected to be sufficient to reduce the amortization period to approximately 40 years.

Key Metrics

Government Code Section 801.202(2) requires the PRB to conduct intensive studies of potential or existing problems that threaten the actuarial soundness of or inhibit an equitable distribution of benefits in one or more public retirement systems. The PRB identified the following key metrics, in addition to amortization period, to determine and prioritize retirement systems for intensive actuarial review. The PRB selected Galveston Police for review based on the 2017 actuarial valuation data shown below. Unless otherwise noted, the following metrics were calculated as of January 1, 2017.

Amort. Period	Funded Ratio	UAAL as % of Payroll	Assumed Rate of Return	Payroll Growth Rate	Actual Cont. as % of ADC	DROP as % of FNP	Non-Investment Cash Flow as % of FNP
48.7	42.10%	278.91%	8.00%	3.50%	81.41%	N/A	-9.79%

*Contribution and Cash flow data from the Plan's 12/31/2016 financial audit

Metric	Amortization period (48.7 years)
What it measures	Approximately how long it would take to fully fund the unfunded actuarial accrued liability (UAAL) based on the current funding policy.
Why it is important	Given the Plan's current assumptions, an amortization period greater than 18 years indicates that contributions to the Plan in the coming year are less than the interest accumulated for that same period, and therefore the total UAAL is expected to grow over the near term. In addition, for a plan that contributes on a fixed-rate basis such as Galveston Police, the higher the amortization period, the more sensitive it is to small changes in the UAAL.
Peer Comparison	Galveston Police currently has one of the highest amortization periods of all defined benefit pension plans in Texas.

Metric	Funded ratio (42.10%)
What it measures	The percent of a fund's actuarially accrued liabilities covered by its actuarial value of assets.
Why it is important	The lower the funded ratio, the fewer assets a fund has to pay its current and future benefit payments. Further, the present value of benefits payable to members who are no longer working (i.e. retirees and their beneficiaries) is not fully funded. Only 58% of the inactive liability is funded on an actuarial basis, leaving over $15 million in inactive liability. All of the nearly $14 million of active liability was completely unfunded as of January 1, 2017 and therefore is dependent on future contributions and investment returns.
Peer Comparison	Galveston Police's 42.10% funded ratio is one of the lowest in the state.

Metric	UAAL as a percent of payroll (278.91%)
What it measures	The size of a plan's unfunded liability compared to the annual payroll of the active members.
Why it is important	Provides a way to compare plans of various sizes and expresses the outstanding "pension debt" relative to current personnel costs.
Peer Comparison	The Plan's UAAL as a percent of payroll is one of the highest among plans in its peer group of similar asset size on a market value basis, including the civilian and fire plans sponsored by the City, and is also one of the highest in the state.

Metric	Assumed rate of return (8.00%)
What it measures	The estimated annual rate of return on the Plan's assets.
Why it is important	If actual future returns are lower than the assumed rate of return, future contributions will need to increase significantly, especially for a poorly funded plan. Galveston Police's assumed rate of return is 8.00%, while its actual ten-year net investment rate of return for the period ending 12/31/2016 was only 3.64%.
Peer Comparison	Galveston Police's 8.00% assumed rate of return is one of the highest in the state and is above the national average of 7.52% (reported by NASRA's Public Pension Plan Investment Return Assumptions brief updated February 2017).

Metric	Payroll growth rate (3.50%)
What it measures	The estimated annual growth in the total payroll of active members contributing to the Plan**.**
Why it is important	Contributions are calculated as a percent of active members' pay and are back-loaded based on the expected growth in total payroll. If payroll does not increase at this rate, actual contributions will not meet those expected in the Plan's actuarial valuations. Given the Plan's inactive and active liabilities are not fully funded, contributions below expected levels will have serious consequences on the Plan's long-term solvency.
Peer Comparison	The Plan's payroll growth rate of 3.50% is the median payroll growth rate for Texas defined benefit plans.

Metric	Actual contributions as a percent of actuarially determined contributions (81.41%)
What it measures	Whether the current employer contributions have met a theoretical minimum threshold.[1]
Why it is important	The employer is currently contributing less than 82% of the amount needed to fund the Plan on a rolling 30-year amortization period. The PRB's 2014 Study of the Financial Health of Texas Public Retirement Systems found that plans that have consistently received adequate funding are in a better position to meet their long-term obligations.
Peer Comparison	This is one of the largest shortfall percentages in the state and the third largest in its peer group.

Metric	Non-investment cash flow as a percent of fiduciary net position (-9.79%)
What it measures	Non-investment cash flow shows how much the Plan is receiving through contributions in relation to its outflows: benefit payments, withdrawals and expenses.
Why it is important	Viewing this metric as a percent of total net assets (or fiduciary net position (FNP)), in conjunction with the funded ratio and recognition of the relative maturity of the Plan, provides information about the stability of a plan's funding arrangement.
Peer Comparison	Galveston Police's non-investment cash flow as a percent of FNP is one of the lowest in the state. If this trend continues, the Plan could face the potential risk of needing to liquidate a portion of existing assets to pay current benefits and/or expenses.

Historical Trends

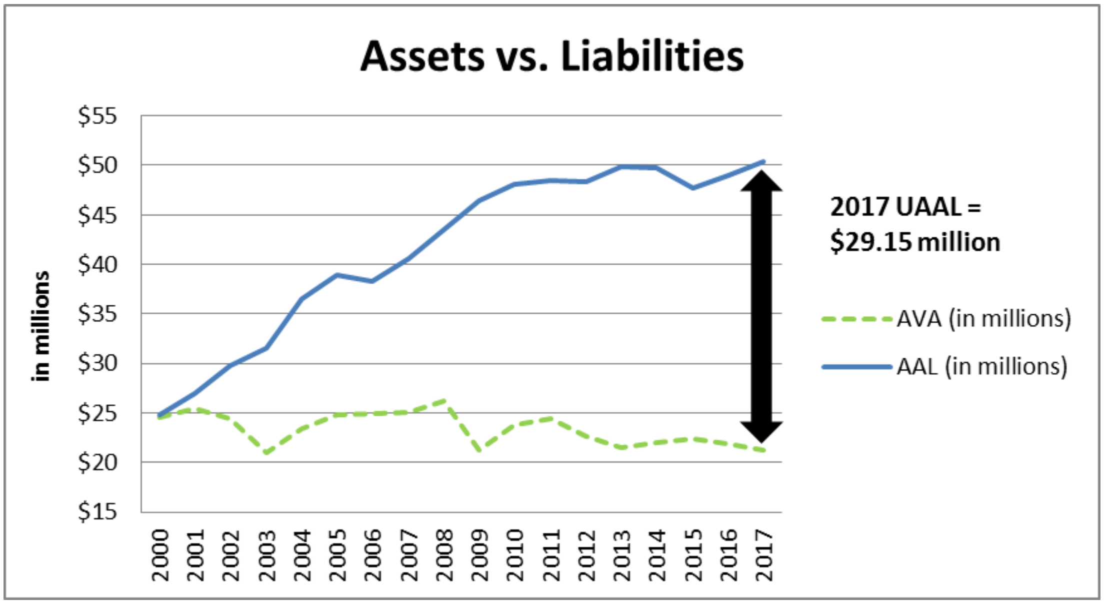
To conduct an intensive review of risks associated with the long-term funding of a pension plan, it is important to analyze trends in multiple metrics. A plan with an asset level lower than its accrued liability has insufficient funds to cover benefits. A plan can experience an increase in unfunded liability due to various factors, including insufficient investment returns, inadequate contributions and inaccurate or overly aggressive assumptions. Hence, a single metric cannot effectively capture the different drivers contributing to the increase of a plan's unfunded pension obligation. This section analyzes historical trends in various metrics identified by the PRB and makes comparisons to understand the sources of growth in unfunded liability for Galveston Police.

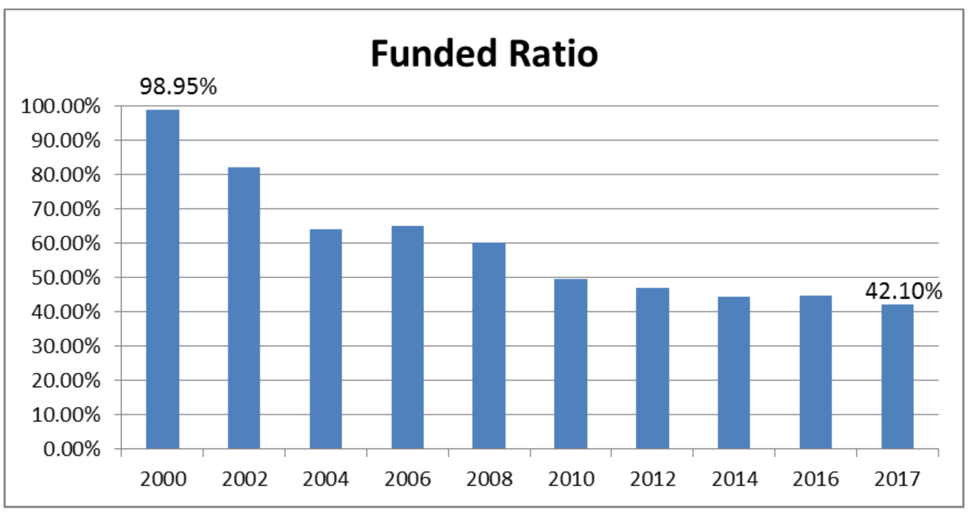
Galveston Police's funded status has been steadily declining since 2000. Numerous factors have contributed to this deterioration, including inadequate contributions, insufficient investment returns, increased benefit payments, and a low active-to-annuitant ratio in the face of a large unfunded liability. The following sections discuss these and other factors in detail.

Assets and Liabilities

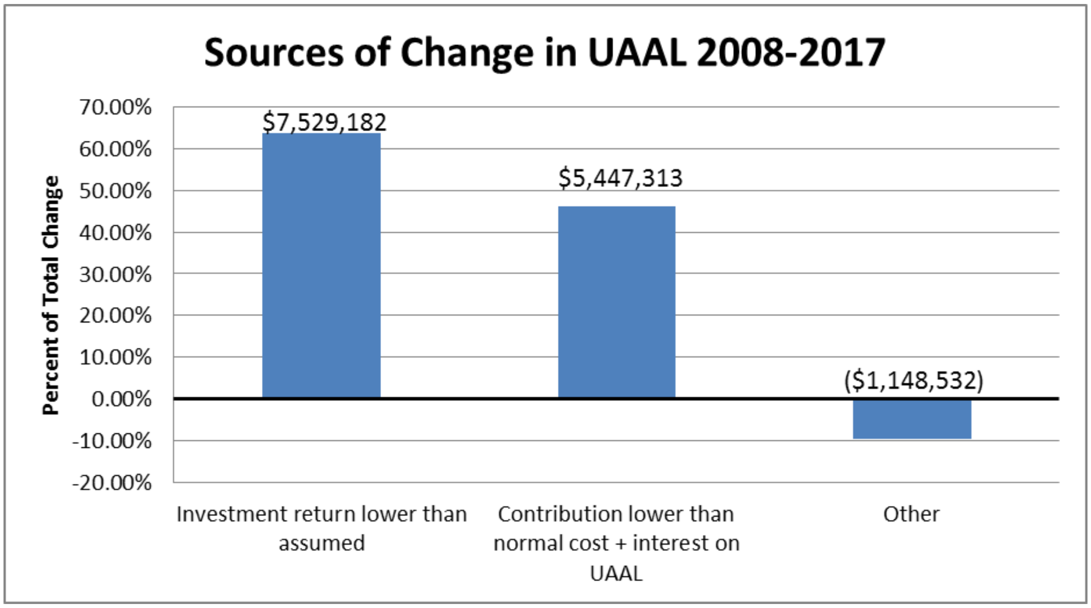
For a plan's funding level to improve, its assets should grow faster than liabilities, which can be achieved by contribution increases, benefit reductions, and/or consistently high investment returns over a long period of time.

Galveston Police's actuarial accrued liability (AAL) increased by nearly 103% between 2000 and 2017. Conversely, the Plan's actuarial value of assets (AVA) declined by nearly 14% over the same period. The Plan was nearly 99% funded in 2000 but fell to just above 42% in 2017, which is the third lowest of all defined benefit pension plans in Texas. The Plan has been under 50% funded since 2009.



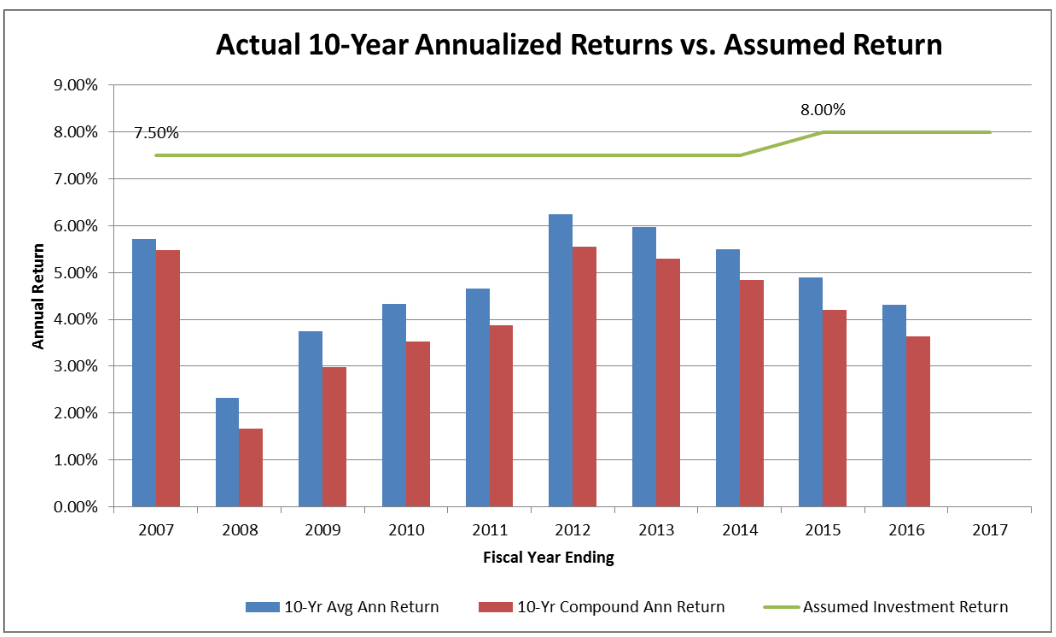


The graph below illustrates that the $11.8 million increase in the UAAL (from $17.3 million in 2008 to $29.1 million in 2017) can be fully attributed to investment returns lower than the assumed rate of return ($7.5 million increase in UAAL) and contributions lower than the normal cost plus interest accumulated on the UAAL ($5.4 million increase in UAAL). The PRB did not have sufficient data to isolate the sources of changes for periods prior to 2008.



Investment Assumption and Returns

As illustrated in the Assets and Liabilities section, actual investment returns lower than the assumed return increased the Plan's UAAL by more than $7.5 million between 2008 and 2017. The Plan currently assumes an 8.00% interest rate. Prior to 2015, the Plan assumed a 7.50% rate of return (net of all expenses), but in 2015 restated the rate to 8.00% (net of investment expenses only). The assumed rate of return of 8.00% still exceeds the 2017 national average of 7.52% (reported by NASRA) and most of its peer systems in Texas. In addition, the Plan has not achieved an 8% return on assets over a consecutive 10-year period in any of the 10 periods ending December 31, 2007 through December 31, 2016 as shown in the graph below.



The 10-year net return on investments in 2016 was 3.64%, which is almost 440 basis points below its assumed interest rate. While most plans have been experiencing a difficult 10-year period since the 2008-2009 market downturn, the Plan's returns further lag behind the 10-year average returns reported by its peer group (Texas defined benefit plans with asset size closest to the Plan's, including the civilian and fire plans sponsored by the City) over the same period, which is roughly 4.12%. PRB's AV Supplemental Report dated November 17, 2017 showed that out of 84 Texas plans that reported a 10-year net investment return, Galveston Police stood at 72nd.

The Plan has submitted a revised 2017 actuarial valuation, which includes recommendations to decrease the Plan's assumed investment return to 7.50%. These proposed changes were approved by the Plan's board at its May 12, 2017 meeting and will be effective for the 2018 actuarial valuation.

Contributions

Most Texas plans use a fixed percent of pay funding approach. Under a fixed-rate funding structure, no formal amortization policy (i.e. the expected time to fully fund the Plan) exists; therefore, the Plan's actuary estimates the amortization period at each valuation date based on the current financial condition of the Plan and the current contribution rates. This fixed-rate funding structure provides contribution stability for the plan sponsor in the short term, but does not include any inherent mechanisms for reacting to changes in a plan's financial condition.

As of January 2017, active members of the Plan contribute 12.00% of pay and the City contributes 12.83% of pay. Only 10.06% of the members' contribution is necessary to fund their current and future benefit accruals (normal cost), which means new officers hired tomorrow are not only paying for 100% of their own benefit, they are also paying for benefits of other officers hired before they started. The City's contribution rate reflects an increase from 12.00% in 2016. Despite the increase in the contribution rate in 2016, the Plan's UAAL increased by $2.07 million. This increase in the UAAL was caused by total contributions that were not sufficient to cover both the new benefits being accrued (normal cost) and the interest accumulated on the unfunded benefits already earned (interest accumulated on the UAAL), or to start reducing the total UAAL. This result, a payment that is not expected to cover the interest that accrues during the year, is known as negative amortization.

The Conference of Consulting Actuaries' Public Plans Community White Paper *Actuarial Funding Policies and Practices for Public Pension Plans* suggests that an "amortization policy should reflect explicit consideration of the level and duration of negative amortization," and identifies a "rolling/open amortization of [the] entire UAAL as a single combined layer … where the amortization period entails negative amortization," as an unacceptable practice. [2]

According to its actuarial valuations, Galveston Police has not received the reported actuarially determined contribution (ADC) every year since 2002, with the exceptions of 2006 and 2008. Even with contribution increases in 2006, 2008, and 2017, employer contributions have averaged less than 80% of the Plan's ADC since 2002. Furthermore, the reported ADC rate is calculated utilizing an "open amortization of [the] entire UAAL as a single combined layer." For the fiscal year ending December 31, 2017, the expected contributions are less than 81.5% of the reported ADC. This shortfall of $306,173 is equal to 0.67% of the City's total General Fund expenditures for the fiscal year ending December 31, 2016 and is greater than most other plans of similar asset size. Additionally, the City faces a contribution shortfall for the Galveston Firefighter's Relief & Retirement Fund of $632,629, which is 1.38% of the City's total General Fund expenditure.

Contribution Levels vs. Actuarially Determined Contribution

Date (1/1)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Employee Contribution	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%
Employer Contribution	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.83%
30 Year ADC	8.99%	14.35%	12.58%	14.56%	16.14%	16.30%	15.36%	14.71%	14.60%	15.76%
% of ADC funded	133.45%	83.63%	95.38%	82.40%	74.35%	73.64%	78.11%	81.60%	82.21%	81.41%
Covered Payroll (in millions)	$9.96	$9.08	$9.99	$8.57	$8.23	$9.02	$9.31	$9.38	$10.14	$10.45
Contribution Shortfall (in millions)	-	$0.21	$0.06	$0.22	$0.34	$0.39	$0.31	$0.25	$0.26	$0.31

Under the Plan's 2017 assumptions (8.00% discount rate and 3.50% payroll growth rate), negative amortization occurs when the amortization period is more than approximately 18 years. This increases to 19 when reflecting the reduction in discount rate to 7.50% for 2018. While the Plan does not have an explicit amortization policy, continuing a fixed 12.83% employer contribution without any other changes to the Plan would result in an implicit amortization policy that entails negative amortization (i.e. intentionally increases the total UAAL) for the next 30 years.

As mentioned before, the Plan's governing statute states the City, acting under the advice of the actuary for the Plan, is required to contribute an amount equal to at least the normal cost plus interest on the UAAL at the rate of interest assumed in the valuation, as well as a sufficient amount to pay the cost of administration of the Plan. The Plan, based on its interpretation of the contribution provision contained in the governing statute, revised the 2017 actuarial valuation to recalculate the contribution rate for the City. As noted earlier, the current 12.00% member contribution is larger than the members' future benefit accruals, therefore, the employer normal cost is 0.00% and the revised actuarial valuation assumes the City will only contribute the interest on the UAAL plus expenses. The City's revised statutory 2017 contribution rate recommended by the Plan's actuary increased to 23.26%, and the estimated amortization period decreased by three years to 45.7. The City has not agreed to the updated contribution rate proposed in the revised 2017 actuarial valuation but should ensure that its contributions meet the statutory requirements.

Asset Allocation

The investment policy is not clear on target asset allocation for the various asset classes and only provides minimum and maximum allocations allowed. Current target allocation rates are based on comments provided from the Plan, which assume a target of 70.00% in equities and 30.00% in fixed income.

		Asset Allocation		
Asset Class	Equities	Fixed Income	Cash	Receivables
Current Allocation	71.06%	26.85%	1.09%	1.00%
Target Allocation	70.00%	30.00%	0.00%	0.00%

*Current allocation as of 12/31/2016 financial audit

Payroll Growth

Galveston Police lowered the annualized payroll growth assumption from 4.00% to 3.50% as of January 1, 2017. The Plan's total payroll growth has averaged 1.6% between 2000 and 2017.

While this assumption under the current fixed-rate funding policy does not directly affect actual contributions, the calculation of the amortization period is highly sensitive to it, especially when a plan's amortization period is over 40 years.

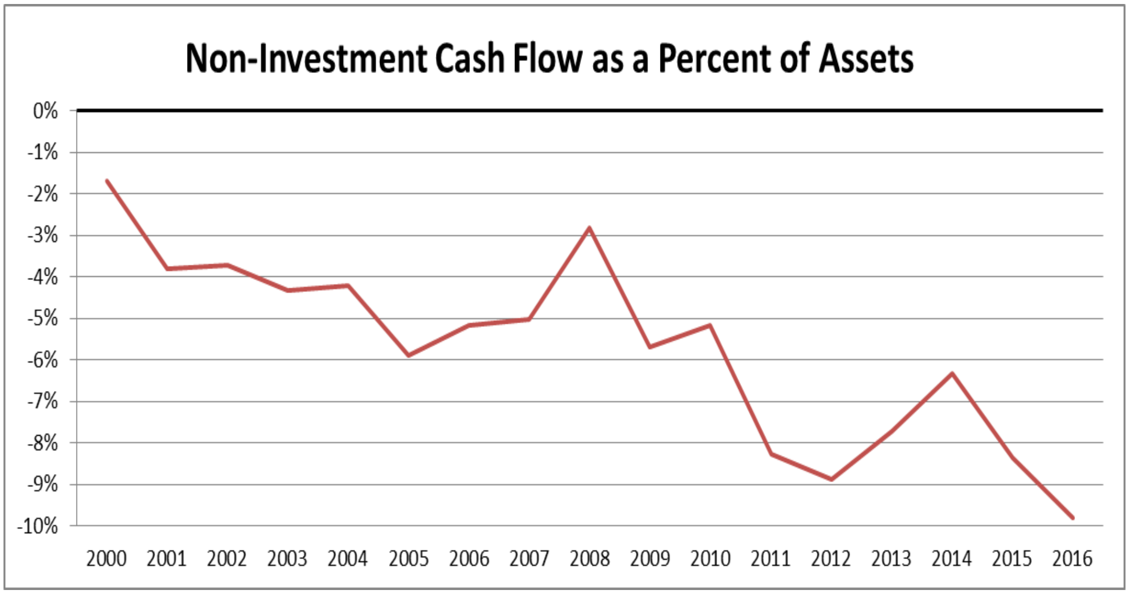
Sensitivity to Changes in Payroll Growth Assumption	
Assumed Payroll Growth	Amortization Period
3.50%	49
3.00%	75

*Based on 2017 UAAL and city contribution rate of 12.83%

Cash flow

Galveston Police has one of the lowest non-investment cash flows in the state. In 2016 the Plan's non-investment cash flow dipped to -9.79%, a large drop from before the market downturn in 2008 (-2.81%). The drop to -5.70% in 2009 was largely caused by a decrease in total contributions from $2.6 million in 2008 to $2.2 million in 2009. Total contributions have grown since 2009 ($2.5 million in 2016), but the continued growth in yearly benefit disbursements and administrative expenses is still outpacing the funds received by the Plan through contributions.

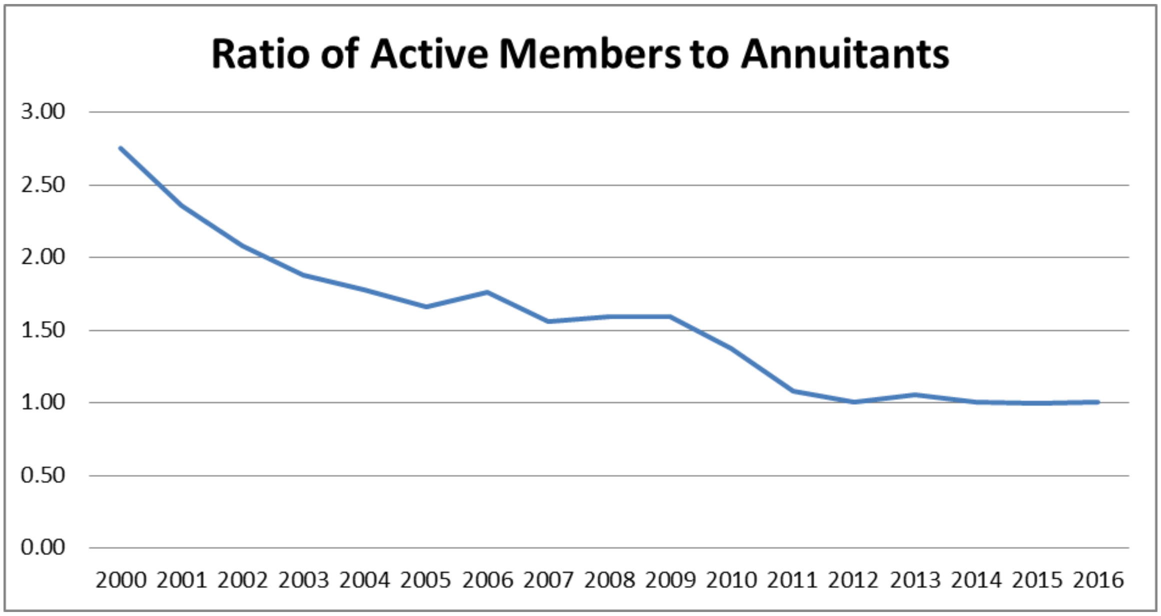
A negative non-investment cash flow is not abnormal for mature defined benefit pension plans. However, a cash flow percentage this low is likely to be a drag on potential investment returns because a plan must either invest in a higher proportion of income-producing investments, which traditionally provide lower returns, or must liquidate existing assets to pay out current benefits and/or expenses.

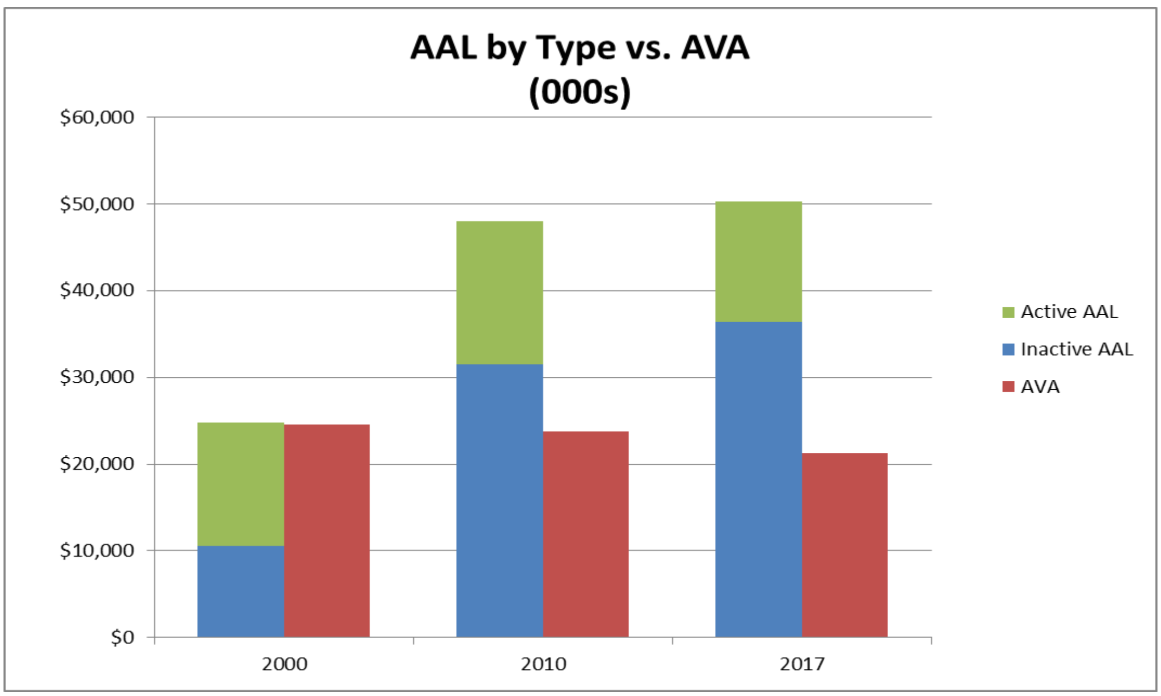


Demographics

As a pension plan matures, it will experience a shift in demographics with a declining ratio of active members to retirees. This demographic shift is expected and is taken into account in the long-term funding of a pension plan. However, for a plan with a large unfunded liability, a declining active to retiree ratio can exert financial stress from a contribution perspective. Contributions to the Plan are on a percent of pay basis, and assume an ever-growing contribution base (i.e. the total payroll is assumed to grow at a constant percentage so the dollar contributions into the Plan are also assumed to grow at the same rate). This percent-of-pay approach results in back-loaded contributions for fully funding any unfunded liability as compared to a level dollar approach. It is therefore helpful to compare the active member population, the basis on which contributions are calculated, to the annuitant population. A shrinking active member population, as compared to the annuitant population, indicates a smaller and smaller base available to fund any outstanding unfunded liability or to provide the needed support in times of distress.

As of December 31, 2016 the Plan’s active-to-annuitant ratio was 1.01 with 145 active contributing members, and 144 annuitants (1 diasbled, 129 Retirees, and 14 beneficiaries). This ratio is lower than the majority of similarly-sized plans in its peer group, and is one of the lowest of all defined benefit pension plans in Texas. The Plan’s active-to-annuitant ratio has been around 1:1 since 2014 and barely above 1:1 since 2011. With increased longevity of members, the active-to-annuitant ratio is expected to continue to decline and put more pressure on the active members to fund the Plan. In addition, the City informed the PRB that it experienced officer attrition after Hurricane Ike in 2008 and has had difficulty hiring since then. This issue is exacerbated by the fact that the current assets are not sufficient to support the existing inactive population or future retirees and beneficiaries.





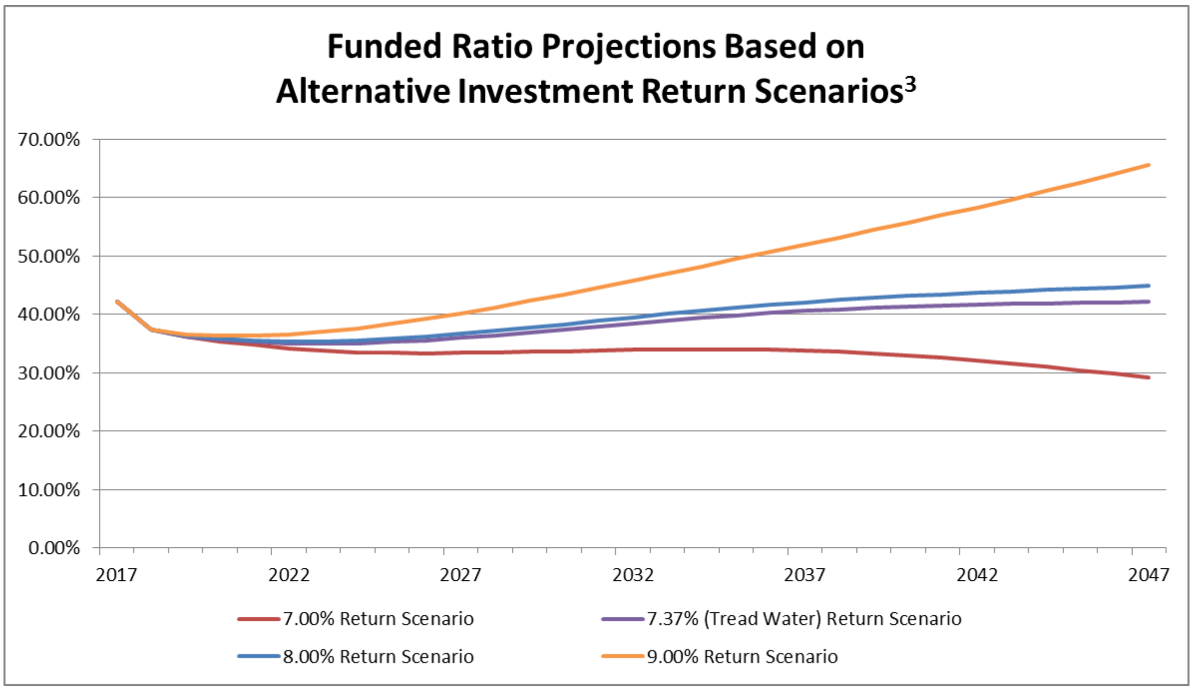
Risk Analysis

The various risks faced by a pension fund all boil down to one relatively simple question, "Will there be enough money to pay benefits when due?" This section discusses four main risk factors facing the Plan: investment, funding, assumption, and governance risks. Measuring Galveston Police based on these factors reveals a significant amount of risk being taken in each of these areas, increasing the probability of a continued period of severe financial stress for the Plan. This also raises the likelihood of deteriorating funding conditions in the coming years, further imperiling the Plan's ability to pay promised benefits.

Investment Risk

Investment risk is the risk that actual future returns will be different from expected. Generally, some risk always exists associated with actual returns deviating significantly below or above the expected return on assets over the long term. However, the likelihood of Galveston Police *not* meeting or exceeding the 8.00% expected return on assets is significantly greater than the odds that they will do so for the near future.

The graph below projects the funded ratio for the next 30 years, assuming the member contribution rate remains 12.00% and the City contributes a fixed 12.83%, under the following four different actual investment return scenarios: the expected return on assets (EROA) or 8.00% for 2017 and 7.50% for all subsequent years; the EROA +1%; the EROA -1%; and the “tread-water” rate of return on assets, or rate of return on assets necessary to have the same funded ratio at the end of the 30-year period. The tread-water return on assets is 7.37%, meaning if the average return over the next 30 years is lower than the assumed return by just 63 basis points in 2017 and 13 basis points for all future years, *the Plan would find itself in essentially the same funded position in 30 years.*



In addition, as was illustrated in the Historical Trends section, the Plan has not achieved an 8.00% annualized return (or even a 7.50% return) over a consecutive 10-year period in any of the 10 periods ending December 31, 2007 through December 31, 2016. The impact of consistently earning less than the EROA *but even as high as 7.00% over the next 30 years results in the funded status sinking to 30%.* The graph also illustrates that better than average returns alone are not sufficient to fix the funded status of the Plan. Achieving an annualized 9.00% return over the next 30 years results in a funded ratio of only 65%. Based on the current asset allocation, the Plan’s assumed rate of return, and expected capital market assumptions published by organizations such as JP Morgan and Horizon Actuarial Services, the

PRB estimates the probability of earning less than or equal to a 7.00% annual return is approximately twice as likely as achieving a 9.00% or greater annual return over the next 30-year period.

The Plan's current asset allocation is not significantly different from other public pension plans. However, to maintain an expected return on assets of 8.00%, public pension plans have generally taken on significantly more risk than in the past. Public pension portfolios with an 8.00% expected return have increased risk by more than three-fold between 1995 and 2016.[4] Generally, this is a result of shifting investments from more stable fixed income securities (with significantly lower returns in 2016 than in 1995) into equities and equity-like products. Galveston Police, however, has consistently held a significant portion of its assets in equities, with nearly 2/3 of total assets invested in equities in 1995. Taking on this level of investment risk over the long-term has not necessarily produced a better result in this case.

The approval by the board to reduce the assumed rate of return on investments to 7.50% for the 2018 valuation is a step in the right direction, but may not be sufficient.

Funding Risk

Funding or contribution risk is the risk that actual future contributions are less than expected future contributions. For purposes of this section, funding risk will also refer to the risk that future contributions are less than "needed" to maintain a financially stable pension fund.

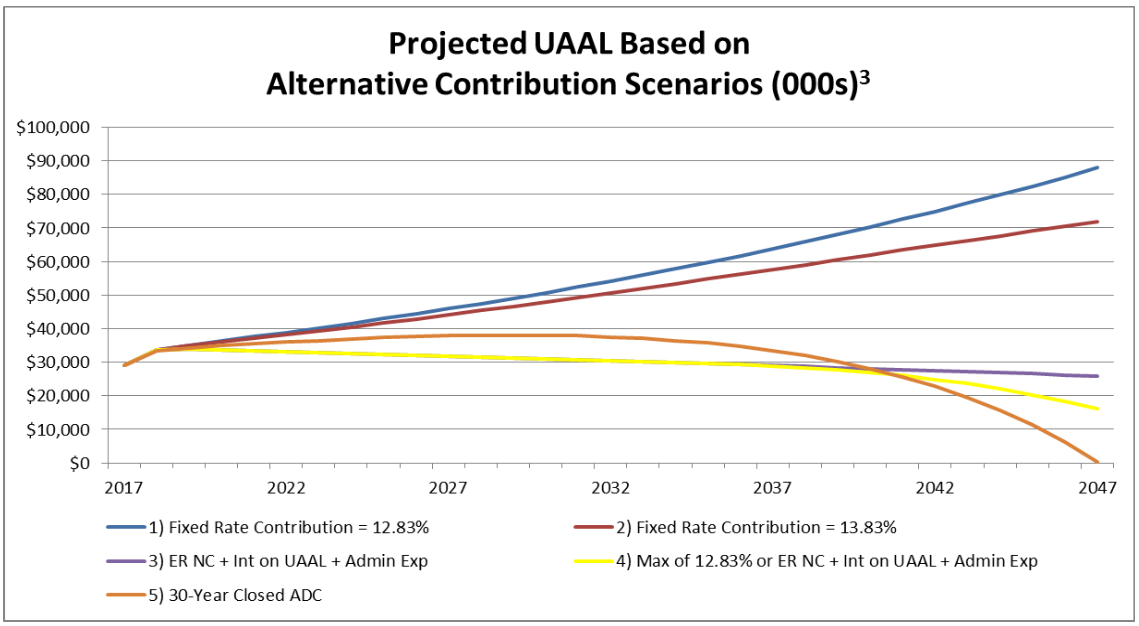
There are two primary issues with fixed-rate, percent of pay plans that may result in long-term problems:

1) Contributions to percent of pay plans are inherently back-loaded because the expected contributions to a percent of pay plan grow on a nominal basis at the assumed rate of total payroll growth.
2) Fixed-rate plans provide budgetary stability for the employer in the short term, but do not include any inherent mechanisms for reacting to changes in a plan's financial condition.

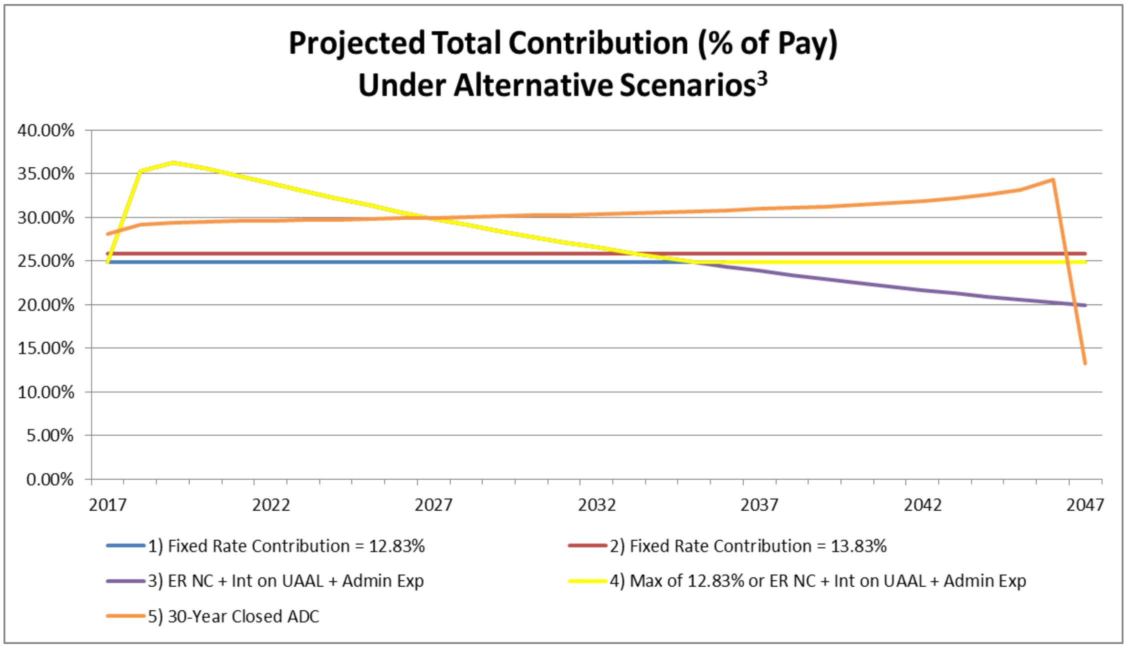
Based on the Plan's current contribution rates and actuarial assumptions, the total UAAL is expected to increase for the next 30 years before it starts to decrease. The implication is that someone who is hired by the Police Department or someone who moves to the City 15 to 20 years in the future will still be paying for services received in the past. This raises the concern of intergenerational equity. Moreover, if actual investment returns and/or payroll growth are lower than expected, the UAAL will only continue to increase more.

As was noted in the Historical Trends section, current member contributions exceed their normal cost (or the annual benefit accrual) based on the Plan's current actuarial assumptions. Given the inactive liability is not fully funded, the excess contribution is not being used to build up a reserve to address future adverse deviations, but to fund the benefits of current retirees.

To address these concerns, a plan can adopt a funding policy where member contributions are no more than the annual normal cost and employer contributions are designed with a target to fund actuarial losses over a finite period. One approach is for the employer to contribute based on an actuarially determined contribution (ADC) that is designed to decrease contribution volatility, while addressing changing financial conditions. The projections below illustrate the expected UAAL and total contributions (both employer and employee) under a variety of potential contribution scenarios. The scenarios are 1) maintaining the current fixed contribution rates; 2) increasing the employer contribution by 1.00% but keeping it a fixed rate of 13.83%; 3) adopting a funding policy that follows the interpretation of the Plan's governing statute as outlined in Retirement Horizons' revised 2017 actuarial valuation (i.e. the City pays the employer normal cost (currently $0) plus interest on the UAAL plus the administrative expenses); 4) a combination of scenarios 1 and 3 where the City pays a fixed rate of 12.83% but never less than the interest plus administrative expenses; and 5) adopting a funding policy that utilizes a single-layer 30-year closed amortization approach (i.e. will fully fund the Plan in 30 years).



The total contributions (both employer and employee) necessary for each funding policy are shown below.



Assumption Risk

Actuarial valuations and projections are by their nature simplifications of an extremely complex reality. As G.E.P. Box is famously quoted, "All models are wrong, but some are useful." The actuarial valuation, like a map of the world, is not 100% accurate but is instead a useful tool to help guide decision making on the most effective way to get from point A to point B. For that reason, it is best not to rely too much on a single snapshot of any given metric, but rather examine the progression of multiple metrics over time. An important part of that process involves selecting the economic and demographic assumptions about future plan experience.

Actuarial Standards of Practice (ASOPs) 27, *Selection of Economic Assumptions for Measuring Pension Obligations*, and 35, *Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations*, provide a framework for the selection of assumptions. They state that each assumption selected by an actuary must be "reasonable," where reasonable is defined as being appropriate for the purpose, reflects the actuary's professional judgement, takes into account historical and current data, as well as future expectations, and has no significant bias. The ASOPs also recognize that "different actuaries will apply different professional judgement" such that a "range of reasonable assumptions may develop."

As was noted previously, for the Plan, the single largest increase in UAAL over the past 10 years was due to investment returns lower than the assumed rate of return, and the potential for this trend to continue is one of the largest concerns moving forward. In addition, the amortization period calculation for a fixed-rate plan is highly sensitive to the selection of an assumed rate of payroll growth. The development of both of these assumptions relies first on the selection of the inflation assumption. While there are approaches to selecting the investment return assumption other than the traditional "building block" approach, the Governmental Accounting Standards Board's reporting requirements implicitly assume the building block approach is used by requiring plans to report expected real rates of return (i.e. "after adjustment to eliminate inflation") for each asset class. [5]

While the Plan's 3.00% inflation assumption may not appear high for public pension plans (approximately 62% of Texas plans in the most recent information reported to the PRB and 58% of the plans in the Public Plans Database[6] for the fiscal year ending in 2016, used a 3.00% or higher inflation assumption), other industry data indicates inflation could be significantly lower. The following table illustrates several published inflation rates for various mid- to long-term horizons:

Source	Time Horizon (Years)	Rate
Galveston Police 1/1/2017 Actuarial Valuation	N/A	3.00%
Treasury Inflation Protected Securities[7]	30	2.01%
SSA 2017 Trustees Report – Intermediate Assumptions[8]	75	2.60%
JP Morgan 2017 Long-Term Capital Market Assumptions[9]	10	2.25%
Horizon Actuarial Services 2017 Survey of Capital Market Assumptions[10]	20	2.44%

Based on projections in the Investment Risk section above, if the mean rate of return is reduced from 8.00% to 7.50% to reflect a 2.50% inflation rate rather than 3.00%, the PRB estimates the Plan would be more than three times as likely to earn less than or equal to a 7.00% return versus greater than or equal to a 9.00% return over the next 30-year period.

The payroll growth assumption is also frequently calculated using a building block approach with inflation as the base and an adjustment for general productivity growth. Therefore, any reduction to the inflation assumption is likely to impact the payroll growth assumption as well. Also, as noted previously, the amortization period calculation is highly sensitive to the payroll growth assumption. The amortization period is used as the primary metric for decision-making by many Texas public pension plans, as well as the trigger for requirements under the Texas Government Code, so any assumption that has a significant impact on the amortization period should be scrutinized very closely.

For the Plan, while the actual cost will always be the benefits actually paid, if the liabilities are understated, the contributions necessary to fund the actual costs could be larger than anticipated and could exacerbate the Plan's already precarious actuarial condition. It is sometimes useful to incorporate a level of conservatism in a plan's assumptions to help avoid the difficulties associated with significant underfunding.

Governance Risk

Governance is essentially decision-making, and decision-making for public pension plans must balance the competing interests of plans and their sponsors and should feature collaboration between the two. One primary source of governance risk is the lack of involvement of key parties or stakeholders in important areas of decision-making for a pension plan including plan design (benefits) and funding (contributions). When a key party, such as the board of trustees or the plan sponsor, is not engaged in important decisions, the risk increases that benefit levels and the contributions required to fund them will diverge, potentially putting the Plan's funding stability at risk.

For example, under the Plan's governing statute, the board has power to make decisions to modify plan benefits with the approval of at least four board members as long as any benefit increase is also approved by a majority vote of plan members. Although jointly responsible for funding the retirement plan along with plan members, the sponsoring city may have limited involvement in benefit decision-making, a structure which generates the risk that benefit levels adopted could be unsustainable. While Galveston Police has not made any benefit increases and instead has made a minor benefit reduction for future employees, this potential risk remains in the future, given the statutory structure.

Benefit increases are not the only potential risk related to a potential lack of sponsor involvement under the Plan's governing law; unwillingness to reduce benefits prospectively when necessary to address funding challenges can be an obstacle to getting things back on track. It should be noted that even plans with very engaged boards and sponsors can be susceptible to increasing benefits to unsustainable levels in good times or failing to lower them when necessary in bad times. Governance risk related to an imbalance in decision-making can only exacerbate these risks. Governance risk must also be managed on the contribution side, with both parties working together to provide sufficient contributions and to avoid lowering contributions in good times.

State law recognizes these risks and imposes cooperation between the system and sponsoring governmental entity by requiring retirement systems having trouble meeting their long-term obligations to work with their sponsors to develop a restoration plan for addressing those issues.[11] This framework helps ensure that both the system and its sponsoring employer are involved in pension plan reform decisions, but it comes at a point when actuarial health is already threatened. Through the FSRP process, the City made a contribution increase and Galveston Police made a change to plan vesting in response to deteriorating conditions, but these changes have not been enough to put the Plan on a solid path to sustainability.

Conclusions

Funding and Governance Risk

When retirement systems and their sponsors wait too long to address them, the funding challenges compounding over time can reach a point where small, incremental improvements such as those made for Galveston Police simply do not have enough effect to achieve sustainability. Even though required by state law to jointly formulate an FSRP, Galveston Police and the City have yet to make difficult decisions on needed changes to benefit or contribution levels. If necessary changes are ultimately made, they will certainly right the ship, but they will be made under less than ideal conditions.

Thus, another model is called for. Plans and their sponsors can develop policies that proactively manage risk in the future by laying out a formal risk-sharing plan in advance. To proactively manage governance and funding risk, retirement plans and their sponsors should work together to adopt written policies far in advance, before they incur adverse experience, that can guide them through both good and bad years and to shield against the risk of either party's exclusion or disengagement from decision-making. Funding and benefit policies can be adopted that provide a framework for how benefit and contribution levels may be modified under different conditions. An advantage of such policies is that changes to plan benefits and costs are known and understood by all parties in advance, rather than negotiated under difficult circumstances.

A strong funding policy that ensures a healthy amortization period is maintained by requiring payment of an actuarially determined contribution is encouraged. Numerous actuarial methods can be utilized to help mitigate contribution volatility, including directly smoothing contribution rates or adding “guardrails” that require the stakeholders to come back to the table if the contribution rate falls outside a specified range. If funding according to an actuarially determined contribution is not adopted, a funding and benefit policy should, at a minimum, codify how adverse experience will be addressed and how future changes will be made.

For example, a funding policy might state that future benefit enhancements, cost of living adjustments, and/or contribution rate reductions can only be considered or made if the system’s funded ratio remains greater than a particular threshold. A funding policy can also state that if the funded ratio falls below a certain threshold, the stakeholders would be required to come back to the table to make necessary contribution and benefit adjustments. Galveston Police in conjunction with the City can consider utilizing the FSRP requirement to develop a long-term funding policy for the Plan.

Assumption Risk

Public retirement systems must monitor actuarial assumptions continually through their actuarial valuations and make appropriate adjustments to mitigate bias in the assumptions that result in consistent actuarial gains or losses. Actuarial gains and losses occur when the Plan’s actual experience does not match expected experience. Over time, without required changes, pension funds such as Galveston Police whose assumptions consistently diverge from actual experience in the same direction (i.e. consistently seeing actuarial gains or consistently seeing actuarial losses) can exacerbate the issue of intergenerational inequity, causing one group of members and taxpayers to over- or under-pay. Boards of trustees should work with their actuaries to ensure assumptions are neither too aggressive nor too conservative, while striving to maintain (or achieve) sound fiscal health to secure existing accrued benefits. PRB’s *Pension Funding Guidelines* recommend systems to monitor, review, and report the impact of actual plan experience on actuarial assumptions at least once every five years.

Investment Risk

Whatever the investment return assumption used, investment returns should be closely monitored, and investment managers’ performance should be assessed regularly and compared to appropriate asset class benchmarks. Benchmarks should be reviewed to see if they have been met or exceeded, and should be viewed in light of the risk taken to achieve those returns. Best practices also include revisiting investment manager selection periodically, with boards of trustees evaluating managers’ performance, fees, and whether their current managers are providing the highest possible value at the lowest possible cost. The asset allocation should also be assessed from a risk perspective to provide insight into whether the Plan could weather a market correction.

[1] The theoretical minimum threshold, or actuarially determined contribution (ADC), is a target or recommended contribution "to the plan as determined by the actuary using a contribution allocation procedure," as defined in Actuarial Standards of Practice No 4. If contributions to the plan are made as a fixed rate based on statutory or contractual requirements, the ADC for this purpose is the contribution needed to fund the benefits accrued in the current year and maintain an amortization period that does not exceed 30 years, as required to be reported under Texas Government Code §802.101(a).

[2] https://www.ccactuaries.org/Portals/0/pdf/CCA_PPC_White_Paper_on_Public_Pension_Funding_Policy.pdf

[3] 1/1/2017 assets and liabilities reflect the actuarial accrued liabilities, actuarial value of assets, plan provisions, and actuarial assumptions and methods as reported in the 1/1/2017 Actuarial Valuation prepared by Retirement Horizons, Inc. (RHI). Projected liabilities and assets beginning 1/1/2018 reflect the same plan provisions and actuarial assumptions and methods except for a reduction in discount rate to 7.50% and an update to the mortality assumption to the RP-2014 Blue Collar Mortality tables adjusted backward to 2006 with Scale MP-2014 and projected with Scale MP-2016, to reflect changes adopted for the 1/1/2018 actuarial valuation. RHI estimates these changes will increase total normal cost to 11.09% and actuarial accrued liability by 4.8%. Total projected benefit payments were provided by RHI taking into account the updated assumptions.

[4] http://www.rockinst.org/pdf/government_finance/2017-02-01-Risk_Taking_Appropriateness.pdf

[5] Governmental Accounting Standards Board Statement No. 67, Financial Reporting for Pension Plans, p. 30.

[6] http://publicplansdata.org/

[7] https://fred.stlouisfed.org/

[8] https://www.ssa.gov/oact/TR/2017/2017_Long-Range_Economic_Assumptions.pdf

[9] https://am.jpmorgan.com/us/institutional/our-thinking/ltcma-2017

[10] http://www.horizonactuarial.com/blog/2017-survey-of-capital-market-assumptions

[11] Texas Government Code 802.2015 and 802.2016 require public retirement systems whose amortization period exceeds 40 years for 2 or 3 consecutive actuarial valuations to develop, with their sponsor, a funding soundness restoration plan designed to bring their amortization period within 40 years over 10 or fewer years.

Appendix A – Peer Comparison Tables

Galveston Police - Peer Comparison Tables

Peer Group Plans	MVA	Assumed Interest	Payroll Growth	10-year return (Net)	Active/ Annuitants	UAAL % of Payroll	Average Benefit	30-year Shortfall % of GFE	30-year Shortfall % of ADC	NPL	Total Expenses	Expenses as % of Assets
Big Spring Fire	$ 11,157,022	8.00%	5.00%	4.26%	1.27	248.61%	$ 37,713	N/A	N/A	$ 9,713,127	$ 100,927	0.90%
Greenville Fire	$ 12,728,162	8.00%	4.00%	4.23%	0.79	387.00%	$ 24,101	0.97%	22.04%	$16,709,548	$ 125,356	0.98%
Waxahachie Fire	$ 14,201,159	7.00%	4.00%	4.90%	1.77	164.84%	$ 43,297	N/A	N/A	$ 7,039,421	$ 164,077	1.16%
Lufkin Fire	$ 14,264,481	7.50%	3.00%	3.30%	1.23	371.24%	$ 35,666	0.29%	7.99%	$20,444,874	$ 124,925	0.88%
Denison Fire	$ 15,214,736	7.75%	4.00%	3.87%	1.04	182.33%	$ 25,498	N/A	N/A	$ 7,048,420	$ 107,168	0.70%
Texas City Fire	$ 15,837,081	7.75%	3.00%	3.56%	1.27	289.35%	$ 35,686	N/A	N/A	$17,061,992	$ 182,033	1.15%
Galveston Police	**$ 19,784,817**	**8.00%**	**3.50%**	**3.64%**	**1.01**	**278.19%**	**$ 27,018**	**0.67%**	**18.59%**	**$30,568,642**	**$ 204,875**	**1.04%**
Conroe Fire	$ 20,275,833	7.75%	4.00%	2.84%	3.83	167.60%	$ 40,585	0.16%*	7.86%	$19,202,262	$ 196,542	0.97%
Cleburne Fire	$ 21,323,149	7.25%	3.25%	5.64%	1.89	277.79%	$ 36,625	N/A	N/A	$ 12,363,227	$ 127,066	0.60%
Harlingen Fire	$ 27,704,447	8.00%	3.50%	5.46%	1.43	246.71%	$ 25,706	1.35%	38.07%	$38,003,230	$ 168,246	0.61%
Texarkana Fire	$ 31,777,180	7.75%	3.25%	5.27%	1.15	118.93%	$ 26,740	N/A	N/A	$ 7,275,575	$ 267,783	0.84%
Killeen Fire	$ 35,342,830	7.75%	3.25%	4.01%	3.35	114.49%	$ 26,930	N/A	N/A	$21,110,703	$ 144,782	0.41%
Galveston Fire	**$ 40,155,474**	**7.75%**	**3.00%**	**3.74%**	**1.26**	**257.06%**	**$ 28,238**	**1.38%**	**36.33%**	**$25,178,930**	**$ 266,065**	**0.66%**
Galveston Employee	**$ 45,640,194**	**7.25%**	**3.00%**	**4.62%**	**1.53**	**56.65%**	**$ 7,683**	**N/A**	**N/A**	**$15,449,446**	**$ 285,202**	**0.62%**

Peer Group Plans*	Sponsor	GF Expend	EOY GF Bal	General Obligation Debt	UAAL	Expected Employer Contributions	ADC	30-year Shortfall	30-year Shortfall % of ADC	30-year Shortfall % of GFE
Lufkin Fire	Lufkin	$32,591,960	$10,480,400	$56,600,000	$17,317,158	$1,100,728	$1,196,291	$95,563	7.99%	0.29%
Galveston Police	**Galveston**	**$45,814,068**	**$20,659,210**	**$28,005,000**	**$27,075,738**	**$1,340,681**	**$1,646,853**	**$306,172**	**18.59%**	**0.67%**
Conroe Fire**	Conroe	$64,298,794	$28,651,695	$40,365,000	$13,667,395	$1,223,183	$1,327,561	$104,378	7.86%	0.16%
Harlingen Fire	Harlingen	$38,946,292	$16,715,032	$28,875,000	$16,187,406	$852,970	$1,377,219	$524,249	38.07%	1.35%
Galveston Fire	**Galveston**	**$45,814,068**	**$20,659,210**	**$28,005,000**	**$20,353,268**	**$1,108,487**	**$1,741,116**	**$632,629**	**36.33%**	**1.38%**

*Only includes plans with 30-year contribution shortfalls
**Based on a 25-year amortization period shortfall, not a 30-year

Appendix B – Comments from Galveston Employees' Retirement Plan for Police

CITY OF GALVESTON EMPLOYEES' RETIREMENT PLAN FOR POLICE

January 22, 2018

Ms. Anumeha Kumar
Executive Director
Texas Pension Review Board
P.O. Box 13498
Austin, Texas 78711-3498

Dear Ms. Kumar:

Thank you for providing your preliminary draft of the Actuarial Review of the City of Galveston Employees' Retirement Plan for Police (the "Fund") that was completed by the Texas Pension Review Board ("PRB"). As you requested, in advance of your meeting on January 25th, the Fund's Board of Trustees (the "Board") wishes to provide a response to some of the areas considered in the PRB preliminary report. In addition, the Board has authorized David Sawyer, Fund Actuary and a principal with the actuarial firm of Retirement Horizons, and Stefan Smith, Fund Attorney and a partner with the law firm of Locke Lord LLP, to attend the meeting on January 25 to represent the Fund.

Active to Annuitant Ratio

At the bottom of page 1, there is a table showing the active to annuitant ratio equal to 0.88 based on 129 active members and 146 annuitants. The source of your information was the 2016 audit. We now recognize that this was transposed in the audit and consequently stated incorrectly. Based on the correct member counts from the January 1. 2017 valuation (145 actives and 144 annuitants), the ratio would be 1.00, which is in line with the prior two years.

Key Metrics in the PRB Report

The PRB states that the UAAL as a percentage of payroll (278.91%) is one of the highest among the Texas public sector plans with similar market values. While this may be true, we believe that using this peer group implies that the other plans in the peer group are similar in nature to the Fund. The PRB's survey of Texas Firefighters might provide a better peer group comparison to the Fund. A comparison to that survey would likely show the Fund's UAAL as a percent of payroll to be higher than average, but comparable to a number of other funds.

The assumed rate of return of 8.00% was lowered to 7.50% for the January 1, 2018 valuation. We agree with the comments stating that 8.00% rate of return is too high, and wish to reiterate that the Board agreed at its May, 2017 meeting to lower the rate to 7.50% for future valuations.

Asset Allocation/Investment Risk

The Board recently approved the selection of a new Investment Manager for the Fund, and will work with this manager to update the Fund's Investment Policy. Currently the allocation is a balanced 70/30 mix. The style of the new investment manager focusses on downside protection to reduce volatility by not exceeding investment of 15% in any one sector. The Fund now has strategic diversification with exposure to all sectors and market caps. The fixed income portion of the Fund is invested in high quality corporate and municipal bonds with an A or above rating with 3-5-year durations.

Funding Risk

The Board and its recently contracted Investment Manager will continue working on fee reduction. The Investment Manager will also assist the Board in a cash flow analysis to project timing of future needs.

Board Governance

The Board and its advisors are working together to formulate processes to better assist the Board with pension fund administration. Creation of a two-year calendar of events and duties will better assist all members in the review of vendors and operations of the Fund. The Board has also assessed the role of the Fund's outside counsel and has increased the involvement of counsel in the day to day governance of the Fund. Counsel is in the process of reviewing the practices and procedures of the Fund and Board in an effort to ensure that the Fund's governance is consistent with recognized best practices.

Thank you for considering this response. As mentioned above, David Sawyer and Stefan Smith will be attending your meeting in Austin on January 25 to represent the Fund. Both David and Stefan are available for any questions you may have.

Please contact us if you need more clarification.

Sincerely,

Geoff Gainer
Interim Board Chairman
City of Galveston Employees' Retirement Plan for Police

Appendix C – Comments from the City of Galveston

City of Galveston

OFFICE OF THE CITY MANAGER

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January 22, 2018

Ms. Anumeha Kumar
Executive Director
Texas Pension Review Board
P.O. Box 13498
Austin, TX 78711-3498

Dear Ms. Kumar:

The City of Galveston received the draft actuarial review prepared by your staff on the Galveston Employees' Retirement Plan for Police on Tuesday, January 16, 2018. City management responds with the following comments for your review and consideration prior to release of your final report.

Recent Pension Reform History
For the last three years, the city's management team has made pension reform one of its highest priorities. The subject has been discussed in numerous public forums, televised on the city's municipal channel, addressed in annual budgets and financial reports, and discussed with the three pension boards themselves. ***The city and its leaders recognize that our three pension funds must be financially sound.***

While the causes are slightly different in each case, every one of the city's three pension plans began this period with challenges. The administration's position has been consistent throughout this period. That is to say the problems with each fund must be fixed, with financial stability and sustainability as the goal. It remains clear that any solution depends on a shared responsibility on the part of the members of each plan and the city's taxpayers. This shared responsibility necessarily includes changes in plan benefits.

Thanks to a combination of factors, the non-civil service employees plan is now in financially sound position with an amortization period for its UAAL of 13.4 years. We expect to continue to monitor the fund and work with the board to keep it that way.

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The challenges faced by the firefighters and police officers plan are more daunting, but can be solved given an approach of shared sacrifice. Currently, the Trustees of the Firefighters plan are preparing a vote for its members to modify plan benefits and requirements that in combination with increases in contributions by active plan participants and the City, resulting in a material immediate reduction in the plans unfunded liability and it UAAL to approximately 25 years. It is through the cooperative efforts of the Trustees and the City that this reform will restore the plan to a sound financial footing.

The Municipal Police Retirement Trustees are insistent that the City is fiscally responsible for the financial soundness of the plan; that the City may not even suggest changes to the benefit structure of the Plan. The City's does not agree with their assessment; but has in fact increased funds going into the plan. That Board is referred to in this letter as the "Police Board".

Funding Measures - In 2015, the city dissolved its Tax Increment Revitalization Zone Eleven, and received $2.3 million as its proportional share of the operating cash balance held by the TIRZ. This unusual one-time revenue was reserved in a Special Revenue Fund approved by the City Council for pension reform in the FY 2017 Budget. Additionally, the current FY 2018 Budget includes an additional reserve of $393,000 taken from recurring revenues for potential increases to the City's contribution to the fire and police pension funds. Such an action was approved by the City Council with the expectation that an increased funding by the City in combination with prudent changes by the plan Trustees/members would be needed to address these long standing financial problems. More specific to the Police plan, the FY 2018 Budget included funding that increases police personnel and salaries resultant in an increase the city's pension fund contribution to approximately $1.5 million for the fiscal year.

Discussion with the police pension board have been challenging at best. The Financial Soundness Restoration Plan (FSRP) provided an opportunity to do more than a quick fix to get the UAAL amortization period under forty years, but the minor change discussed in your report was all that could be agreed upon. The increase in the city's contribution from 12.00 to 12.83 percent was based on a recommendation by the plan's actuary and accepted by the City. The change to the vesting provision modifying it from hundred percent at five years to fifty percent at five years then increasing 10 percent over the next five years to fully vest at ten years was made consistent with terms that already existed in the City's plan for non-civil service employees. The impact of these changes were calculated by the actuary and served to guide the acceptance of this compromise as detailed in the FSRP.

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Discussions subsequent to submission of the FSRP have been less productive, culminating in the actuary's unprecedented presentation of a revised actuarial report. In the original report delivered in May 2017, the actuary determined that a combined contribution rate of 27.76 percent of payroll would be required to reduce the amortization period for the UAAL to thirty years. Also, the actuary provided an estimate based on likely changes in assumptions for next year's valuation. Under this approach, a total contribution rate of 29.96 percent of payroll would be required. Based on the adopted FY 2018 Budget, the difference in cost given these two approaches would have been $342,337 (27.76 percent of payroll) and $599,382 (29.96 percent of payroll).

In the middle of our discussions, the revised actuarial report was delivered to the Trustees at the request of a board majority but absent full board approval. It proposed a funding scenario applying a previously unused approach to a section of the state law. This approach could increase the city's contribution from $1.5 million in the current fiscal year to over $2.7 million, a potential $1.2 million increase in recurring cost. If implemented for FY 2018, it would require offsetting reductions in this year's budget with eight months remaining to make such cuts.

The City is not willing to cut expenditures, suspend programs, and lay off municipal employees in response to revised report, nor does it believe there is a legal obligation to do so.

Governance and Legal Provisions

The Police Pension Plan was created pursuant to VATS Art. 6243p. The statute applies to municipalities with a population between 50,000 and 400,000[1] and will simply be referred to herein as the statutes.

The governance of the Police Board makes for an uneven distribution of power over pension matters. Plan members, including the president of the local police association, comprise the majority of the Board membership (four of seven seats) with the Board having the authority to:

1. Define and set benefits for plan members,

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[1] The population is determined using the last Decennial census. The population of the City of Galveston in the last Decennial census was below the required threshold; there is an open question whether this statute remains operative.

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2. Determine the contribution level of each active member,
3. Retain professional investment managers to manage and direct the plan's liquid assets,
4. Retain actuaries to perform analyses of long-term funding requirements, and
5. Power to accept or potentially redirect the actuary's most important assumptions used to produce long-term projections.

Given the new interpretation embodied in the revised actuarial study for 2016, it now appears that the Board believes it is empowered to determine the City's contribution rate as well. If this were true, the Board could basically do whatever it wants in the way of benefits and member contributions and hand the bill to the taxpayers for whatever subsidy is required to completely fund the unfunded liability.

We neither believe that such a one-sided interpretation is healthy; nor, what was the legislative intent when the statute was passed twenty years ago.

1. This disempowers the elected Mayor and City Council and removes their ability to effectively set policy and allocate resources to meet local needs as is required of them under state law and the City Charter.
2. The concerns for equity between plan members raised in the PRB review (see the "Contributions" section at the bottom of page 8), appears to endorse an approach that would absolve trustees and active members from assuming any responsibility for prior board and membership decisions, actions, or inactions that contributed to the current financial situation. This narrow interpretation ignores other equity considerations and appears to remove the Independent Authority of a Home Rule City's elected leadership in favor of an unelected group with vested interests. Allowing a small group carte blanche to vote itself any piece of the public treasury they see fit cannot be the intent of the legislature

   a. If virtually unlimited funding for the Police pension plan is the goal of the Police Board's latest actuarial initiative, other city services will suffer, including all General Fund departments (including the Police department). Active members and retirees of the City of Galveston's firefighter and non-civil service employee retirement plans will now be expected to share in the financial situation created by the Police Board and its membership. The City does not believe such an inequitable result is supported by the legislation creating the plan.

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Under the Police Board's approach, there is no consequence for the failure to manage the fund by making adjustments to plan benefits and pursue fiscal prudence.

b. The City does not believe the Legislature intended to remove a municipality's authority to manage its budget by empowering an unelected group who is administering their own benefits when it passed the statute.

The Police Board's position is that such a result is required by Section 6.03 of the statute. Its belated interpretation has not been suggested in the twenty years since the statute was passed. The legislative record includes little recorded testimony that would help to enlighten us as to the original legislative intent. We do not believe it included disenfranchisement of Galveston voters and their elected officials.

Collective bargaining plays a role

The City of Galveston enters into a collective bargaining agreement with the Galveston Municipal Police Association (GMPA). The length of each term is typically two to three years. Although the Police Pension Board is not technically a party to that agreement; the Police Pension Board is comprised of a majority of GMPA members. The Police and City have provided a level of contributions to the Police pension in the collective bargaining agreement.

Never in that collective bargaining agreement has the Pension Board's belated interpretation of the statute even been suggested.

Financial Conditions

The review presents accurate but incomplete information regarding the recent history of key plan financial indicators, including:

1. Contributions,
2. Investment earnings performance versus assumed earnings,
3. Plan assets and liabilities, and
4. The Police plan's Unfunded Actuarial Accrued Liability (UAAL).

The chart on page 7 allocates the change in the UAAL for the last ten years to three financial areas:

1. Investments have been $7.5 million lower than assumed,

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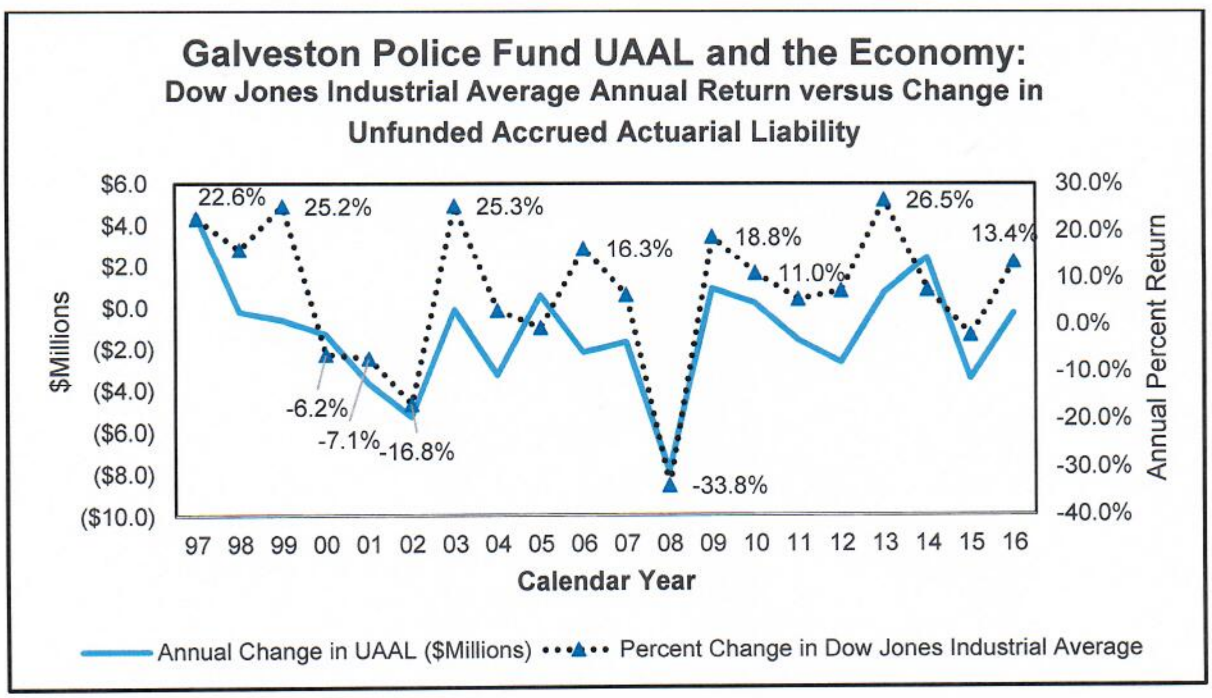
2. Contributions have been $5.4 million less than were needed, and
3. Other extant unidentified factors produced a total of $1.1 million more income and/or less expense than previously assumed.

The analysis then suggest that multiyear solutions are needed to plan for and prevent financial situations like the current situation of the Galveston Police plan. We do not disagree, but that approach must be enlightened by an understanding of the conditions that cause such a result.

Economic Downturns

The U.S. stock market is a major repository for institutional investment in this country and the Dow Jones Industrial average is the most widely accepted measure of its performance. The chart below tracks the annual percent change in the Dow Jones Industrial Average (found at www.Forecast-Chart.com) and the annual percent change in the Galveston Police Plan UAAL for a twenty year period. The correlation between the severe downswings in the stock market and the Police Plan UAAL are striking.



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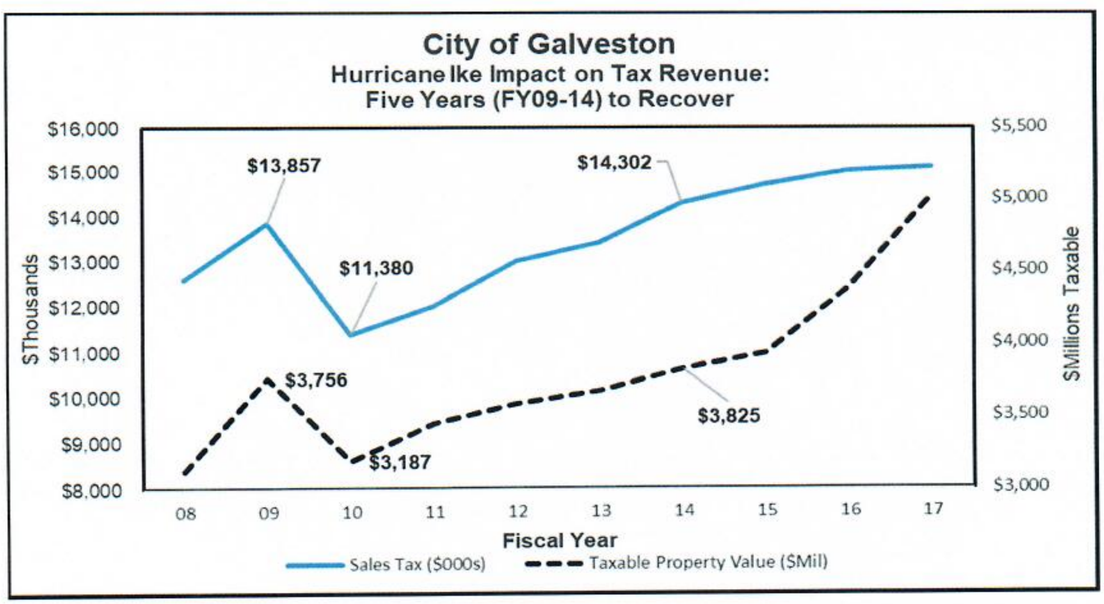
The U.S. economy had been strong in the late 1990s and the Galveston Police fund financial condition was strong during that time. The first of two major stock market reversals in the last twenty years occurred between 2000 and 2002, during which time the Dow Jones Industrial Average dropped about thirty percent. In that same time period, the Police Fund UAAL went from $261,000 in 2000 to $10,589,000 in 2002, a two year drop of $10.85 million. The other major downturn in the market took place in 2008, when the DJIA dropped 33.8%. The Police fund UAAL went from $17,317,000 in 2007 to $25,197,000 in 2008, a $7,880,000 increase.

These two major national economic downturns account for $18,469,000 or 63.4 percent of the $29,145,000 UAAL at January 1, 2017.

Hurricane Ike's Impact

On the morning of September 13, 2008, the eye of Hurricane Ike approached the upper Texas coast, making landfall at 2:10 am CDT over the east end of Galveston Island, with a high storm surge, and travelled north up Galveston Bay the east side of Houston. As a result, the resident population of the Island, which is virtually contiguous with the City of Galveston, dropped by 10,000 from approximately 57,000 to 47,000. The impact of this storm on private lives and property was immense, and the recovery was prolonged and difficult. The effect on the City's revenue base is shown below.



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After Ike, sales tax revenue staged a rally in FY 2009 as the result of goods and service purchases in the rebuilding effort. Then, sales tax revenue dropped $2,477,000 or 17.8 percent in FY 2010. Taxable property value dropped $569 million or 15.1 percent in tax year 2009 which became a reduction also for FY 2010 property tax revenue. This amounted to a $2.8 million drop in potential revenue, which was addressed by a six cent tax rate increase approved by the City Council, which served to offset $1.91 million of the $2.8 million in property tax revenue lost to Ike. It took five fiscal years for sales tax revenue and taxable property value to return to their pre-Ike levels.

General Fund revenue dropped $5.9 million overall in FY 2010, or 14.6 percent. This was offset by the six cent tax increase that generated $1.1 million, making the final revenue total $36.6 million for FY 2010. The overall drop in revenue without the property tax rate increase included $700,000 loss from other sources. In order to balance the FY 2011 Budget, the year after Ike's impact was fully understood, approximately 125 positions were eliminated from the City budget. These reductions included 27 police officer positions (158 in FY 2010 reduced in FY 2011 to 131). This reduction was unavoidable but it had a direct effect on contributions by members and the City to the Galveston Police Retirement Fund. Most importantly, it led to a shortage of active members as compared with retirees.

The FY 2018 Budget includes sixteen new police officer positions which will bring the total police staffing level up to 168. This will exceed the pre-Ike staffing level. It is important to note that the Galveston Island population is estimated to have recovered half of its losses to Hurricane Ike.

Retiree Benefits

While the PRB review includes significant information on contributions and financial condition, it is short on providing similar information on benefits. This is somewhat understandable because there are few if any true peer pension plans in Texas to the Galveston Police plan. Looking at the history of benefit spending by the plan, such comparative information would be extremely useful in your final report.

Contributions have been impacted as previously described by Hurricane Ike since 2008 when the high water mark for contributions occurred, $2,638,000. Currently, we estimate that the final total for 2017 contributions will be over $2.7 million and FY 2018 will be close to $2.9 million at the current contribution rates of 12 percent from active members and 12.83 percent from the City.

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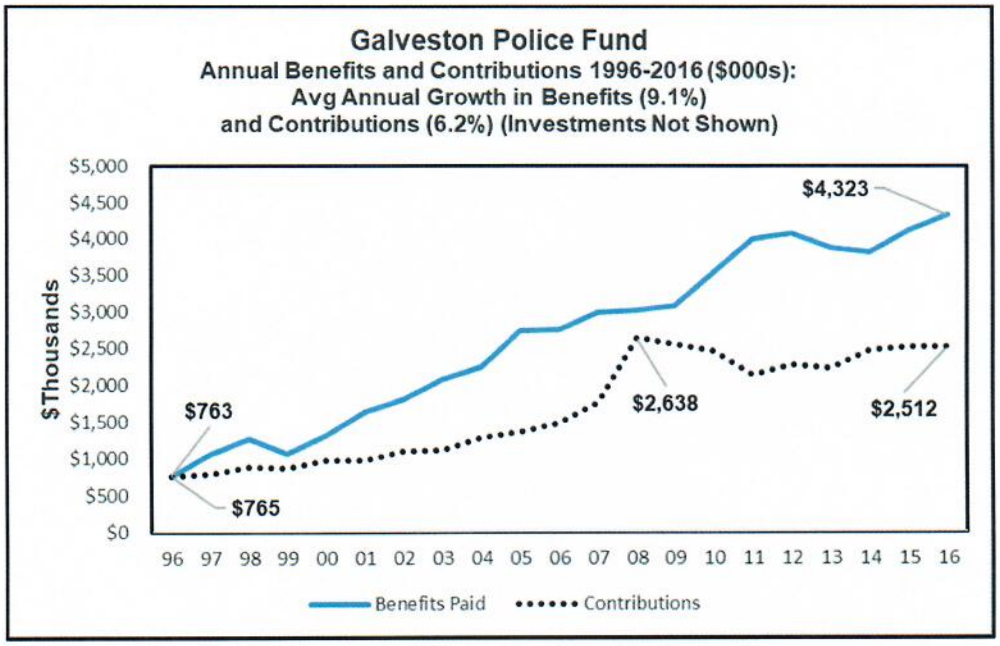

Contributions have grown at an annual average 6.2 percent since 1996, benefits have outstripped this completely, growing at an average annual rate of 9.1 percent. In 1996, benefits and contributions were equal. In 2016, benefit payments exceeded contributions by $1.8 million annually. What is driving this growth in retiree benefits? How does it compare with actuarial assumptions? It is clear that the growth in benefits should be slowed to make the cost of benefits affordable to plan members and the taxpayers.

Conclusion

We believe the review should point out some possible steps that could be taken to mitigate risk beyond those already suggested in the review.

1. Mitigate governance risk by providing that plan members will be represented by three board members, equal to that for its elected and appointed officials. By requiring the Board be disproportionally weighted to interested parties, on its face creates the appearance of conflict of interest if not a direct conflict. The seventh member (if that position exists) could be chosen by the majority of the board or an independent objective source, removed from the politics associated with City resource allocations and budgeting and the potential conflict of being a plan

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participant. This check prevents one group from controlling benefits and contribution levels using untested interpretations of state law as a shield to do so.

2. Require that actuarial reports must be completed within a shorter time frame (e.g. ninety to 120 days) after the end of the plan year. This can provide city councils and governing boards with greater time to review and consider the impact of economic or other natural calamities on pension fund financial health.
3. Support legislation that would allow smaller pension plans such as the Galveston Police plan to more easily be merged into larger plans, such as the Texas Municipal Retirement System, without compromising the financial health of the plans involved or the affected members.
4. Review the implementation of the Financial Soundness Restoration Plan to encourage multiyear pension restoration efforts.

Thank you for this opportunity to comment on the Draft Review.

Brian Maxwell
City Manager
City of Galveston