City of Pawtucket, RI

# ***** Addendum # 1 *****

## Bid # 13-034
## Actuarial Valuation and OPEB Reports

September 3, 2013

**Q:** What if the vendor does not have any arrangement with a Credit Card Company.

**A:** This requirement is being dropped from the RFP.

**Clarification of Insurance:**

A certificate of insurance will be required, although listing the City of Pawtucket as an additionally insured will no longer be a requirement, but the certificate needs to be addressed to the City of Pawtucket.

Section 6.0-Acknowledgement of Risk & Hold Harmless Agreement is meant for work being done in conjunction with the resulting contract only.

**Attachments:**

#1 2009 OPEB Actuarial Valuation

#2 2011 - Actuarial Valuation

#3 2011 - OLD PLAN-Actuarial Valuation

#4 January 2013 - Pawtucket OPEB Results Presentation

**David Clemente**

**Purchasing Agent**

# Attachment #1

# City of Pawtucket
# Other Post-Employment Benefits

## Actuarial Valuation
## July 1, 2009

December 2010

STONE
CONSULTING, INC.

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# SECTION I

## MANAGEMENT SUMMARY

### Introduction

This report presents the results of the actuarial valuation of the City of Pawtucket Other Post-Employment Benefits as of July 1, 2009. The valuation was performed for the purpose of measuring the actuarial accrued liabilities associated with these benefits and calculating a funding schedule. These results are used in satisfying the requirements under the Governmental Accounting Standards Board Statement No. 45.

The valuation was based on participant data as of July 1, 2009 supplied by the City of Pawtucket.

We are pleased to present the results of this valuation. We are available to respond to any questions on the content of this report. Please note that this report is meant to be used in its entirety. Use of excerpts of this report may result in inaccurate or misleading understanding of the results.

Respectfully submitted,

*STONE CONSULTING, INC.*
December 6, 2010

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## Summary of Actuarial Results

The actuarial values in this report were calculated consistent with the Governmental Accounting Standards Board (GASB) Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, issued June 2004. Values at two discount rates are presented. The 7.50% discount rate represents the expected rate of return for a funded plan with a longer-term investment horizon. For an unfunded plan, the GASB Statement No. 45 calls for the use of a discount rate approximating the rate of return of Pawtucket's general assets. The rate we recommend for Pawtucket is 4.25%. The OPEB liability is extremely sensitive to this assumption. Use of the unfunded rate instead of the funded rate causes the Annual Required Contribution (ARC), Accrued Actuarial Liability (AAL), and the Normal Cost to increase dramatically.

The summary results are as follows:

- Actuarial Accrued Liability ("AAL") is the "price" attributable to benefits earned in past years. The total AAL as of July 1, 2009 (at the 4.25%% discount rate) is $378,184,421. This is made up of approximately $144.9 million for current active Pawtucket employees and approximately $233.3 million for Pawtucket retirees, spouses and survivors.

- The Normal Cost is the "price" attributable to benefits earned in the current year. The Normal Cost as of July 1, 2009 (at the 4.25% discount rate) is approximately $7.5 million.

- Based on a twenty-eight year "funding" schedule (at the 4.25% discount rate), the Fiscal 2010 contribution would be $22,881,686 . This figure is referred to as the Annual Required Contribution (ARC). This figure should be contrasted with the ARC using the fully funded 7.50% rate and a 30-year funding schedule of $17,173,213. These compare to the pay-as-you-go contribution of the existing costs for current retirees of $10,586,385. For an illustration of how payment of the ARC impacts the funding of the plan over time, please refer to the "Illustrative Funding Schedule" discussion beginning on page 18 and the accompanying table on page 37. The following table shows the breakdown of the

Actuarial Accrued Liability between future retirees and current retirees, as well as the normal cost, at Pawtucket's different discount rates:

| Actuarial Results as of July 1, 2009 | 7.50% Rate | 4.25% Rate |
|---|---|---|
| Current Actives | $79,290,090 | $144,908,806 |
| Current Retirees, Beneficiaries, Vesteds and Survivors | $156,776,159 | $233,275,615 |
| Total AAL | $236,066,249 | $378,184,421 |
| Normal Cost | $3,875,541 | $7,544,661 |
| ARC (Uses 28 yrs for unfunded, 30 Yrs for Funded) | $17,173,213 | $22,881,686 |

## Analysis by Groups

Under both the 7.50% and the 4.25% scenarios, we analyzed the results of our work for each of the following subgroups:

1) Police
2) Firefighters
3) All other non-School System (mostly municipal employees but excluding administrative people in the School System) except the Water Department
4) Water Department
5) School Department (teachers, administrators and others)

| Group | Valuation Rate | AAL | Normal Cost | Amortization | ARC |
|---|---|---|---|---|---|
| Firefighters | | | | | |
| | 4.25% | $165,790,521 | $1,952,634 | $6,723,527 | $8,676,161 |
| | 7.50% | 99,646,457 | $1,006,712 | $5,613,110 | $6,619,822 |
| Police | | | | | |
| | 4.25% | $125,831,314 | $2,569,568 | $5,103,008 | $7,672,576 |
| | 7.50% | $69,765,756 | $1,177,572 | $3,929,923 | $5,107,495 |
| Municipal not Water | | | | | |
| | 4.25% | $29,675,618 | $1,411,194 | $1,203,475 | $2,614,669 |
| | 7.50% | $20,691,646 | $841,605 | $1,165,566 | $2,007,171 |
| Water Department | | | | | |
| | 4.25% | $5,372,163 | $269,525 | $217,865 | $487,390 |
| | 7.50% | $3,670,408 | $157,815 | $206,755 | $364,570 |
| School System | | | | | |
| | 4.50% | $51,514,805 | $1,341,740 | $2,089,150 | $3,430,890 |
| | 7.75% | $42,291,982 | $691,837 | $2,382,318 | $3,074,155 |

In reviewing these figures, we note the following:

1) The Firefighter liability and accompanying costs are the largest. These figures reflect the high level of benefit available to this group, the fact that they are 100% employer

paid, the low withdrawal assumption for the group, and the generous standards to qualify for benefits. However, the normal cost has declined significantly from the prior valuation due the change in the post-65 benefits from Commercial plans to Medicare Supplement plans for those hired 4/1/1986 and later. This decrease also appeared in the AAL for active employees. The AAL for retirees remains high because of those already in Commercial plans.

2) The Police liability is somewhat less, principally because hires after April 27, 1994 have been required to change to Plan 65 upon reaching age 65 instead of a commercial plan. Plan 65 is a much less expensive plan as well as only an individual plan.

3) The School System liability is much less sensitive to the interest rate because benefits are available only to age 65. Thus, the period of time for which payments will be made is much shorter than for the other groups. Because of the lower interest rate sensitivity, the School System AAL is a higher percentage of the total in the 7.50% scenario compared to the 4.25% scenario..

## Valuation Methodology and Assumptions

*VALUATION METHOD*

The valuation of the other post-employment benefits is based upon the projected unit credit actuarial cost method. Under this method, future health care benefit cost is projected using assumed rates of annual health care cost increases (health care cost trend rates). The cost of future expected life insurance death benefits is added to the projected medical cost. The actuarial value of the future expected benefits is allocated proportionately over a health plan member's working lifetime.

A normal cost (or service cost) is determined for each year of the member's creditable service and is equal to the value of the future expected benefits divided by the total expected number of years of service. This is similar to a normal cost in a retirement actuarial valuation. The Actuarial Accrued Liability is the accumulated value of prior normal costs, similar to the actuarial accrued liability in a retirement actuarial valuation, and represents the liability associated with prior service.

*GASB Statement No. 45*

The actuarial cost method used in this valuation is consistent with the Governmental Accounting Standards Board (GASB) Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, issued June 2004. It is one of the allowable cost methods specified in that accounting standard, and is the cost method most similar to the prescribed method of accounting for these benefits in the private sector described in the Financial Accounting Standards Board Statement 106 (FAS 106).

*Difference Between FAS 106 and GASB Statement No. 45*

The GASB Statement No. 45 differs in one important regard from the actuarial cost method described in the private sector accounting standard. In the FAS 106 methodology, benefits are considered to be fully earned in the first 10 years of service, since members become vested in the retirement benefits in 10 years. Compared to the FAS 106 method, the GASB Statement No. 45 attribution method produces a lower accrued liability for future retirees. The cost of the benefit is spread over the expected working lifetime of the employee. This makes the cost of the benefit associated with the years of service the employee is providing. This is more appropriate for the public sector due to the relative permanence of public entities compared to private entities. There are other significant differences between the GASB Statement No. 45 and FAS 106, most noticeably in the choice of discount rate. The GASB Statement No. 45 discount rate assumption is discussed below.

## *ACTUARIAL ASSUMPTIONS*

Details of the assumptions used in this valuation are shown in Section II. Here we present a brief discussion of the assumptions selected.

### *Demographic and Financial Assumptions*

These include discount rates of 7.50% and 4.25% as well as mortality, disability, withdrawal and retirement rates. These discount rates apply to the two scenarios of either a fully funded or unfunded program. A fully funded program is when the employer contributes 100% of the ARC each year. An unfunded program is where the only amount contributed is used to pay benefits during the year so no assets accumulate. GASB Statement No. 45 indicates that the discount rate for an unfunded post employment benefit plan should be based on the degree to which the plan is funded. For an unfunded plan, the rate of return on the employer's general assets should be used. The rate we are recommending for this scenario is 4.25%. For a fully funded plan, GASB statement No. 45 allows one to use a long-term investment rate such as what would be used for a defined benefit pension fund. The rate we are currently using for this is 7.50%. For a plan (not the case with Pawtucket) where the City has been setting aside some funds toward the liability above the pay-as-you-go amount, but less than the full ARC ("partially" funded), a rate in between these two levels should be used. It should be noted that the rate of return assumption could change significantly in the future due to changes in the economic environment.

We recommend that Pawtucket adopt a funding policy for its OPEB benefits. The funding policy would describe the amounts and timing of the contributions. The GASB statement does not have a requirement for a formal funding policy document but indicates that a formal funding policy should be adopted. We recommend that the City detail its intent with either a written document or in the minutes of a meeting.

The discount rate would change if the City implements any sort of funding above the pay-as-you-go amount. Such a change would lead to a higher discount rate and, hence, a lower AAL, possibly significantly so.

*Health Care Plan Assumptions*

Assumptions unique to post-retirement medical plans include initial annual health care costs and annual health care cost increase (trend) rates, Medicare eligibility, plan participation and coverage election rates.

- Current health care costs by age

Initial health care cost assumptions were derived from premium rates for the various health care plans in-force at July 1, 2009. Typically, we analyze the plans offered in terms of four different categories: whether the plan offered is Commercial (not integrated with Medicare) or Medicare Supplement and whether the plan is Indemnity (where reimbursements are a function of billed charges) or Managed Care (where reimbursements are a function of negotiated contracts). Grouping the plans in this manner allows us to maintain a reasonable degree of granularity in our analysis. At the same time, it avoids the problem of a lack of credibility that often arises if one attempts to analyze every plan separately.

In the case of Pawtucket there are plans in three of these categories. The City offers several plans in both Commercial categories. There is a single Medicare Indemnity plan (Pan 65) that is offered. There are no Medicare Managed Care Plans. The Medicare plan is offered only to those in the City plans. School System employees are not covered after age 65.

Due to the differences in plans for the various groups, we developed different claim costs by group as follows:

1) School System
2) All Non-School System including Town as well as Police and Firefighters.

For Dental costs, separate costs were developed for the School System and relevant Non-School System (Police and Fire).

In addition, certain School System people are on what is termed a "Buyback" plan. This plan provides $3,000 per year flat amount to cover medical and dental costs. This was treated as a separate plan but no aging was applied to the costs (see below).

For all of these groups, weighted-average costs for each plan grouping were calculated based on the actual Pawtucket active and retiree population enrollments. For categories with more than one plan, costs were based on an average weighted by enrollment. However, in order to capture the effect of aging on health care costs, an assumption is required for the increase in health care costs as a person ages. We based our aging assumption on a study sponsored by the Society of Actuaries Health Section in August 2003. The effect of this aging assumption is illustrated in the table of "Initial Monthly Health Care Costs" in the Actuarial Methods and Assumptions section of this report. This method was applied only to the Commercial plans, since these plans incorporate both retirees and active employees. By age-grading the claim costs, we account for the subsidy of older employees by younger employees implicit in a flat premium rate (also referred to as the "Attributed Cost" of each employee).That is, the cost of an active 20-year old employee, for example, is much less than the cost of a retired 80-year old employee. But, the premiums charged the City are flat – the same for both of these people. Thus, the 20-year old in our example is overcharged and the 80-year old is undercharged by a flat rate premium. Age-grading makes this subsidy or mischarge explicit in the claim costs at each age. For the purposes of the GASB valuation, this subsidy needs to be taken into account in determining the retiree liability and normal cost.

No such age-grading was necessary for the Medicare plan because these plans cover retirees only. There is no overcharging of actives in the flat premium rate. Thus, there is no implicit subsidy to take into account.

For the Dental plans, which are Commercial by definition, an age-grading similar to the medical is employed. However, the rate of increase with age is less steep and the cost increases leveled off at a younger age.

- Cost trends

The claim rates developed using the methodology described above must be projected over the life of each retiree. For this purpose we use trend rates calculated to reflect the general rate of increase in Health Care costs. Since we did not have adequate data to develop trend rates unique to Pawtucket's experience, we used trends based upon Stone Consulting's understanding of current health care rate increases.

We developed different trends for each of the categories of plans for which we also developed claim costs. These factors were applied to the premium-based claim rates.

It should be noted that premium rate increases typically include factors other than health care cost increases, such as aging of the covered population, that are reflected elsewhere in our valuation methodology. Therefore, premium rate increases are not themselves a proxy for health care trends. However, they do give some indication of the level of expected cost increases.

As is typical in post-retirement medical valuations, initially higher rates of health care cost trend are assumed to decrease over time to an ultimate rate consistent with long-term economic assumptions. Our general set of trend assumptions has Commercial Managed Care trends that begin at 10% and scale down to 5% and Commercial Indemnity trends that begin at 11% and scale down to 6%. For Medicare, the Indemnity trend rates begin at 10% and scale down to 6%. These different sets of trend rate reflect our belief that (1) Managed Care plans, with their negotiated pay levels and tighter controls, will exhibit lower trends than unmanaged

Indemnity plans; and (2) Commercial plans will be subject to modestly higher trends than Medicare plans due to cost shifting induced by cutbacks in the federal government's payment of Medicare costs.

The Dental trends begin at 8.0% and grade down to 5.0%. A similar logic to the medical trends was applied here. However, we have reflected the generally lower level of cost increases seen on this coverage.

These trend rates should be thought of not as a forecast but as a reasonable progression of rates based on historic patterns. For many years, health care cost increases have been particularly volatile, and this actuarial assumption should be reviewed and, most likely, reset every year or two. Implicit in our health care cost trend assumptions is that the general rate of medical inflation will moderate due to economic pressure on insurers, employers, employees, retirees, government entities, and health care providers. As expectations of future health care cost increases change, they will be reflected in future valuations, resulting in actuarial gains/losses. These will be incorporated in the future costs and funding schedules. In this manner, there is a systematic means of adjusting to changes in the health care environment.

- Sensitivity analysis

The effect of increasing health care costs is extremely significant in an actuarial valuation of post-employment health benefits. As experience emerges the trend assumptions we have used are unlikely to be realized exactly. To illustrate the effect of different trend rates on the actuarial valuation results, we have included a sensitivity analysis of the effect on the actuarial accrued liability, normal cost and annual required contribution of a 1% increase or decrease in the health care cost trend assumption to the base (4.25%) unfunded scenario. We have also included a sensitivity analysis of the effect on the actuarial accrued liability, normal cost and annual required contribution of a 0.50% increase or decrease in the base unfunded discount rate assumption.

- Timing

All values discussed in this report are based on a July 1, 2009 valuation. This means that the first year of the valuation is July 1, 2009 through June 30, 2010. It is permissible, under GASB Statement No. 45, to use these values, without adjustment for interest or any other timing factor for a limited future time period. For an entity such as Pawtucket, which will be doing a valuation every two years, the standard allows use of data "not more than twenty-four months before the beginning of the first of two years for which the valuation provides the ARC." This means that it is acceptable for us to use the July 1, 2009 results without adjustment when discussing the 2010 and 2011 Fiscal years. If you do not make any cash contributions or there are no significant plan changes you will be able to use the results for both fiscal years.

- Medicare

Medicare eligibility is an important assumption with regard to future costs. We have assumed that 100% of employees hired 4/1/1986 or after are Medicare eligible while 85% of the active employees hired before that date are Medicare eligible. This assumption is based on our understanding of the Pawtucket retirement program.

Medicare Changes

The Medicare Prescription Drug, Improvement and Modernization Act of 2003 introduced significant changes to the Medicare program and its interaction with employer-sponsored post-retirement benefits. Medicare beneficiaries are able to participate in a voluntary, prescription drug coverage program. In order to encourage employers, including public-sector employers, to continue providing prescription drug coverage to retirees, the Act provides for a cash subsidy to employers whose prescription drug coverage is deemed to be actuarially equivalent to the new Medicare Part D drug coverage. This cash subsidy can be used to offset partially the cost of retiree medical benefits, including potentially reducing the accrued liability for a portion of the drug benefits provided by a retiree medical plan. The Act may have additional impact on retiree plan choices, as Medicare-eligible retirees may opt for the Part D coverage rather than an employer's plan options. Such changes, if they occur, may affect the selection of future actuarial assumptions.

GASB has indicated that the subsidy should not be included as part of the OPEB valuation. The reason being that the subsidy is considered general governmental revenue and as such in not earmarked towards the funding of OPEB benefits. However, these subsidies can be assigned to insurance companies, resulting in lower premiums. In this manner, some employers have sued the subsidy to lower their OPEB cost.

- Health plan coverage election

Assumptions must also be made regarding the participation in health plans when active members retire and when those already retired turn age 65. Using data supplied by Pawtucket, Stone Consulting modeled the behavior of employees as they moved from being active to being retired or moved from being an under age 65 retiree to being an age 65+ retiree. Such modeling involved an analysis of the distribution of the plans chosen by current retirees, the possible plans available to those who will retire in the future, and our opinions about the likely future course of retiree medical care. Such models are applicable to actives and to retirees not yet age 65, since both of these groups will have the option to select plans at key ages. It should be kept in mind that these percentages are applicable even to actives not currently enrolled in a medical plan. The reason for this is that these people could change their behavior and enroll in a plan at retirement. The likelihood that they (or other actives) elect to do so is controlled by the participation assumption (see below). Some retiree groupings do not require any modeling. For example, retirees over age 65 are assumed to remain in the plans they have already selected. If they have opted out of Pawtucket coverage, we assume they will continue to do so. Similarly, those retirees under age 65 already in Medicare plans are assumed to remain in those plans for life. These are people who are disabled or have certain medical conditions that qualify them for Medicare early. Pre-age 65 retirees in Commercial plans are assumed to stay in their current plan until age 65. At that point, they may migrate to a different plan. We have modeled their possible choices at age 65 and reflected that in our assumptions. Active employees over age 65, once they retire, are assumed to make the same sorts of selections as retirees at age 65. The following table shows the way we modeled the choices at each of the key ages. For non-School System, we further segregated the selection patterns as follows: policemen, firefighters, and all other. The amounts are:

| Group | Age Group | Comm MC | Comm Ind | Med MC | Med Ind |
|---|---|---|---|---|---|
| Municipal, etc. | | | | | |
| | Pre-65 | 95% | 5% | N/A | N/A |
| | Post-65 | 5% | 0% | 0% | 95% |
| Firefighters[a] | | | | | |
| | Pre-65 | 75% | 25% | N/A | N/A |
| | Post-65 | 25% | 75% | 0% | 0% |
| Police[b] | | | | | |
| | Pre-65 | 70% | 30% | N/A | N/A |
| | Post-65 | 10% | 90% | 0% | 0% |
| School System[c] | | | | | |
| | Pre-65 | 50% | 45% | N/A | N/A |
| | Post-65 | N/A | N/A | N/A | N/A |

[a]For Firefighters post-65 it was necessary to split the assumption by whether the particular person was hired before 4/1/1986. Those hired before are entitled to commercial plans at retirement. Those hired on or after this date must take a Medicare Indemnity plan. The amounts shown are for those hired before 4/1/1986

[b]For Police post-65 it was necessary to split the assumption by whether the particular person was hired before 4/28/1994. Those hired before are entitled to commercial plans at retirement. Those hired on or after this date must take a Medicare Indemnity plan. The amounts shown are for those hired before 4/28/1994.

[c]For the School System, 5% of the retirees go to a "Buyback" plan where they receive $3,000/year.

For the Dental Plans, 100% of those eligible were assumed to take single plan offered. This applied to those in the School System as well as Police and Firefighters.

### Participation

In addition to determining the choices that retirees will make among plans, there is also the issue of whether the retiree will elect coverage at all. The rate at which retirees elect coverage is called the "Participation" Rate. Stone Consulting conducted a study of Pawtucket retirees to determine the historical frequency at which retirees elect to take medical coverage. Based on this study, we assumed that 100% of future eligible retirees and spouses of retirees will elect health plan coverage. This high level of participation is consistent with what we would expect for a plan where virtually the entire premium amount is paid for by the employer.

## Change From Prior Valuation

Results of the valuation are somewhat different from the prior valuation (7/1/2007). This is mainly due to the significant change in the Firefighters' benefits. The following chart summarizes a comparison of certain key numbers at the date of the last valuation versus this valuation:

| Category | 7/1/2007 Figure | 7/1/2009 Figure | % Change |
|---|---|---|---|
| NC | $13.8 Million | $7.5 Million | -45.7% |
| ARC | $28.8 Million | $10.6 Million | -20.1% |
| Pay-as-You-Go for FY 2010 | $11.1 Million | $10.6 Million | -4.5% |
| AAL Actives | $222.4 Million | $144.9 Million | -34.9% |
| AAL Retirees | $192.2 Million | $233.3 Million | 21.4% |
| Total AAL | $414.6 Million | $378.2 Million | -8.8% |

The following addresses the reasons behind these changes:

1) The very large decrease in the Normal Cost and the Active AAL were driven almost exclusively by the change in the plan for Firefighters. In particular, those reaching retirement will no longer be in a Commercial plan at age 65 (if hired before 4/1/1986). They will be in a Medicare Supplement plan. In general, Medicare Supplement plans are about 25% of the cost of a Commercial plan.

2) The AAL for retirees went up partially because we modified our methods for reflecting the frequency of family content for retirees who are in Commercial plans.

3) The Pay-as-You-Go figure was essentially flat. Changes in the plan for Firefighters

will take some time impact this cost, since there are a large number of those under the Commercial plan already retired.

## Data

The participant census data for the valuation study was supplied by the Pawtucket School Board and the City of Pawtucket. Participants include Pawtucket active employees including School System, retirees, disability retirees, and surviving spouses. There was some variation in the dates of the various sets of data that were provided. We modified the data to a common date of July 1, 2009. We believe that the data was of sufficient consistency for valuation purposes.

The participant census data was not audited by Stone Consulting, Inc. However, it was checked for reasonableness.

Summaries of active participants and Pawtucket retiree census data are included in Section II.

## Funding

There are alternative ways to plan for the payment of post-retirement health and life insurance benefits: continue to fund on a pay-as-you go method, contribute on an ad-hoc basis to a fund for this purpose, or develop a funding schedule in which the unfunded amount is amortized over some number of years. With the funding schedule, the normal cost must continue to be paid each year to keep current.

There is no legal requirement to prefund these post-employment benefit liabilities. Nor does GASB Statement No. 45 require actual prefunding; however, its accounting requirements will serve to highlight the substantial unfunded accrued liabilities associated with these benefits.

### *ILLUSTRATIVE FUNDING SCHEDULE*

The GASB Statement No. 45 is designed to account for non-pension post-employment benefits using an approach similar to the accounting for retirement benefits. It develops an Annual Required Contribution ("ARC") that is based on the Normal Cost plus an amortization of the Unfunded Actuarial Accrued Liability ("UAAL"). To the extent that actual contributions equal to the ARC are made by the employer to the post-employment health benefit plan, no additional liability will be required to be shown on Pawtucket's balance sheet. Employer contributions may be in the form of benefit or premium payments or contributions to a fund set aside for future benefit payments. Such a fund must meet the requirements set out in the accounting standard.

We have calculated an illustrative funding schedule for the other post-employment benefits, consistent with the GASB Statement No. 45. This funding schedule assumes that Pawtucket funds 100% of the ARC and begins with Pawtucket's Fiscal Year 2010. The full schedule is shown in Section II. We have used a 30-year schedule for this exhibit since there has been no prior funding.

*Development of Funding Schedule and Annual Required Contribution*

The contribution amount under a fully funded scenario using the 7.50% discount rate for Fiscal 2010 is $17,173,213. Part of this comes from the amortization of the July 1, 2009 Unfunded Actuarial Accrued Liability of $236,066,249. Because there are no funds set aside, it is equal to the total actuarial accrued liability (AAL). The UAAL is amortized over thirty years using an increasing amortization payment at the rate of assumed payroll increase due to inflation (3.25%). The funding contribution is the amortization payment plus the projected normal cost. Under the GASB Statement No. 45, thirty years is the maximum amortization period allowed. Shorter periods of time and/or other amortization patterns could be considered. The thirty funding schedule shown produces the lowest possible Fiscal contribution under the GASB parameters. It should be noted that the contribution is assumed to be made at the beginning of the fiscal year, so the first contribution is assumed to be made July 1, 2009. The amount of the amortization payment in the first year is $13,297,672. For the purposes of this schedule, we have not adjusted the July 1, 2009 liability for timing by applying interest to bring it to any future date.

Yearly contributions will increase, as both normal cost and amortization payments increase each year.

The remaining part of the ARC is the cost of the current year's benefit accrual, the normal cost, of $3,875,541.

Again, it should be noted that we have used an "open amortization period" in which a thirty-year period is used each year. This method is acceptable under GASB Statement No. 45. This method is in contrast to a "closed amortization period" in which the amortization is fixed over a thirty-year period starting on the initial adoption of GASB Statement No. 45 (Fiscal Year 2008). In that case, we would have used a twenty-eight year schedule. Our expectation is that, when and if Pawtucket decides to fund this benefit fully, a closed amortization starting with thirty years would be used.

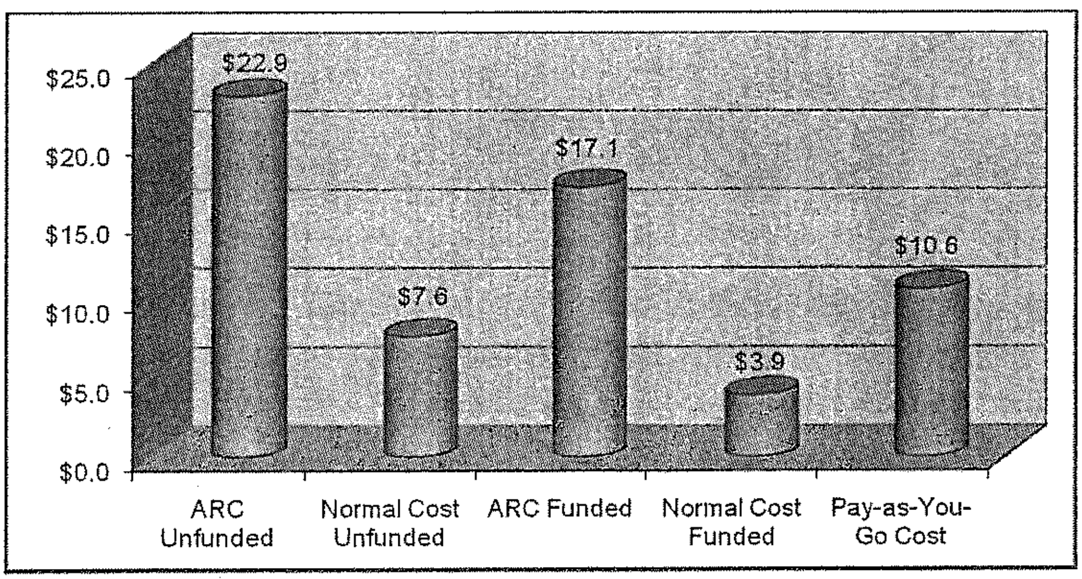
*Cash Flow Consideration*

We have analyzed the cash flow of a funded post-employment medical trust by comparing the expected payouts of claims over the thirty-year period to expected contribution levels. If the actuarial assumptions are met, the funded amounts will be sufficient to cover annual benefit payments each year. Prior to adopting a funding schedule we recommend additional analysis be conducted to examine the effects of potential actuarial gains and losses on the cash flow.

*FUNDING VERSUS PAY-AS-YOU-GO VERSUS PARTIAL FUNDING*

Currently, a great majority of governmental entities are paying for their post-employment medical benefits on a pay-as-you-go basis. This means that no amount in excess of the actual cost for the year is paid. All such entities must report figures for GASB Statement No. 45 based on the unfunded discount rate. Pawtucket has elected, to date, to follow this course of action. It has not indicated that it has any intent to fund more than the pay-as-you-go cost.

In order to understand the impact of not funding versus funding completely, a comparison of the ARCs and normal costs (the contribution amount if the UAAL was $0) under both scenarios, and the pay-as-you-go amount is illustrated in the following chart:




The chart depicts the advantage to the entity of even a partial funding policy, since the ARC and Normal Cost are significantly higher under the unfunded scenario.

As can be seen in the funding schedule, the retiree medical plan's normal cost will increase each year, so that by the time the initial unfunded liability is fully amortized, the required annual contribution will be substantially higher than is illustrated here for the first year. The pay-as-you-go costs will also increase dramatically as more and more employees retire. A projection of annual expected retiree pay-as-you-go costs is included with the funding schedule.

It is very important to understand that, in order to utilize the higher discount rate that goes with the fully funded or partially funded scenarios, there must be a "Funding Policy." That is, the City must intend to continue to payments and, in the future, must actually make them. Should the policy not be followed in future years, an adjustment to the discount rate would need to be made. As the figures above illustrate clearly, there is an iterative relationship between the degree of funding and the amounts that must be shown as liabilities, amortization payments, and normal cost figures. Lower funding levels lead to higher amounts for these key figures.

The partial subsidy of prescription drug benefit costs that is available under the Medicare Prescription Drug, Improvement and Modernization Act of 2003 is a potential source of funds for a portion of the retiree medical costs. To the extent that this subsidy reimburses Pawtucket for drug benefits it would already be paying for, the additional cash from the subsidy could be used to help pre-fund future benefits. The magnitude of any future subsidy is only a small portion of the additional cost to fund. Other plan design changes, such as a carve-out of prescription drug coverage, may yield greater opportunities for savings.

*DETERMINATION OF THE NET OPEB OBLIGATION (NOO)*

The Statement does not require Pawtucket to put its entire Actuarial Accrued Liability on its books immediately as a liability. Rather, a cost is applied to its assets each year. Over time this cost, which is called the OPEB Cost, will add up to the total liability. The total liability at any point in time is called the Net OPEB Obligation (NOO).

For the first year of funding, the OPEB Cost and ARC are identical. Amounts contributed toward the cost of other post-employment benefits must then be deducted. These amounts include: 1) actual premiums paid; 2) the extra implied costs or "implicit subsidy" associated with covering retirees; 3) any additional amounts paid during the year. Item three is not applicable to an entity such as Pawtucket that has chosen not to fund its obligation either in whole or in part. The Net OPEB Cost is the OPEB Cost less these amounts. For year one, where there is no prior NOO on the financial statement, the Net OPEB Cost is the same as the Net OPEB Obligation.

Starting year two, the OPEB Cost must recognize not only the Normal Cost and Amortization Cost for the year but also add interest on the prior year's NOO as well as subtract Annual Required Contribution (ARC) adjustment to prevent double counting of the prior year's NOO. The interest and the ARC adjustments somewhat offset each other so the net impact is not large. The total contributions are then subtracted from the OPEB Cost and the result is added to the prior year's NOO. In this manner, the difference between each year's ARC and the contributions are accumulated.

Please refer to the following table on page 24 in the following discussion.

If Pawtucket continues its current policy and contributes on a pay-as-you-go basis, without any prefunding, the unfunded actuarial accrued liability used in the calculation would be $378,184,421. We have not illustrated this with a "funding" schedule. The following chart illustrates the ARC, Pay-As-You-Go, Annual OPEB Cost and the Net OPEB Obligation for 8 years under the unfunded scenario. This exhibit includes two years from the prior valuation report, 2008-2009. Starting with 2010, figures from the current valuation are used. The Annual OPEB cost is the ARC plus an adjustment for interest not included in the ARC calculation. The Net OPEB Obligation is the accumulation of the Annual OPEB Cost minus any contributions. This is the amount that is subtracted from the Net Assets on your balance sheet. In the unfunded case, the contributions are the attributed pay-as-you-go amounts. Note that the rate used for interest is the 4.25% unfunded rate requested by the client.

## CALCULATION OF NET OPEB OBLIGATION

**"Funding" Schedule at 4.25%**

| Year | UAL | Normal Cost[1] | Amort.[1] | ARC | Interest on NOO[1] | ARC Adjust.[1] | OPEB Cost | Total Contribs.[1] | Change in NOO | NOO |
|---|---|---|---|---|---|---|---|---|---|---|
| 2008 | $414,578,183 | $13,733,162 | $15,310,881 | $29,044,043 | NA | NA | $29,044,043 | 9,766,451 | $19,277,592 | $19,277,592 |
| 2009 | $437,601,577 | $14,351,154 | $16,660,466 | $31,011,620 | $867,492 | $733,941 | $31,145,171 | 10,032,096 | $21,113,075 | $40,390,667 |
| 2010 | $378,184,421 | $7,544,661 | $15,337,025 | $22,881,686 | $1,716,603 | $1,638,017 | $22,960,272 | 11,416,382 | $11,543,890 | $51,934,557 |
| 2011 | $390,466,112 | $7,865,309 | $16,346,111 | $24,211,420 | $2,207,219 | $2,174,140 | $24,244,499 | 12,541,409 | $11,703,090 | $63,637,647 |
| 2012 | $402,455,366 | $8,199,585 | $17,415,472 | $25,615,056 | $2,704,600 | $2,753,795 | $25,565,861 | 13,250,145 | $12,315,716 | $75,953,363 |
| 2013 | $414,579,005 | $8,548,067 | $18,571,664 | $27,119,731 | $3,228,018 | $3,402,440 | $26,945,308 | 13,742,169 | $13,203,139 | $89,156,502 |
| 2014 | $427,078,821 | $8,911,360 | $19,836,708 | $28,748,068 | $3,789,151 | $4,141,089 | $28,396,130 | 13,626,912 | $14,769,218 | $103,925,721 |
| 2015 | $440,606,293 | $9,290,093 | $21,256,004 | $30,546,097 | $4,416,843 | $5,013,649 | $29,949,290 | 13,795,538 | $16,153,752 | $120,079,473 |

[1]For all years, Total Contributions are equal to the implicit premiums paid.
Boxed area numbers from prior valuations and financial statements.

## Implementation

According to the GASB Statement No. 45, its provisions would be effective for Pawtucket fiscal years beginning after December 15, 2006. The timing is due to Pawtucket being a "Tier 1 government under GASB 34". In the first fiscal year of adoption, Fiscal 2008, Pawtucket recorded a liability on its balance sheet to the extent that its contributions (including benefit payments) for other post-employment benefits were less than the Annual Required Contribution ("ARC") determined in accordance with the GASB standard and described above. In subsequent years, such as 2009, a similar liability has been and will need to be recorded. This liability would also reflect interest on any prior funding deficiencies as well as other adjustments. The total actuarial liability is determined by a valuation to be performed at least every two years. The total actuarial liability is reduced by any assets set aside to pre-fund the post-retirement benefits, with the resulting unfunded actuarial liability being amortized according to a funding schedule similar to that illustrated in this report.

To be considered a funded system, the retiree medical plan assets must be "segregated and restricted in a trust, or equivalent arrangement, in which (a) employer contributions to the plan are irrevocable, (b) assets are dedicated to providing benefits to retirees and their beneficiaries, and (c) assets are legally protected from creditors of the employers or plan administrator, for the payment of benefits in accordance with the terms of the plan." (GASB 45, p. 47, "Plan Assets"). Therefore, for Pawtucket to receive "credit" under the GASB accounting standard for assets set aside to pre-fund post-retirement benefits, these assets must be segregated in a trust or other account that is not subject to use for any other purpose by Pawtucket.

## Recommendations and Comments

Post-employment medical benefits are a significant long-term liability that is only now starting to be addressed by government employers. In managing this liability, any governmental entity needs to consider the parameters that can significantly influence the level of the liability. To facilitate such a review, we recommend that Pawtucket maintain a continuing group that is cognizant of the relevant financial and employee benefits issues raised by GASB Statement No. 45 that will provide leadership to the City. We would recommend that the group review the following:

1) Funding Policy: As previously discussed, the funding policy is critical to the valuation not only because it impacts the funds backing the liability but also because it impacts the discount rate that is used to calculate all of the relevant figures. Pawtucket needs to bear in mind that it is the formulation of a funding policy that is essential, not simply the contribution of funds. Of course, if a funding policy is developed, it needs to be implemented, not just formulated. Thus, we recommend that the City maintain a written funding policy that it reviews each year.

2) Plan Design: One of the major factors influencing costs is the design of the plans that Pawtucket offers to retirees. To the extent that any part of these plans changes materially, costs my either increase or decrease. In order to keep costs under control, the City should review the design of all its medical plans annually. Changes in plan characteristics such as deductibles, coinsurance levels, out-of-pocket maximums, and covered services can help mitigate the impacts of ever-increasing medical costs. In addition, the City should review the networks it is using to be sure that it is getting the most competitive reimbursement levels available.

3) Contribution Levels: The extent to which the City subsidizes the cost of retiree benefits is one of the most significant factors in the ultimate costs. Currently, retired

Pawtucket employees and their spouses pay almost no part of the cost of their medical care. Those in the City pay nothing at all. Those in the School System pay either 5% or 3.4% of the premium depending upon their positions. The Municipal entities we work with ask their retirees to pay in the range of 10% to 50% of the cost of premiums. Thus Pawtucket's policy is very generous to its retirees. Contribution levels have a double impact on costs. First off, there is a direct relationship between contributions and costs in that higher contribution levels mean that more of the cost of the plan is born by the City. Secondly, higher contribution levels lead to higher participation rates because the plan becomes less costly to the retiree. In the case of cities and towns where a substantial portion of the medical costs are paid by the employer, participation rates tend to be very high. Pawtucket's participation level of 100% for retirees is what we would have expected for an entity that pays essentially 100% of the medical premiums.

In general, a very-well subsidized plan will have many participants enrolled at a high cost. Also, to the extent that other employers are cutting back or eliminating their programs, there is increased likelihood that a favorably subsidized plan will be elected by retirees, since no coverage or only very expensive coverage may be available from other sources such as their spouse's employer. There has been a very definite move toward reducing the subsidies paid by public entities.

4) Eligibility: The extent to which retirees are eligible for benefits is another variable that very directly impacts costs. Pawtucket should review its eligibility criteria each year to be sure that they are accord with City goals for controlling costs and for providing well-deserved benefits for those who have worked for the City. Retirement system policies can also affect the eligibility for benefits. Since Pawtucket does not offer benefits to those over 65 in the School System, it has reduced benefits in a way many municipal entities have not.

In addition to reviewing the above items regularly, we recommend that the City continue working toward an organized method of keeping its data. This is an issue faced by virtually all public entities with respect to GASB Statement No. 45. Some of the typical issues are:

1) Be sure that it has a record of those eligible for coverage who do not take coverage. This should cover not only actives who are not enrolled but retired employees who opted out.

2) To the extent possible, make sure that all databases can be tied together by a single identifier, such as social security number or employee number. Some entities keep certain data by, for example, social security number, but organize other data on some other basis. This greatly increases the time and effort to tie all the relevant pieces of data together. This need is particularly acute when the records for those in the School System are not kept by Pawtucket directly.

## SECTION II

## ACTUARIAL VALUATION DETAILS

### Population Data

*A. SCHOOL SYSTEM: DISTRIBUTION BY AGE: RETIREES, BENEFICIARIES, AND SURVIVORS (Includes retirees with life only or no coverage)*

| Age | Number[1] |
|---|---|
| 0-19 | 0 |
| 20-24 | 0 |
| 25-29 | 0 |
| 30-34 | 0 |
| 35-39 | 0 |
| 40-44 | 0 |
| 45-49 | 0 |
| 50-54 | 12 |
| 55-59 | 120 |
| 60-64 | 196 |
| 65-69 | 17 |
| 70-74 | 0 |
| 75-79 | 0 |
| 80-84 | 0 |
| 85-89 | 0 |
| 90-94 | 0 |
| 95-99 | 0 |
| 100+ | 0 |
| TOTAL | 345 |

[1] Includes retirees who are eligible for medical or with life coverage in addition to beneficiaries and survivors with medical coverage.

## Population Data Continued

B. *CITY (INCLUDING WATER): DISTRIBUTION BY AGE: RETIREES, BENEFICIARIES, AND SURVIVORS (Includes retirees with life only or no coverage)*

| Age | Number[1] |
|---|---|
| 0-19 | 0 |
| 20-24 | 0 |
| 25-29 | 1 |
| 30-34 | 0 |
| 35-39 | 3 |
| 40-44 | 11 |
| 45-49 | 26 |
| 50-54 | 42 |
| 55-59 | 62 |
| 60-64 | 75 |
| 65-69 | 74 |
| 70-74 | 46 |
| 75-79 | 32 |
| 80-84 | 17 |
| 85-89 | 15 |
| 90-94 | 3 |
| 95-99 | 0 |
| 100+ | 0 |
| TOTAL | 407 |

[1] Includes retirees who are eligible for medical or with life coverage in addition to beneficiaries and survivors with medical coverage.

*B. CITY: FUTURE RETIREES – ACTIVE PARTICIPANTS*

# OF PARTICIPANTS*

| Current Plan | Medicare Eligible | Not Medicare Eligible | Total |
|---|---|---|---|
| No Medical/ Unknown | 54 | 5 | 59 |
| Indemnity | 0 | 0 | 0 |
| Managed Care | 509 | 64 | 573 |
| TOTAL | 632 | 69 | 632 |

* "Pre-Medicare eligible" means hired prior to March 31, 1986 and "Medicare eligible" means hired March 31, 1986 or after.

*B. SCHOOL SYSTEM: FUTURE RETIREES – ACTIVE PARTICIPANTS*

| Current Plan | Total |
|---|---|
| No Medical/ Unknown | 1 |
| Indemnity | 64 |
| Managed Care | 839 |
| Buyback | 68 |
| TOTAL | 972 |

* Since there are no benefits post-65, we did not separate by Medicare eligibility.

PLAN DEFINITION TABLE

A. City Plans

| Plan Name | Plan Type | Ind Rate[1] | # Retirees | FAM Rate[1] | # Retirees | Retiree Contribution % |
|---|---|---|---|---|---|---|
| Classic Blue Cross | Commercial Indemnity | $703.51 | 20 | $1,892.22 | 142 | 0.00% |
| Healthmate | Commercial Managed Care | $521.32 | 22 | $1,303.25 | 159 | 0.00% |
| Blue Chip | Commercial Managed Care | $510.08 | 1 | $1,300.23 | 6 | 0.00% |
| Plan 65 | Medicare Indemnity | $146.88 | 57 | NA | NA | 0.00% |
| Dental | Dental | $24.64 | NA | $76.78 | NA | 0.00% |

B. School System Plans

| Plan Name | Plan Type | Ind Rate[1] | # Retirees | FAM Rate[1] | # Retirees | Retiree Contribution % |
|---|---|---|---|---|---|---|
| Classic Blue Cross | Commercial Indemnity | $518.40 | 46 | $1,323.59 | 96 | 5.0%/3.4% |
| Healthmate | Commercial Managed Care | $509.68 | 36 | $1,299.65 | 145 | 5.0%/3.4% |
| Blue Chip | Commercial Managed Care | $516.18 | 1 | $1,330.05 | 1 | 5.0%/3.4% |
| United | Commercial Managed Care | $649.30 | 4 | $1,541.51 | 0 | 5.0%/3.4% |
| Buyback | Buyback | $250.00 | 16 | NA | NA | NA |

[1] **Monthly Rates at 7/1/2009**

## C1. CITY: DISTRIBUTION BY AGE AND SERVICE: ACTIVE PARTICIPANTS

| Age Group | 0-4 | 5-9 | 10-15 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40+ | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **0-19** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **20-24** | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **9** |
| **25-29** | 49 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **65** |
| **30-34** | 25 | 16 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | **48** |
| **35-39** | 17 | 39 | 24 | 7 | 0 | 0 | 0 | 0 | 0 | **87** |
| **40-44** | 12 | 21 | 21 | 22 | 31 | 0 | 0 | 0 | 0 | **107** |
| **45-49** | 19 | 22 | 20 | 10 | 32 | 12 | 0 | 0 | 0 | **115** |
| **50-54** | 9 | 15 | 10 | 7 | 22 | 11 | 3 | 1 | 0 | **78** |
| **55-59** | 11 | 10 | 7 | 10 | 9 | 12 | 4 | 7 | 0 | **70** |
| **60-64** | 2 | 7 | 4 | 2 | 9 | 5 | 2 | 6 | 0 | **37** |
| **65-69** | 0 | 1 | 1 | 2 | 0 | 0 | 1 | 1 | 2 | **8** |
| **70-74** | 0 | 1 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | **5** |
| **75-79** | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | **2** |
| **80-84** | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | **1** |
| **85-89** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **90-94** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **95-99** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **100+** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **TOTAL** | **152** | **149** | **97** | **60** | **104** | **40** | **12** | **15** | **3** | **632** |

C2. SCHOOL SYSTEM: DISTRIBUTION BY AGE AND SERVICE: ACTIVE PARTICIPANTS

| Age Group | 0-4 | 5-9 | 10-15 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40+ | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **0-19** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **20-24** | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **6** |
| **25-29** | 37 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **46** |
| **30-34** | 33 | 74 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | **116** |
| **35-39** | 20 | 45 | 65 | 3 | 0 | 0 | 0 | 0 | 0 | **133** |
| **40-44** | 18 | 39 | 41 | 30 | 2 | 0 | 0 | 0 | 0 | **130** |
| **45-49** | 16 | 29 | 43 | 21 | 29 | 0 | 0 | 0 | 0 | **138** |
| **50-54** | 14 | 31 | 41 | 30 | 24 | 7 | 3 | 0 | 0 | **150** |
| **55-59** | 5 | 29 | 37 | 32 | 28 | 7 | 8 | 4 | 0 | **150** |
| **60-64** | 3 | 11 | 14 | 18 | 21 | 0 | 2 | 3 | 1 | **73** |
| **65-69** | 0 | 7 | 5 | 4 | 4 | 1 | 1 | 1 | 0 | **23** |
| **70-74** | 0 | 1 | 0 | 2 | 2 | 0 | 0 | 1 | 0 | **6** |
| **75-79** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **80-84** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | **1** |
| **85-89** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **90-94** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **95-99** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **100+** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **TOTAL** | **152** | **275** | **255** | **140** | **110** | **15** | **14** | **9** | **2** | **972** |

## SUMMARY OF RESULTS

| | |
|---|---|
| Actives | |
| - Already in Medicare | 0 |
| - Pre-Medicare Coverage | 0 |
| - Post-Medicare Coverage | 1604 |
| Total | 1604 |
| Retired, Disabled, Survivors and Beneficiaries | 752 |
| Terminated Vesteds | 0 |

| | At 7.50% discount | At 4.25% discount |
|---|---|---|
| Active Employees | $79,290,090 | $144,908,806 |
| Current Retirees | $156,776,159 | $233,275,615 |
| TOTAL | $236,066,249 | $378,184,421 |
| Unfunded Accrued Liability July 1, 2009 | $236,066,249 | $378,184,421 |
| Normal (Service) Cost as of July 1, 2009 | $3,875,541 | $7,544,661 |

## SUMMARY OF RESULTS
(continued)

| | At 7.50% discount | At 4.25% discount |
|---|---|---|
| 30-yr/28-yr amortization of UAAL | $13,297,672 | $15,337,025 |
| Normal Cost | $3,875,541 | $7,544,661 |
| TOTAL | $17,173,213 | $22,881,686 |

### Expected Claims

- Fiscal 2010 $10,586,385

### Schedule of Funding Progress Other Post-Employment Benefits

(Dollars in Thousands)

| Actuarial Valuation Date | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) [Projected Unit Credit] (b) | Unfunded AAL (UAAL) (b-a) | Funded Ratio (a/b) | Covered Payroll (c) | UAAL as a Percentage of Covered Payroll (b-a)/c) |
|---|---|---|---|---|---|---|
| 7/1/2007 | $0 | $414,578 | $414,578 | 0.00% | NA | NA |
| 7/1/2009 | $0 | $378,184 | $378,184 | 0.00% | NA | NA |

**Thirty-Year Funding Schedule at 7.50%**

| Fiscal Year | Normal Cost[1] | Amortization[2] | Contribution | Year-End AAL | Projected Annual Benefit Cost[3] |
|---|---|---|---|---|---|
| 2010 | 3,875,541 | 13,297,672 | 17,173,213 | 239,476,220 | 3,293,314 |
| 2011 | 4,166,207 | 13,729,846 | 17,896,053 | 242,677,352 | 3,985,758 |
| 2012 | 4,478,672 | 14,176,066 | 18,654,738 | 245,638,882 | 4,472,943 |
| 2013 | 4,814,572 | 14,636,788 | 19,451,361 | 248,327,251 | 5,019,856 |
| 2014 | 5,175,665 | 15,112,484 | 20,288,149 | 250,705,875 | 5,664,718 |
| 2015 | 5,563,840 | 15,603,640 | 21,167,480 | 252,734,903 | 6,340,576 |
| 2016 | 5,981,128 | 16,110,758 | 22,091,886 | 254,370,955 | 6,916,659 |
| 2017 | 6,429,713 | 16,634,358 | 23,064,071 | 255,566,843 | 7,576,657 |
| 2018 | 6,911,941 | 17,174,974 | 24,086,916 | 256,271,258 | 8,118,881 |
| 2019 | 7,430,337 | 17,733,161 | 25,163,498 | 256,428,455 | 8,522,756 |
| 2020 | 7,987,612 | 18,309,489 | 26,297,101 | 255,977,889 | 8,910,416 |
| 2021 | 8,586,683 | 18,904,547 | 27,491,230 | 254,853,842 | 9,391,153 |
| 2022 | 9,230,684 | 19,518,945 | 28,749,629 | 252,985,015 | 9,959,108 |
| 2023 | 9,922,986 | 20,153,311 | 30,076,296 | 250,294,082 | 10,443,176 |
| 2024 | 10,667,210 | 20,808,293 | 31,475,503 | 246,697,223 | 11,066,035 |
| 2025 | 11,467,250 | 21,484,563 | 32,951,813 | 242,103,610 | 11,553,965 |
| 2026 | 12,327,294 | 22,182,811 | 34,510,105 | 236,414,859 | 11,762,041 |
| 2027 | 13,251,841 | 22,903,752 | 36,155,594 | 229,524,440 | 12,118,276 |
| 2028 | 14,245,729 | 23,648,124 | 37,893,854 | 221,317,039 | 12,398,758 |
| 2029 | 15,314,159 | 24,416,688 | 39,730,847 | 211,667,877 | 12,479,779 |
| 2030 | 16,462,721 | 25,210,231 | 41,672,952 | 200,441,970 | 12,678,058 |
| 2031 | 17,697,425 | 26,029,563 | 43,726,988 | 187,493,337 | 12,808,633 |
| 2032 | 19,024,732 | 26,875,524 | 45,900,256 | 172,664,149 | 13,001,264 |
| 2033 | 20,451,587 | 27,748,978 | 48,200,565 | 155,783,808 | 12,989,081 |
| 2034 | 21,985,456 | 28,650,820 | 50,636,276 | 136,667,962 | 13,046,927 |
| 2035 | 23,634,365 | 29,581,972 | 53,216,337 | 115,117,440 | 13,108,583 |
| 2036 | 25,406,943 | 30,543,386 | 55,950,329 | 90,917,108 | 13,156,742 |
| 2037 | 27,312,463 | 31,536,046 | 58,848,509 | 63,834,641 | 13,189,194 |
| 2038 | 29,360,898 | 32,560,968 | 61,921,866 | 33,619,199 | 13,171,663 |
| 2039 | 31,562,965 | 33,619,199 | 65,182,164 | 0 | 13,115,321 |

[1]Assumes 7.50% annual increase in normal cost and a static group of actives

[2]Asssumes 3.25% annual increase in amortization payment

[3]The Pay-As-You-Go amount is for the current group of actives and retirees and is shown for the calendar year. It does not include any future hires. It is not directly comparable to the funding contribution but it included for illustrative purposes only. It does illustrate in the short-term, the estimated amount of claims costs for retirees. However, the retiree amount is expected to grow as new employees retire or become disabled.

## Sensitivity Analysis

The results of any actuarial valuation are sensitive to the assumptions used. That is, a change in an actuarial assumption will produce a change in the actuarial accrued liability and/or normal cost each year of the valuation. To illustrate this sensitivity, we performed valuations in which we changed two different inputs: the trend rate and the discount rate.

A) Trend Rate Sensitivity

For postretirement medical plans in particular, the calculated actuarial values are highly sensitive to the assumed rate of health care cost trend. This is due to the compounding effect of the annual trend rates assumed for medical costs, as opposed to pension valuations where benefit levels typically remain fixed.

The following table illustrates the effect on our valuation results of a 1% increase or decrease in the assumed rates of health care cost trend in each year. The base scenario uses the unfunded discount rate of 4.25%.

| As of July 1, 2009 | Health Care Cost Trend Rates | | |
|---|---|---|---|
| | As Reported (4.25%) | +1% Each Year | -1% Each Year |
| Liability for: | | | |
| • Future Retirees | $144,908,806 | $178,489,499 | $118,913,642 |
| • Current Retirees, Beneficiaries, and Survivors | $233,275,615 | $269,920,778 | $203,955,758 |
| Total AAL | $378,184,421 | $448,410,277 | $322,869,400 |
| Normal Cost | $7,544,661 | $9,399,138 | $6,110,407 |
| Annual Required Contribution for Fiscal Year 2010: | $22,881,686 | $27,584,127 | $19,204,167 |

The cumulative effect of a 1% increase in health care cost trend increases the AAL by approximately 19%, the normal cost by 25%, and the ARC by 21%. A 1% decrease in trend would decrease the AAL by 15%, the normal cost by 19% and the ARC by 16%.

There is the likelihood – based on historical experience – of significant deviations from the smooth rates of health care cost increase typically projected in any actuarial valuation. Therefore, emerging experience under the plan is likely to differ from the assumptions made as of any valuation date. This will produce actuarial gains and losses each year, even if the underlying assumptions remain reasonable for the future. Amortization of gains and losses will affect the updated funding schedule calculated at any point in the future.

B) Discount Rate Sensitivity

We also examined the sensitivity of the various key numbers to changes in the discount rate. For this testing, we varied the discount rate by 0.50%, or in other words, we used rates of 3.75% and 4.75%. The following table shows the results we obtained:

| As of July 1, 2009 | Discount Rates | | |
|---|---|---|---|
| | As Reported (4.25%) | Plus 0.50% (4.75%) | Minus 0.50% (3.75%) |
| Liability for: | | | |
| • Future Retirees | $144,908,806 | $130,875,500 | $161,082,343 |
| • Current Retirees, Beneficiaries, and Survivors | $233,275,615 | $217,510,292 | $251,110,995 |
| Total AAL | $378,184,421 | $348,385,792 | $412,193,338 |
| Normal Cost | $7,544,661 | $6,772,291 | $8,435,427 |
| Annual Required Contribution for Fiscal Year 2010: | $22,881,686 | $21,787,191 | $24,136,739 |

Thus, the cumulative effect of a 0.50% decrease in the discount rate is to increase the AAL by approximately 9%, the normal cost by 12%, and the ARC by 5%. A 0.50% increase in the discount rate would decrease the AAL by 8%, the normal cost by 10% and the ARC by 5%. It is prudent, and GASB Statement No. 45 requires, an updated actuarial valuation be performed periodically. For an entity of Pawtucket's size, a new valuation will be required at least every two years.

## Actuarial Methods and Assumptions

| | | |
|---|---|---|
| 1. | Actuarial Cost Method | Costs are attributed between past and future service using the Projected Unit Credit cost method. For attribution purposes, benefits are assumed to accrue over all employee service until decrement. |
| 2. | Interest Rate/Discount Rate | 7.50% per year net of investment expenses for funded program.<br>4.25% per year net of investment expenses for an unfunded program (at client's direction) |
| 3. | Mortality | Actives: 65% of Post-Retirement Mortality (based on Employee's Retirement System of RI Report)<br>Retirees: Non-School System: 1994 Group Annuity mortality Table set forward one year (based on Employee's Retirement System of RI Report).<br>School System: Tables used in Employee's Retirement System of RI Valuation<br>Disabled: All but police/fire: Males 65% of PBGC Table Va; Females: 100% of PBGC Table VIa (based on Employee's Retirement System of RI Report).<br>Police/Fire: PBGC Table 11 (males) and PBGC Table 12 (females) |
| 4. | Eligibility for Vested Post-Retirement Medical Benefits upon Withdrawal | Employees who withdraw from employment and does not retire are ineligible for post-retirement medical benefits even if they are vested in their retirement benefit. |

5a. Withdrawal Prior to Retirement: All Except Police and Fire

The rates shown for the following sample ages illustrate the withdrawal assumption. These are based on the Employee's Retirement System of RI Valuation. These rates apply to all participants but Police and Fire.

| *Years of Service* | *Male (excludes School System)* | *Female (excludes School System)* | *Male School System* | *Female School System* |
|---|---|---|---|---|
| 0 | 17.50% | 18.00% | 17.00% | 13.00% |
| 1 | 9.59% | 10.69% | 9.00% | 7.59% |
| 2 | 8.25% | 9.06% | 5.62% | 6.56% |
| 3 | 7.13% | 7.69% | 4.55% | 5.66% |
| 4 | 6.18% | 6.53% | 3.64% | 4.86% |
| 5 | 5.41% | 5.58% | 2.89% | 4.18% |
| 6 | 4.80% | 4.81% | 2.29% | 3.59% |
| 7 | 4.31% | 4.20% | 1.81% | 3.09% |
| 8 | 3.95% | 3.74% | 1.45% | 2.67% |
| 9 | 3.68% | 3.41% | 1.20% | 2.33% |
| 10 | 3.50% | 3.18% | 1.04% | 2.05% |
| 11 | 3.38% | 3.04% | 0.95% | 1.83% |
| 12 | 3.30% | 2.97% | 0.94% | 1.65% |
| 13 | 3.26% | 2.95% | 0.94% | 1.52% |
| 14 | 3.23% | 2.95% | 0.94% | 1.42% |
| 15 | 3.19% | 2.97% | 0.94% | 1.34% |
| 16 | 3.12% | 2.97% | 0.94% | 1.28% |
| 17 | 3.02% | 2.95% | 0.94% | 1.22% |
| 18 | 2.85% | 2.87% | 0.94% | 1.16% |
| 19 | 2.61% | 2.73% | 0.94% | 1.09% |
| 20 | 2.27% | 2.50% | 0.94% | 1.01% |
| 21 | 1.82% | 2.17% | 0.94% | 0.90% |
| 22 | 1.24% | 1.70% | 0.94% | 0.75% |
| 23 | 0.52% | 1.10% | 0.94% | 0.56% |
| 24 | 0.52% | 0.32% | 0.94% | 0.33% |

5b. Withdrawal Prior to

The rates shown for the following sample ages

Retirement: Police and Fire

illustrate the withdrawal assumption. These are based on the Employees Retirement System of Rhode Island report.

| *Years of Service* | *Male(Police/Fire)* | *Female (Police/Fire)* |
|---|---|---|
| 0 | 10.00% | 10.00% |
| 1 | 5.28% | 5.28% |
| 2 | 4.81% | 4.81% |
| 3 | 4.36% | 4.36% |
| 4 | 3.94% | 3.94% |
| 5 | 3.54% | 3.54% |
| 6 | 3.16% | 3.16% |
| 7 | 2.81% | 2.81% |
| 8 | 2.49% | 2.49% |
| 9 | 2.19% | 2.19% |
| 10 | 1.91% | 1.91% |
| 11 | 1.66% | 1.66% |
| 12 | 1.43% | 1.43% |
| 13 | 1.23% | 1.23% |
| 14 | 1.05% | 1.05% |
| 15 | 0.90% | 0.90% |
| 16 | 0.77% | 0.77% |
| 17 | 0.67% | 0.67% |
| 18 | 0.59% | 0.59% |
| 19 | 0.00% | 0.00% |
| 20 | 0.00% | 0.00% |
| 21 | 0.00% | 0.00% |
| 22 | 0.00% | 0.00% |
| 23 | 0.00% | 0.00% |
| 24 | 0.00% | 0.00% |

## Actuarial Methods and Assumptions
(Continued)

6. Disability Prior to Retirement (other than Police and Fire)

The rates shown at the following sample ages illustrate the assumption regarding the incidence of disability. Disability is assumed to be 74% ordinary and 26% accidental for Non-School System other than Police and Fire, 73% ordinary and 27% accidental for School System, and 0% ordinary and 100% accidental for Police and Fire.

Sources:

All but Police/Fire Employee's Retirement System of Rhode Island Report
Police/Fire: Stone Consulting

| *Age* | *Male* | *Female* | *Male Teacher* | *Female Teacher* | *Male Police/Fire* | *Female Police/Fire* |
|---|---|---|---|---|---|---|
| 20 | 0.01% | 0.01% | 0.00% | 0.00% | 0.08% | 0.08% |
| 25 | 0.09% | 0.04% | 0.02% | 0.02% | 0.11% | 0.11% |
| 30 | 0.11% | 0.04% | 0.03% | 0.02% | 0.14% | 0.14% |
| 35 | 0.14% | 0.06% | 0.04% | 0.03% | 0.18% | 0.18% |
| 40 | 0.21% | 0.09% | 0.06% | 0.05% | 0.28% | 0.28% |
| 45 | 0.34% | 0.14% | 0.09% | 0.08% | 0.45% | 0.45% |
| 50 | 0.58% | 0.24% | 0.15% | 0.14% | 0.76% | 0.76% |
| 55 | 0.96% | 0.40% | 0.25% | 0.23% | 1.26% | 1.26% |
| 60 | 1.34% | 0.56% | 0.35% | 0.31% | 2.03% | 2.03% |

## Actuarial Methods and Assumptions
(Continued)

7. Rates of Retirement

School System employees must have 15 years of service with Pawtucket School System to be eligible for retirement.

Teacher retirement is based on whether the person is considered "Schedule A" or "Schedule B" according to tests of eligibility. Schedule A people are those who, as of 7/1/2005, either had 28 years of service or had at least 10 years of service and were 58 or older. Everyone else is schedule B. For the Schedule A people, there are separate male and female rates based on age and service. For members who reach 28 years of service before age 60, service-based rates are used. For members who reach age 60 before reaching 28 years of service, age-based rates are used. Schedule B members are eligible to retire at age 59 with 29 years of service or age 65 with 10 years of service. For the Schedule B people, 75% of the people are assumed to retire when they are first eligible. After that, the schedules below apply.

For Police and Fire: Retirement is 100% at 27 years of service or age 65, whichever comes first.

Employees who are not School System, police or fire have the rates shown below depending on whether they become eligible due to the service requirement, 30 years of service, or the age 58 with 10 years of service (15 years in the case of non-teacher school department as discussed above). These are from the Employee's Retirement System of Rhode Island report.

7a. Retirement rates

| *Males (excludes Police, Fire, and School System)* | | | |
|---|---|---|---|
| *Service (00/30)* | | *Age (58/10)* | |
| *Service* | *Ret Rate* | *Age* | *Ret Rate* |
| 30 | 30.0% | 58 | 15.0% |
| 31 | 25.0% | 59 | 10.0% |
| 32 | 15.0% | 60 | 10.0% |
| 33 | 15.0% | 61 | 10.0% |
| 34 | 15.0% | 62 | 30.0% |
| 35 | 25.0% | 63 | 25.0% |
| 36 | 25.0% | 64 | 25.0% |
| 37 | 25.0% | 65 | 25.0% |
| 38 | 25.0% | 66 | 30.0% |
| 39 | 25.0% | 67 | 30.0% |
| 40 | 100.0% | 68 | 30.0% |
| | | 69 | 30.0% |
| | | 70 | 20.0% |
| | | 71 | 20.0% |
| | | 72 | 20.0% |
| | | 73 | 20.0% |
| | | 74 | 20.0% |
| | | 75 | 100.0% |

| *Females (excludes Police, Fire, and School System)* | | | |
|---|---|---|---|
| *Service (00/30)* | | *Age (58/10)* | |
| *Service* | *Ret Rate* | *Age* | *Ret Rate* |
| 30 | 20.0% | 58 | 15.0% |
| 31 | 15.0% | 59 | 10.0% |
| 32 | 7.5% | 60 | 10.0% |
| 33 | 7.5% | 61 | 10.0% |
| 34 | 7.5% | 62 | 20.0% |
| 35 | 15.0% | 63 | 20.0% |
| 36 | 20.0% | 64 | 20.0% |
| 37 | 20.0% | 65 | 20.0% |
| 38 | 15.0% | 66 | 20.0% |
| 39 | 15.0% | 67 | 20.0% |
| 40 | 100.0% | 68 | 20.0% |
| | | 69 | 20.0% |
| | | 70 | 20.0% |
| | | 71 | 20.0% |
| | | 72 | 20.0% |
| | | 73 | 20.0% |
| | | 74 | 20.0% |

| *Male School System* | | | | *Female School System* | | | |
|---|---|---|---|---|---|---|---|
| *Service (00/28)* | | *Age (60/10)* | | *Service (00/28)* | | *Age (60/10)* | |
| *Service* | *Ret Rate* | *Age* | *Ret Rate* | *Service* | *Ret Rate* | *Age* | *Ret Rate* |
| 28 | 20.0% | 60 | 20.0% | 28 | 20.0% | 60 | 20.0% |
| 29 | 15.0% | 61 | 15.0% | 29 | 15.0% | 61 | 15.0% |
| 30 | 20.0% | 62 | 30.0% | 30 | 20.0% | 62 | 25.0% |
| 31 | 20.0% | 63 | 25.0% | 31 | 15.0% | 63 | 20.0% |
| 32 | 30.0% | 64 | 10.0% | 32 | 7.5% | 64 | 20.0% |
| 33 | 30.0% | 65 | 25.0% | 33 | 7.5% | 65 | 35.0% |
| 34 | 35.0% | 66 | 25.0% | 34 | 7.5% | 66 | 25.0% |
| 35 | 50.0% | 67 | 25.0% | 35 | 15.0% | 67 | 25.0% |
| 36 | 40.0% | 68 | 25.0% | 36 | 20.0% | 68 | 25.0% |
| 37 | 40.0% | 69 | 25.0% | 37 | 20.0% | 69 | 25.0% |
| 38 | 40.0% | 70 | 25.0% | 38 | 15.0% | 70 | 25.0% |
| 39 | 40.0% | 71 | 25.0% | 39 | 15.0% | 71 | 25.0% |
| 40 | 100.0% | 72 | 25.0% | 40 | 100.0% | 72 | 25.0% |
| | | 73 | 25.0% | | | 73 | 25.0% |
| | | 74 | 25.0% | | | 74 | 25.0% |
| | | 75 | 100.0% | | | 75 | 100.0% |

## Actuarial Methods and Assumptions

8. Claim Costs

8a. City: Initial Health Care Claim Costs

| Age | Managed Care Individual Commercial | Managed Care Blended Commercial Pre-65 | Managed Care Blended Commercial Post-65 | Indemnity Individual Commercial | Indemnity Blended Commercial Pre-65 | Indemnity Blended Commercial Post-65 | Indemnity Medicare[1] |
|---|---|---|---|---|---|---|---|
| 55 | $6,934.49 | $16,664.25 | $14,999.62 | $5,506.54 | $13,544.79 | $12,190.71 | $1,762.56 |
| 60 | $8,275.87 | $19,887.70 | $17,900.43 | $6,571.70 | $16,164.83 | $14,548.95 | $1,762.56 |
| 65 | $10,166.05 | $24,429.98 | $21,987.38 | $8,072.65 | $19,856.82 | $17,871.94 | $1,762.56 |
| 70 | $11,785.24 | $28,321.04 | $25,489.04 | $9,358.42 | $23,019.50 | $20,718.15 | $1,762.56 |
| 75 | $13,333.91 | $32,042.66 | $28,838.39 | $10,588.19 | $26,044.45 | $23,440.60 | $1,762.56 |
| 80 | $14,721.72 | $35,377.68 | $31,839.92 | $11,690.22 | $28,755.18 | $25,879.76 | $1,762.56 |
| 85 | $15,472.67 | $37,182.30 | $33,464.17 | $12,286.54 | $30,221.98 | $27,199.98 | $1,762.56 |

8b. School System: Initial Health Care Claim Costs

| Age | Managed Care Individual Commercial | Managed Care Blended Commercial | Indemnity Individual Commercial | Indemnity Blended Commercial |
|---|---|---|---|---|
| 55 | $7,110.62 | $15,924.43 | $5,243.24 | $12,236.79 |
| 60 | $8,486.07 | $19,004.78 | $6,257.47 | $14,603.81 |
| 65 | $10,424.26 | $23,345.40 | $7,686.65 | $17,939.27 |
| 70 | $12,084.57 | $27,063.72 | $8,910.94 | $20,796.53 |
| 75 | $13,672.58 | $30,620.12 | $10,081.91 | $23,529.37 |
| 80 | $15,095.64 | $33,807.08 | $11,131.24 | $25,978.32 |
| 85 | $15,865.67 | $35,531.58 | $11,699.05 | $27,303.48 |

(1) Rates for Medicare Supplement plans are NOT age-graded.

8c.Non-School System and School System: Initial Dental Claim Costs

| Age | Dental Individual | Dental Blended |
|---|---|---|
| 55 | $479.12 | $1,198.24 |
| 60 | $499.09 | $1,248.18 |
| 65 | $519.89 | $1,300.20 |
| 70 | $529.58 | $1,324.43 |
| 75 | $539.45 | $1,349.12 |
| 80 | $541.44 | $1,354.11 |
| 85 | $541.44 | $1,354.11 |

8d. Blending Factors for Different Groups (Gives % of families for pre and post 65 medical as well as Dental (all ages)

| Group | % Family |
|---|---|
| City, Pre-65 | 90.0% |
| City, Post-65 | 75.0% |
| School System | 87.5% |
| Dental | 70.0% |

9. Trend Rates By Plan (City and School System)

| Year | Commercial Managed Care | Commercial Indemnity | Medicare Indemnity | Dental |
|---|---|---|---|---|
| 2010 | 10.00% | 11.00% | 10.00% | 8.00% |
| 2011 | 9.00% | 10.00% | 9.00% | 7.00% |
| 2012 | 8.50% | 9.50% | 8.50% | 6.50% |
| 2013 | 8.00% | 9.00% | 8.00% | 6.00% |
| 2014 | 7.50% | 8.50% | 7.50% | 5.50% |
| 2015 | 7.00% | 8.00% | 7.00% | 5.00% |
| 2016 | 6.50% | 7.50% | 6.50% | 5.00% |
| 2017 | 6.00% | 7.00% | 6.00% | 5.00% |
| 2018 | 5.50% | 6.50% | 6.00% | 5.00% |
| 2019+ | 5.00% | 6.00% | 6.00% | 5.00% |

## Actuarial Methods and Assumptions
(Continued)

| | |
|---|---|
| 11. Medicare Eligibility | Employees: 100%<br>Spouses: 100% |
| 12. Participation Rates | Current retirees and spouses are assumed to continue the same coverage they have as of the valuation date. No future election of coverage is assumed for those retirees and spouses who currently have not elected coverage.<br><br>All Retirees: 100% of the active employees eligible for post-employment medical benefits are assumed to elect Medical Coverage immediately upon.<br><br>For all Retirees: Of those electing coverage, 80% are assumed to have a covered spouse at retirement. Participants with no or unknown current coverage (e.g. active employees and/or vested inactives who do not currently participate in Pawtucket's medical plans) are assumed to elect retiree coverage at the same rates as currently covered active employees. Medicare-eligible retirees currently under age 65 are assumed to elect a Medicare plan option at age 65. |
| 13. Payroll Growth and Inflation | Inflation is assumed at 3.00% per year. Growth of total payroll is assumed at 3.25% per year. |
| 14. Expenses | Administrative expenses are included in the per capita medical cost assumption. |

## Actuarial Methods and Assumptions
(Continued)

15. Plan Enrollment Rates — These are the rates are which retirees select medical plans, given that they enroll in a medical plan. The selection patterns follow the table below

A. City Employees

| Status | Age | Pre-65 Retirement | 65+ Retirement |
|---|---|---|---|
| Active | Under 65 | 95% Commercial Managed Care<br>5% Commercial Indemnity | 95% Medicare Indemnity<br>5% Commercial Managed Care |
| Active | 65+ | NA | 95% Medicare Indemnity<br>5% Commercial Managed Care |
| Retired | Under 65 | Current Plan | 95% Medicare Indemnity<br>5% Commercial Managed Care<br>or<br>Actual Plan if already in Medicare |
| Retired | 65+ | NA | Current Plan |

B. Firefighters

| Status | Age | Pre-65 Retirement | 65+ Retirement |
|---|---|---|---|
| Active | Under 65 | 75% Commercial Managed Care<br>25% Commercial Indemnity | 75% Commercial Indemnity<br>25% Commercial Managed Care<br>or<br>100% Medicare Indemnity |
| Active | 65+ | NA | 75% Commercial Indemnity<br>25% Commercial Managed Care<br>or<br>100% Medicare Indemnity |
| Retired | Under 65 | Current Plan | 75% Commercial Indemnity<br>25% Commercial Managed Care<br>or<br>100% Medicare Indemnity |
| Retired | 65+ | NA | Current Plan |

## Actuarial Methods and Assumptions
(Continued)

| C. Police | | | |
|---|---|---|---|
| Status | Age | Pre-65 Retirement | 65+ Retirement |
| Active | Under 65 | 70% Commercial Managed Care<br>30% Commercial Indemnity | 90% Commercial Indemnity<br>10% Commercial Managed Care<br>or<br>100% Medicare Indemnity |
| Active | 65+ | NA | 90% Commercial Indemnity<br>10% Commercial Managed Care<br>or<br>100% Medicare Indemnity |
| Retired | Under 65 | Current Plan | 90% Commercial Indemnity<br>10% Commercial Managed Care<br>or<br>100% Medicare Indemnity |
| Retired | 65+ | NA | Current Plan |

| D. School System | | | |
|---|---|---|---|
| Status | Age | Pre-65 Retirement | 65+ Retirement |
| Active | Under 65 | 50% Commercial Managed Care<br>45% Commercial Indemnity<br>5% Buyback | NA |
| Active | 65+ | NA | NA |
| Retired | Under 65 | Current Plan | NA |
| Retired | 65+ | NA | NA |

16. Projections

The July 1, 2009 valuation was not adjusted for timing when determining the funding schedule. This means that the Pay-as-you-go amount as well as the Actuarial Valuation results have not been modified for interest or any other timing factor in our presentation.

## Principal Plan Provisions Recognized in Valuation

| | | |
|---|---|---|
| 1. | Eligibility for Benefits | Current retirees, beneficiaries and spouses of Pawtucket are eligible for medical benefits.<br>Current employees who retire with a benefit from the Pawtucket Retirement Board. Current spouses are only covered for police, fire, and School System<br>Survivors of Pawtucket employees and retirees are also eligible for medical benefits. |
| 2. | Medical Benefits | Various Medical and Dental plans offered by Pawtucket to its own employees. |
| 3. | Retiree Contributions | Based on data provided by Pawtucket. Applicable to Teachers only. |

## Glossary

| | |
|---|---|
| Actuarial Accrued Liability | The portion, as determined by a particular Actuarial Cost Method, of the present value of benefits which is not provided for by future Normal Costs. |
| Actuarial Assumptions | Assumptions as to the occurrence of future events affecting Other Post-employment Benefits such as: mortality rates, disability rates, withdrawal rates, and retirement rates, the discount assumption, and the trend rates. |
| Actuarial Cost Method | A procedure for determining the Actuarial Present Value of Total Projected benefits and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal and an Actuarial Accrued Liability. |
| Amortization Payment | The portion of the OPEB contribution designed to pay interest and to amortize the Unfunded Actuarial Accrued Liability. |
| Annual OPEB Cost | The accrual-basis measure of the periodic cost of an employer's participation in a defined-benefit OPEB plan. |
| Annual Required Contribution (ARC) | The employer's periodic contributions to a defined benefit OPEB plan, calculated in accordance with the parameters defined in GASB 45. This is defined as the sum of the Normal Cost and the Amortization payment. |
| Commercial Plans | Plans designed to cover the medical expenses of those not otherwise covered by Medicare. |
| GASB | The Governmental Accounting Standards Board is the organization that establishes financial reporting standards for state and local governments. |

## Glossary
(continued)

| | |
|---|---|
| Investment return Assumptions (Discount Rate) | The rate used to adjust a series of future benefit payments to reflect the time value of money. Under GASB 45, this rate is related to the degree to which the OPEB program is funded. |
| Healthcare Cost Trend Rate | The rate of change in per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, the intensity of the delivery of services, technological developments, and cost-shifting. |
| Medicare Plans | Medical plans sold to those over 65 who are also covered by Medicare. These plans are supplemental to the Medicare plan, which is considered primary. |
| Net OPEB Obligation | The cumulative difference, since the effective date of GASB 45, between the annual OPEB cost and the employer's contributions to the plan. |
| Normal Cost | The portion of the Actuarial Present value of plan benefits that is allocated to a valuation year by the Actuarial Cost Method. |
| OPEB | Other Postemployment benefits other than pensions. This does not include plans such as severance plans or sick-time buyouts. |
| Pay-as-You-Go | The amount of benefits paid out to plan participants during the year. |
| Per Capita Claims Cost | The current average annual cost of providing postretirement health care benefits per individual. |
| Unfunded Actuarial Accrued Liability | The portion of the Actuarial Accrued Liability that is not covered by plan assets. For a plan that is completely unfunded, this amount is equivalent to the Actuarial Accrued Liability. |
| Valuation Date | The point from which all future plan experience is projected and as of which all present values are calculated. |

## Acknowledgement of Qualifications

We, Lawrence Stone and Kevin Gabriel, are consultants for Stone Consulting, Inc. and are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Lawrence B. Stone
Member, American Academy of Actuaries

Kevin K. Gabriel
Member, American Academy of Actuaries

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# Attachment #2

# City of Pawtucket
# Police and Firefighters
# Pension Plan

## Actuarial Valuation July 1, 2011

STONE
CONSULTING, INC.

October 2012

# CITY OF PAWTUCKET POLICE AND FIREFIGHTERS PENSION PLAN

## Table of Contents

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STONE
CONSULTING, INC.

October 12, 2012

Ms. Joanna L'Heureux
Finance Director
City of Pawtucket
City Hall
137 Roosevelt Avenue
Pawtucket, RI 02860

Dear Ms. L'Heureux:

Stone Consulting, Inc. is pleased to present the enclosed July 1, 2011 actuarial valuation of the City of Pawtucket Police and Firefighters Pension Plan. This valuation and report was prepared using generally accepted actuarial practices. To the best of our knowledge, this report is complete and accurate, and the assumptions used represent our best estimate of anticipated experience of the Plan.

As part of performing the valuation, Stone Consulting, Inc. was furnished member data by the City of Pawtucket Personnel Department and financial information from the office of the City of Pawtucket's Finance Director. Although examined for general reasonableness, neither the data nor the financial information was audited by the actuary or by the plan's auditors.

The employer contribution rate is determined by adding the current cost of benefits (i.e. normal cost) plus an amortization of the unfunded actuarial accrued liability (UAAL). The normal cost is expected to remain at a level percentage of payroll. The unfunded actuarial accrued liability has been amortized over the past few years using a funding schedule that use a rolling (open) amortization of the UAAL over a period of 30 years. Beginning with this valuation a closed amortization period is being used starting with 29 years in Fiscal 2013. The prior valuation (July 1, 2010) was used for FY 2011 and FY 2012. We recommend the City develops a written funding policy.

In this report, we have reflected the results recent experience study performed by Stone Consulting, Inc. Numerous actuarial assumptions have been changed and are discussed in detail in this report.

In the past, the City has not fully funded the recommended employer contribution amount but has been increasing its contributions. For Fiscal 2012 the City has made a significant increase in the contribution rate and has almost fully funded the recommended contribution amount. In the short-term, the unfunded actuarial accrued liability (UAAL) is expected to grow since the level of contributions ($10,154,000 in Fiscal 2012) is not sufficient to cover the interest cost on the unfunded actuarial

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accrued liability ($11,409,000) and the net normal cost of $3,107,000 (cost for the benefits due to service). This does not diminish the achievement of increased funding of the retirement plans. The rate of growth in the UAAL is expected to lessen due to the increase in the contributions being made. The long-term objective is to fully fund the System. Actuarial valuations have been performed annually. This is consistent with the guidelines promulgated by the Governmental Accounting Standards Board.

In prior valuations, the results of the actuarial valuation were used for the fiscal year which included the valuation date. This presented budget difficulties since the valuation results were only available after the beginning of the fiscal year. Starting with this valuation, we have adjusted the actuarial results to calculated recommended contribution amount for the fiscal year that starts one year after the valuation date.

Please let us know if you have any questions on the material presented. Use of excerpts of this report may result in inaccurate or misleading understanding of these results.

Respectfully submitted,

*STONE CONSULTING, INC.*

Actuaries for the Plan

Lawrence B. Stone

Lawrence B. Stone
Member, American Academy of Actuaries

## SECTION I: MANAGEMENT SUMMARY

### *Actuarial Certification*

**October 12, 2012**

**CITY OF PAWTUCKET POLICE AND FIREFIGHTERS PENSION PLAN**

This is to certify that we have prepared an actuarial valuation of the Plan as of July 1, 2011 in accordance with generally accepted actuarial principles and practices.

To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate, and in my opinion, the assumptions individually and used in the aggregate:

a.) are reasonably related to the experience of the Plan and to reasonable expectations; and
b.) represent our best estimate of anticipated experience under the Plan.

I, Lawrence Stone, am a consultant for Stone Consulting, Inc. I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Lawrence B. Stone

Lawrence B. Stone
Member, American Academy of Actuaries

## CITY OF PAWTUCKET POLICE AND FIREFIGHTERS PENSION PLAN

### *Highlights of July 1, 2011 Valuation*

| | July 1, 2011 | July 1, 2010 |
|---|---|---|
| **Actuarial Results:** | | |
| Employer Contribution | $11,791,452 | $10,531,718 |
| (assumes quarterly contributions) | (Fiscal 2013) | (Fiscal 2011) |

***Development of Unfunded Actuarial Accrued Liability***

| | July 1, 2011 | July 1, 2010 |
|---|---|---|
| Actuarial Accrued Liability | $ 218,309,558 | $ 201,065,830 |
| Market Value of Assets | 73,435,524 | 60,989,068 |
| Unfunded Actuarial Accrued Liability | $ 144,874,034 | $ 140,076,762 |
| Funding Ratio | 34% | 30% |

***Development of Normal Cost***

| | July 1, 2011 | July 1, 2010 |
|---|---|---|
| Total Normal Cost | $ 4,410,290 | $ 3,909,118 |
| Less Expected Members' Contributions | 1,302,940 | 1,264,877 |
| Net Normal Cost | $ 3,107,350 | $ 2,644,241 |
| Expense Allowance | 42,700 | 42,700 |
| Employer Normal Cost | $ 3,150,050 | $ 2,686,941 |

| | July 1, 2011 | July 1, 2010 |
|---|---|---|
| ***Interest rate*** | 7.875% | 7.875% |

## *Highlights of July 1, 2011 Valuation (Continued)*

| | July 1, 2011 | July 1, 2010 |
|---|---|---|
| **Active Employees:** | | |
| Number | 280 | 292 |
| Average Age | 41.3 | 41.2 |
| Average Service | 13.6 | 13.5 |
| Total projected salaries | $19,259,761 | $18,858,528 |
| Average projected salaries | $66,139 | $64,584 |
| Number eligible to retire on a normal pension | 76 | 83 |
| **Pensioners:** | | |
| Number | 302 | 293 |
| Average age | 62.2 | 62.2 |
| Average monthly benefit | $2,850 | $2,720 |
| **Beneficiaries:** | | |
| Number | 48 | 43 |
| Average age | 70.2 | 68.8 |
| Average monthly benefit | $1,261 | $1,181 |

### "Old" Police and Fire Pension Plan

| | July 1, 2011 | July 1, 2010 |
|---|---|---|
| **Pensioners:** | | |
| Number | 19 | 22 |
| Average age | 86.3 | 85.8 |
| Average monthly benefit | $1,452 | $1,356 |
| **Beneficiaries:** | | |
| Number | 36 | 38 |
| Average age | 85.4 | 85.0 |
| Average monthly benefit | $587 | $603 |
| **Accrued Liability** | $3,424,357 | $3,694,412 |

### *Actuarial Funding Schedule*

The funding schedule is composed of the net normal cost (normal cost offset by expected employee contributions) plus expected administrative expense, and the amortization of the Unfunded Actuarial Accrued Liability (UAAL) over a period of twenty-nine years. In developing the funding schedule, we used a closed amortization approach in which the UAAL is amortized over a specified number of years. This is different from the open amortization method which reamortizes the unfunded every year over thirty-years. Details of the funding schedule are presented on page 9. As calculated in the funding schedule, the recommended contribution amount for Fiscal 2013 is $11,791,452.

The development of the recommended contribution is as follows:

| | |
|---|---|
| • Net Employer Normal Cost for Fiscal 2013 | $ 3,276,052 |
| • Amortization (Twenty-nine years) | 8,187,506 |
| • Sum of Net Normal Cost and Amortization | $ 11,463,558 |
| • Recommended Contribution (Adjusted for quarterly contributions) | $ 11,791,452 |

Although actuarial gains and losses are not explicitly recognized in the funding schedule, gains and losses are calculated each time an actuarial valuation is performed in order to monitor the accuracy of the actuarial assumptions. Actuarial gains and losses are the result of actuarial assumptions not being exactly realized, and are calculated as the difference between the actual UAAL and the expected UAAL based on the prior year's numbers. Examples of some of the causes of actuarial gains and losses are salary increases being different from the salary assumption, and asset returns being different than the interest assumption. The Unfunded Actuarial Accrued Liability has increased since the July 1, 2010 valuation. This is due primarily to adverse liability experience and changes in actuarial assumptions which increased the liability by $4,541,883 offset in part by favorable investment performance for the prior year. A change to the mortality assumption to recognize improvements in longevity increased the unfunded accrued liability by $7,689,283. A change to pre-retirement disability increased the unfunded accrued liability by $1,493,318. The new variable retirement assumption and salary scale assumption decreased the unfunded liability by $2,771,076 and $1,869,642 respectively. We expect the UAAL to increase in the short-term due to the use of a twenty nine-year increasing amortization method. Under this method the amortization payment starts out to be lower than accrued interest on the unfunded liability and increases each year by 4%. The funding schedule on page 9 illustrates the expected increase in the UAAL until it peaks in 2024 and then starts to decline until it reaches $0 in 2042. This assumes the use of a closed 29-year amortization versus the open amortization that the City of Pawtucket has used in the past. Note that this would require fully funding the contribution amount.

The funding status is a measure of the percentage of the Actuarial Accrued Liability that is covered by the assets. The funding status is as follows:

| July 1, 2011 | July 1, 2010 |
|---|---|
| 34% | 30% |

The City of Pawtucket should be mindful that future asset losses, as well as contributions which are less than the funding schedule contribution, will cause the funding status to deteriorate. We do not anticipate cash flow problems in the near future since the level of benefits being paid is approximately $11.1 million and the assets are $73.4 million.

Firefighters who were hired prior to July 1, 1972, and police officers who were hired prior to July 1, 1973, are part of the so-called “old plan.” All of the “old plan” participants are now retirees or beneficiaries. The liabilities for the “old plan” are not contained in the actuarial results or the funding schedule contained in this valuation report. The actuarial accrued liability for the “old plan” is approximately $3.4 million. The liability is not funded but is paid for on a “pay-as-you-go” basis.

**Timing of Contributions**

Employer contributions are assumed to be made in four equal payments on July 1, October 1, January 1 and April 1. The contribution amount has been adjusted to reflect the timing of the contributions.

### *Assets*

The Finance Director of the City of Pawtucket furnished Stone Consulting, Inc. with the amount of plan assets as of June 30, 2011. The assets were not audited by Stone Consulting, Inc. or the System’s auditors. The market value of assets was $73,435,524 as of June 30, 2011 compared with assets of $60,989,068 as of June 30, 2010. Assets were invested 71% in equities (including a 3% investment in hedge fund) and 29% in fixed income and cash.

The actuarial value of assets is the same as the market value of assets. When the City starts funding the full contribution requirement on a consistent basis, we recommend that an asset-smoothing technique be examined for future use in the actuarial valuation. The use of an asset-smoothing technique can lower the volatility of contribution requirements. Asset-smoothing phases investment gains and losses over a number of years, typically 3 to 5 years. In order for the actuarial value of assets not to depart significantly from the market value of assets, a limit or corridor is often used. For example, the actuarial value of assets might be limited to no less than 90% and no greater than 110% of the market value of assets.

The actuarial asset gain is the amount that the investment experience for the year exceeds the expected investment experience. The expected investment experience was $4,938,000 and the actual investment experience was $11,838,000. This results in an actuarial asset gain of approximately $6,900,000.

## *Analysis of Valuation Results*

### *Actuarial Assumptions and Actuarial Cost Method*

The cost of a pension plan is the benefits that are paid to the participants and their beneficiaries along with administrative expenses and investment related expense. The present value of the future benefits (PVFB) represents the dollar value today of all benefits expected to be received by participants and beneficiaries (including current retirees and survivors) if all actuarial assumptions are exactly realized. The actuarial cost method is the method used to allocate the PVFB between the liability that is attributable to past service (called the Actuarial Accrued Liability) and that attributable to future service. The Unfunded Actuarial Accrued Liability (UAAL) is the Actuarial Accrued Liability minus the Actuarial Value of Assets. The Actuarial Value of Assets is the value of the assets of the pension plan. The portion of the PVFB that the actuarial cost method attributes to benefits to be earned in the upcoming year is called the Normal Cost.

Actuarial assumptions are made to project the benefits that will be paid to participants and their beneficiaries in the future. The following lists some of the most important assumptions:

- Interest Rate – used to project the return on assets and discount the value of future payments
- Salary Increase – projects the salary of an individual when they retire
- Mortality – used to calculate the length of time a benefit will be payable. Also used to project the possibility of pre-retirement death for participants within the group
- Disability – projects the probability of disability for an active participant
- Retirement – projects when an active participant will choose a service retirement
- Withdrawal – projects when an active participants leaves employment for reasons other than death, disability or retirement.
- Administrative expense – cost of administrative expense for the year. The interest rate is net of investment-related costs.

The principal actuarial assumptions and actuarial cost method used in this valuation are listed in the actuarial assumptions and methodology section of the report and are summarized in the following table:

| Assumption | July 1, 2011 Valuation |
|---|---|
| • Interest Rate | 7.875% |
| • Salary Increase | 4.00% |
| • Mortality | RP2000 combined mortality adjusted to Blue Collar (male tables) with 1 year set back. (*RP2000 projected 10 years with Scale AA in prior valuation)* |
| • Overall Disability | Age-based |
| • Retirement | Completion of (20-39) years of service or age 65<br>(Earlier of age 65 or 27 years of service in the prior valuation) |
| • Withdrawal | None |
| • Administrative Expense | $42,700 |
| • Actuarial Cost Method | Projected Unit Credit (pro rata by service) |

## SECTION II: ACTUARIAL VALUATION RESULTS

### *SUMMARY OF VALUATION RESULTS*

| **A. Member Data as of July 1, 2011** | **Current Valuation July 1, 2011** | **July 1, 2010** | **Percent Change** |
|---|---|---|---|
| 1. Active Members | | | |
| a. Number | 280 | 292 | -4.11% |
| b. Annual Compensation | $18,519,001 | $18,858,528 | -1.80% |
| c. Average Annual Compensation | $66,139 | $64,584 | 2.41% |
| d. Average Attained Age | 41.3 | 41.2 | 0.24% |
| e. Average Past Service | 13.6 | 13.5 | 0.74% |
| 2. Retired Members and Beneficiaries | | | |
| a. Number | 350 | 336 | 4.17% |
| b. Total Annual Retirement Benefit | $11,055,750 | $10,173,069 | 8.68% |
| c. Average Annual Retirement Benefit | $31,588 | $30,277 | 4.33% |

**B. Actuarial Components as of July 1, 2011**

| | | | |
|---|---|---|---|
| 1. Normal Cost | | | |
| a. Total Normal Cost as of July 1, 2011 | $4,410,290 | $3,909,118 | 12.82% |
| b. Less Expected Members' Contributions | 1,302,940 | 1,264,877 | 3.01% |
| c. Net Normal Cost | $3,107,350 | $2,644,241 | 17.51% |
| d. Expense Allowance | 42,700 | 42,700 | 0.00% |
| e. Employer Normal Cost | $3,150,050 | $2,686,941 | 17.24% |
| f. Employer Normal Cost Adjusted to Fiscal Year 2013 | $3,276,052 | | |
| 2. Actuarial Accrued Liability as of July 1, 2011 | | | |
| a. Active Members | $71,809,973 | $72,801,636 | -1.36% |
| b. Retired Members and Beneficiaries | 146,499,585 | 128,264,194 | 14.22% |
| c. Total | $218,309,558 | $201,065,830 | 8.58% |

## *SUMMARY OF VALUATION RESULTS (continued)*

| | | | Current Valuation July 1, 2011 | Prior Valuation July 1, 2010 | Percent Change |
|---|---|---|---|---|---|
| 3. | Unfunded Actuarial Accrued Liability | | | | |
| | a. | Actuarial Accrued Liability | $218,309,558 | $201,065,830 | 8.58% |
| | b. | Less Actuarial Value of Assets | 73,435,524 | 60,989,068 | 20.41% |
| | c. | Unfunded Actuarial Accrued Liability | $144,874,034 | $140,076,762 | 3.42% |
| | d. | UAAL adjusted to Fiscal Year 2013 | $149,031,948 | | |
| 4. | Funding Schedule | | | | |
| | a. | Unfunded Actuarial Accrued Liability | $149,031,948 | $140,076,762 | 6.39% |
| | b. | Payment required to amortize UAAL* | 8,187,506 | 7,551,914 | 8.42% |
| | c. | Employer Normal Cost | 3,276,052 | 2,686,941 | 21.92% |
| | d. | Annual Employer Cost (b.+ c.) | $11,463,558 | $10,238,855 | 11.96% |
| | e. | Annual Employer Cost (adjusted for contribution timing) | $11,791,452 | $10,531,718 | 11.96% |
| | f. | Payroll | $18,519,001 | $18,858,528 | -1.80% |
| | g. | Employer Cost as a Percentage of Payroll | 61.22% | 55.85% | 9.63% |
| 5. | a. | Contribution made for Fiscal Year | $10,154,000 | $9,561,000 | 6.2% |

- The July 1, 2011 valuation uses a 29-year amortization with 4.0% increasing amortization.
- The July 1, 2010 valuation used a 30-year amortization with 4.0% increasing amortization.

# City of Pawtucket Police and Firefighters Pension Plan
# Twenty Nine Year Funding Schedule

| Fiscal Year | Normal Cost | Unfunded Liability | Funding Amortization of UAL | Recommended Contribution | Recommended Contrib. Adjusted for Quarterly Contributions |
|---|---|---|---|---|---|
| 2013 | 3,276,052 | 149,031,948 | 8,187,506 | 11,463,558 | 11,791,452 |
| 2014 | 3,407,094 | 151,935,942 | 8,515,007 | 11,922,101 | 12,263,110 |
| 2015 | 3,543,378 | 154,715,334 | 8,855,607 | 12,398,985 | 12,753,634 |
| 2016 | 3,685,113 | 157,346,180 | 9,209,831 | 12,894,944 | 13,263,779 |
| 2017 | 3,832,517 | 159,802,087 | 9,578,224 | 13,410,742 | 13,794,331 |
| 2018 | 3,985,818 | 162,053,992 | 9,961,353 | 13,947,171 | 14,346,104 |
| 2019 | 4,145,251 | 164,069,934 | 10,359,807 | 14,505,058 | 14,919,948 |
| 2020 | 4,311,061 | 165,814,799 | 10,774,200 | 15,085,261 | 15,516,746 |
| 2021 | 4,483,503 | 167,250,046 | 11,205,168 | 15,688,671 | 16,137,416 |
| 2022 | 4,662,844 | 168,333,413 | 11,653,374 | 16,316,218 | 16,782,912 |
| 2023 | 4,849,357 | 169,018,591 | 12,119,509 | 16,968,867 | 17,454,229 |
| 2024 | 5,043,332 | 169,254,885 | 12,604,290 | 17,647,621 | 18,152,398 |
| 2025 | 5,245,065 | 168,986,829 | 13,108,461 | 18,353,526 | 18,878,494 |
| 2026 | 5,454,867 | 168,153,789 | 13,632,800 | 19,087,667 | 19,633,634 |
| 2027 | 5,673,062 | 166,689,518 | 14,178,112 | 19,851,174 | 20,418,979 |
| 2028 | 5,899,985 | 164,521,679 | 14,745,236 | 20,645,221 | 21,235,738 |
| 2029 | 6,135,984 | 161,571,338 | 15,335,046 | 21,471,030 | 22,085,168 |
| 2030 | 6,381,423 | 157,752,400 | 15,948,448 | 22,329,871 | 22,968,574 |
| 2031 | 6,636,680 | 152,971,014 | 16,586,385 | 23,223,066 | 23,887,317 |
| 2032 | 6,902,147 | 147,124,918 | 17,249,841 | 24,151,988 | 24,842,810 |
| 2033 | 7,178,233 | 140,102,739 | 17,939,834 | 25,118,068 | 25,836,522 |
| 2034 | 7,465,363 | 131,783,233 | 18,657,428 | 26,122,791 | 26,869,983 |
| 2035 | 7,763,977 | 122,034,463 | 19,403,725 | 27,167,702 | 27,944,783 |
| 2036 | 8,074,536 | 110,712,908 | 20,179,874 | 28,254,410 | 29,062,574 |
| 2037 | 8,397,518 | 97,662,511 | 20,987,069 | 29,384,587 | 30,225,077 |
| 2038 | 8,733,418 | 82,713,633 | 21,826,552 | 30,559,970 | 31,434,080 |
| 2039 | 9,082,755 | 65,681,939 | 22,699,614 | 31,782,369 | 32,691,443 |
| 2040 | 9,446,065 | 46,367,183 | 23,607,598 | 33,053,664 | 33,999,101 |
| 2041 | 9,823,908 | 24,551,902 | 24,551,902 | 34,375,810 | 35,359,065 |
| 2042 | 10,216,864 | - | - | 10,216,864 | 10,509,098 |

**Amortization of Unfunded Liability as of July 1, 2012**

| Year | Type | Original Amort Amount | Percentage Increasing | Original # of Years | Current Amort. Amount | Years Remaining |
|---|---|---|---|---|---|---|
| 2013 | Fresh Start | 8,187,506 | 4.00% | 29 | 8,187,506 | 29 |

**<u>Notes on Amortization of the Unfunded Liability</u>**

**Year** is the year the amortization base was established.

**Type** is the reason for the creation of the base. Examples are Gain/(Loss) or Fresh Start.

**Original Amortization Amount** is the annual amortization amount when the base was establish**ed.**

**Percentage Increasing** is the percentage that the Original Amortization Amount increases per year**.**

**Original # of Years** is the number of years over which the base is being amortized.

**Current Amortization Amount** is the amortization payment amount for this year.

**Years Remaining** is the number of years left to amortize the base.

## *DISCLOSURE INFORMATION UNDER GASB STATEMENT NO. 25*

### SCHEDULE OF FUNDING PROGRESS
### NEW PLAN

| Actuarial Valuation Date | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) (b) | Unfunded AAL (UAAL) (b-a) | Funded Ratio (a/b) | Covered Payroll (c) | UAAL as a % of Covered Payroll ((b-a)/c) |
|---|---|---|---|---|---|---|
| 7/1/2011 | $73,435,524 | $218,309,558 | $144,874,034 | 33.6% | $18,519,001 | 782% |
| 7/1/2010 | $60,989,068 | $201,065,830 | $140,076,762 | 30.3% | $18,858,528 | 743% |
| 7/1/2009 | $54,729,846 | $185,122,805 | $130,392,959 | 29.6% | $17,731,200 | 735% |
| 7/1/2008 | $68,844,727 | $177,376,163 | $108,531,436 | 38.8% | $17,461,156 | 622% |
| 7/1/2007 | $70,420,028 | $164,198,973 | $93,778,945 | 42.9% | $18,107,293 | 518% |
| 7/1/2006 | $64,012,986 | $157,865,288 | $93,852,302 | 40.5% | $17,886,311 | 525% |

The most recent actuarial valuation of the System was prepared by Stone Consulting, Inc. as of July 1, 2011.

| | | |
|---|---|---|
| The normal cost for employees on that date was | $1,302,940 | 7.0% of payroll |
| The normal cost for the employer was | $3,107,350 | 16.8% of payroll |

| | |
|---|---|
| The actuarial accrued liability for active members was | $71,809,973 |
| The actuarial accrued liability for retired members was | 146,499,585 |
| Total actuarial accrued liability | $218,309,558 |
| Market value of assets | $73,435,524 |
| Unfunded actuarial accrued liability | $144,874,034 |

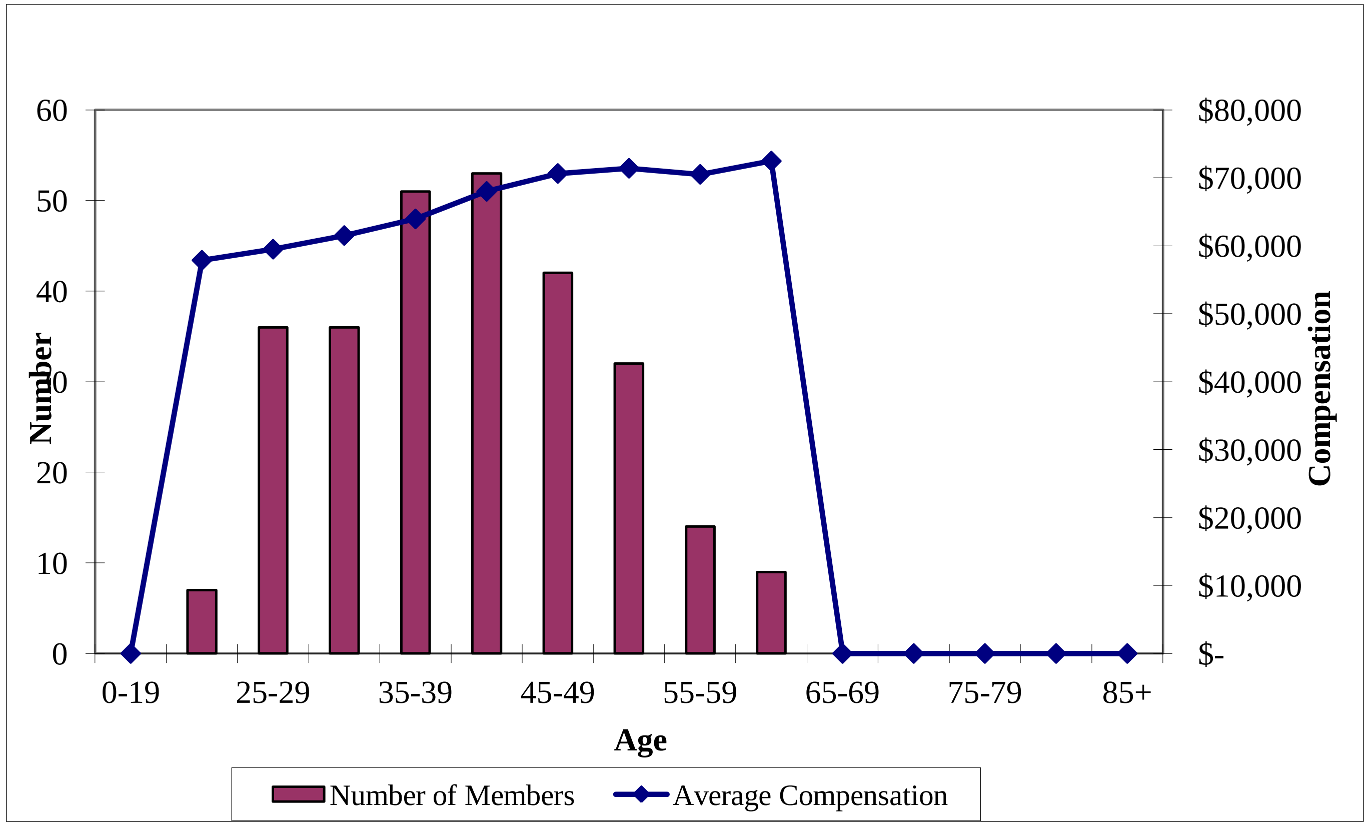
The ratio of System's assets to total actuarial liability was 34%

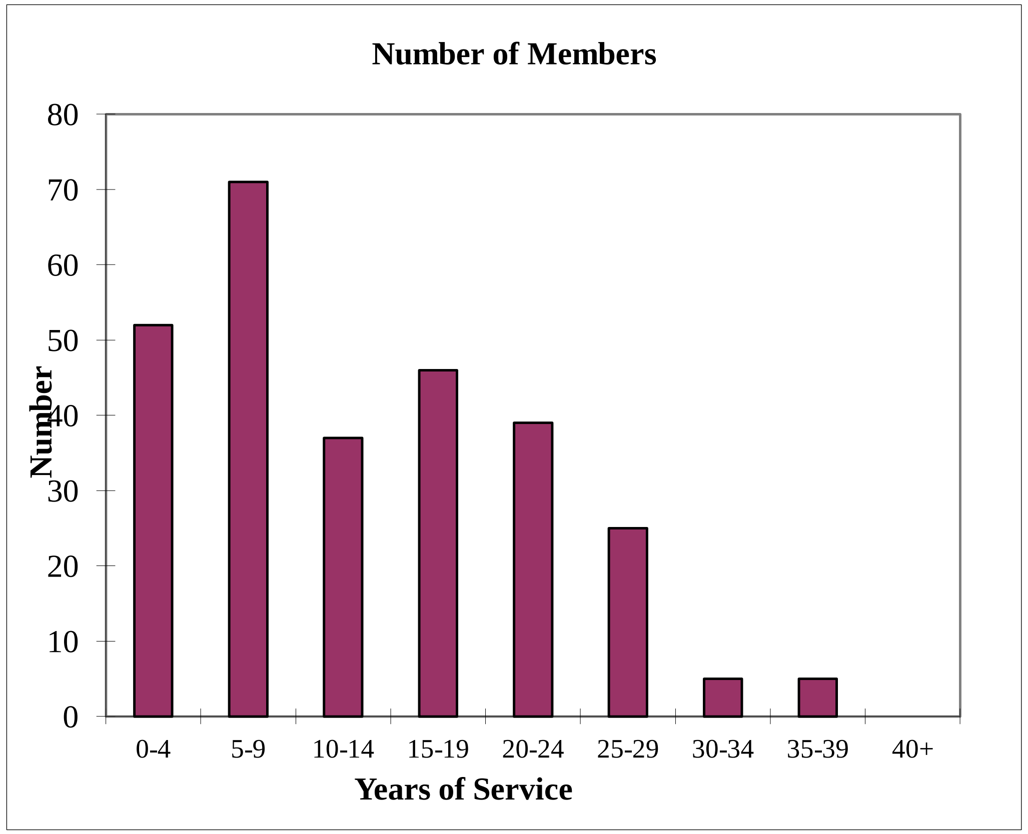
The principal actuarial assumptions used in the valuation are as follows:

| | |
|---|---|
| Investment Return: | 7.875% per annum |
| Rate of Salary Increase: | Select and Ultimate |
| Type of Amortization: | Closed over 29 years |

# City of Pawtucket Police and Firefighters Pension Plan
# Distribution of Plan Members as of July 1, 2011
# Active Members

| AGE | 0-4 Years | 5-9 Years | 10-14 Years | 15-19 Years | 20-24 Years | 25-29 Years | 30-34 Years | 35-39 Years | 40 + Years | Total | Total Compensation | Average Compensation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **0-19** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $ - | $ - |
| **20-24** | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 405,122 | 57,875 |
| **25-29** | 20 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36 | 2,141,908 | 59,497 |
| **30-34** | 17 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36 | 2,214,405 | 61,511 |
| **35-39** | 4 | 22 | 19 | 6 | 0 | 0 | 0 | 0 | 0 | 51 | 3,261,686 | 63,955 |
| **40-44** | 4 | 10 | 11 | 21 | 7 | 0 | 0 | 0 | 0 | 53 | 3,604,199 | 68,004 |
| **45-49** | 0 | 4 | 6 | 15 | 11 | 6 | 0 | 0 | 0 | 42 | 2,967,057 | 70,644 |
| **50-54** | 0 | 0 | 1 | 3 | 16 | 12 | 0 | 0 | 0 | 32 | 2,285,164 | 71,411 |
| **55-59** | 0 | 0 | 0 | 1 | 4 | 5 | 3 | 1 | 0 | 14 | 987,210 | 70,515 |
| **60-64** | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 4 | 0 | 9 | 652,248 | 72,472 |
| **65-69** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | - |
| **70-74** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | - |
| **75-79** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | - |
| **80-84** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | - |
| **85+** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | - |
| **TOTAL** | **52** | **71** | **37** | **46** | **39** | **25** | **5** | **5** | **0** | **280** | **$ 18,519,001** | **$ 66,139** |



# City of Pawtucket Police and Firefighters Pension Plan
# Distribution of Plan Members as of July 1, 2011
# Retired Members

**Disabled Member**

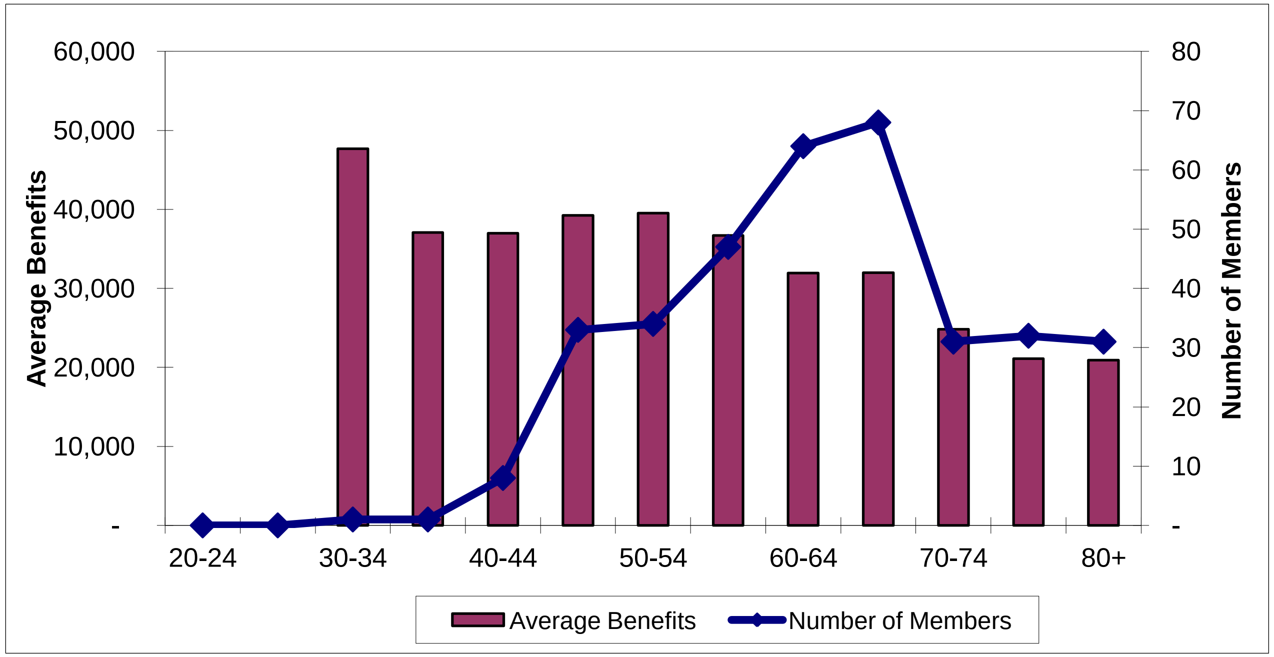
| Age | Number | Average Benefit | Total Benefit |
|---|---|---|---|
| 20-24 | - | - | - |
| 25-29 | - | - | - |
| 30-34 | 1 | 47,686 | 47,686 |
| 35-39 | 1 | 37,092 | 37,092 |
| 40-44 | 4 | 40,695 | 162,778 |
| 45-49 | 7 | 39,929 | 279,505 |
| 50-54 | 1 | 40,197 | 40,197 |
| 55-59 | 4 | 40,243 | 160,971 |
| 60-64 | 4 | 35,170 | 140,680 |
| 65-69 | - | - | - |
| 70-74 | - | - | - |
| 75-79 | - | - | - |
| 80+ | - | - | - |
| **TOTAL** | **22** | **$ 39,496** | **$ 868,909** |

**Retired Members and Beneficiaries**

| Age | Number | Average Benefit | Total Benefit |
|---|---|---|---|
| 20-24 | - | - | - |
| 25-29 | - | - | - |
| 30-34 | - | - | - |
| 35-39 | - | - | - |
| 40-44 | 4 | 33,269 | 133,077 |
| 45-49 | 26 | 39,082 | 1,016,140 |
| 50-54 | 33 | 39,516 | 1,304,033 |
| 55-59 | 43 | 36,359 | 1,563,432 |
| 60-64 | 60 | 31,702 | 1,902,128 |
| 65-69 | 68 | 31,985 | 2,174,971 |
| 70-74 | 31 | 24,827 | 769,628 |
| 75-79 | 32 | 21,092 | 674,956 |
| 80+ | 31 | 20,919 | 648,475 |
| **TOTAL** | **328** | **$ 31,057** | **$ 10,186,841** |

**Total**

| Age | Number | Average Benefit | Total Benefit |
|---|---|---|---|
| 20-24 | - | - | - |
| 25-29 | - | - | - |
| 30-34 | 1 | 47,686 | 47,686 |
| 35-39 | 1 | 37,092 | 37,092 |
| 40-44 | 8 | 36,982 | 295,855 |
| 45-49 | 33 | 39,262 | 1,295,645 |
| 50-54 | 34 | 39,536 | 1,344,230 |
| 55-59 | 47 | 36,689 | 1,724,403 |
| 60-64 | 64 | 31,919 | 2,042,808 |
| 65-69 | 68 | 31,985 | 2,174,971 |
| 70-74 | 31 | 24,827 | 769,628 |
| 75-79 | 32 | 21,092 | 674,956 |
| 80+ | 31 | 20,919 | 648,475 |
| **TOTAL** | **350** | **$ 31,588** | **$ 11,055,750** |



# City of Pawtucket Police and Firefighters "Old" Pension Plan
## Distribution of Plan Members as of July 1, 2011
## Retired Members

**Retired Member**

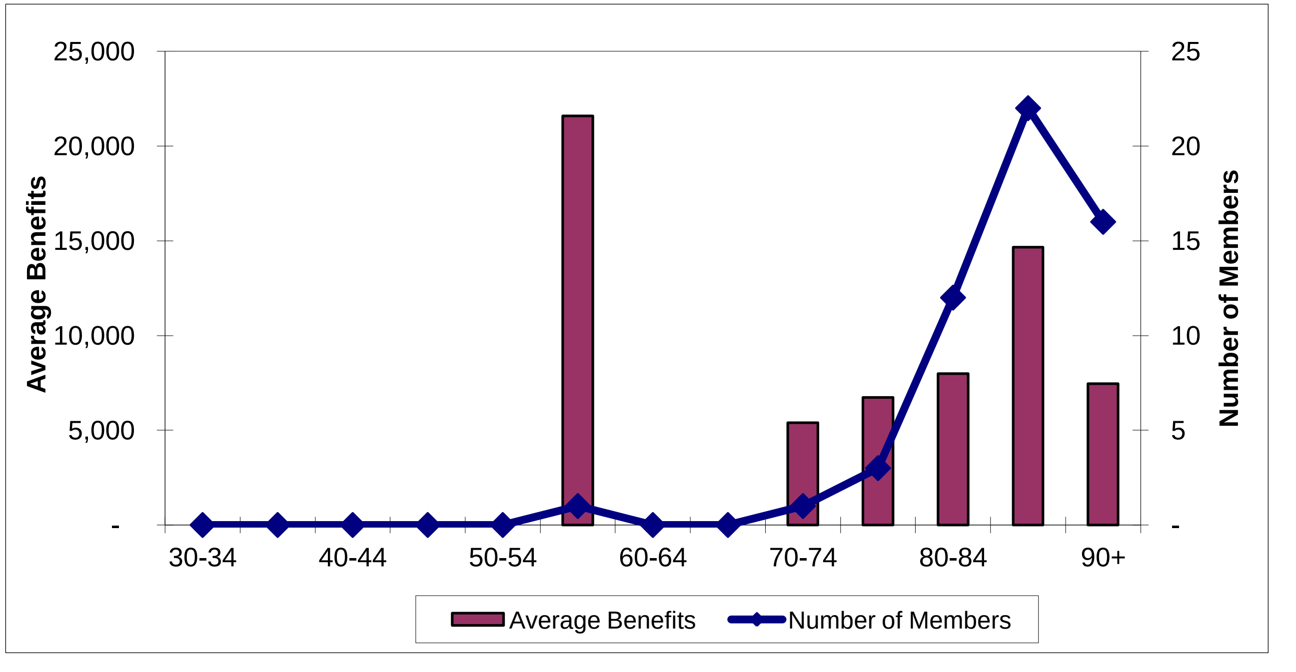
| Age | Number | Average Benefit | Total Benefit |
|---|---|---|---|
| 30-34 | - | - | - |
| 35-39 | - | - | - |
| 40-44 | - | - | - |
| 45-49 | - | - | - |
| 50-54 | - | - | - |
| 55-59 | - | - | - |
| 60-64 | - | - | - |
| 65-69 | - | - | - |
| 70-74 | - | - | - |
| 75-79 | - | - | - |
| 80-84 | 3 | 10,555 | 31,664 |
| 85-89 | 13 | 19,289 | 250,753 |
| 90+ | 3 | 16,240 | 48,721 |
| TOTAL | 19 | 17,428 | $ 331,137 |

**Beneficiaries**

| Age | Number | Average Benefit | Total Benefit |
|---|---|---|---|
| 30-34 | - | - | - |
| 35-39 | - | - | - |
| 40-44 | - | - | - |
| 45-49 | - | - | - |
| 50-54 | - | - | - |
| 55-59 | 1 | 21,598 | 21,598 |
| 60-64 | - | - | - |
| 65-69 | - | - | - |
| 70-74 | 1 | 5,405 | 5,405 |
| 75-79 | 3 | 6,730 | 20,191 |
| 80-84 | 9 | 7,134 | 64,203 |
| 85-89 | 9 | 7,973 | 71,759 |
| 90+ | 13 | 5,432 | 70,618 |
| TOTAL | 36 | $ 7,049 | $ 253,774 |

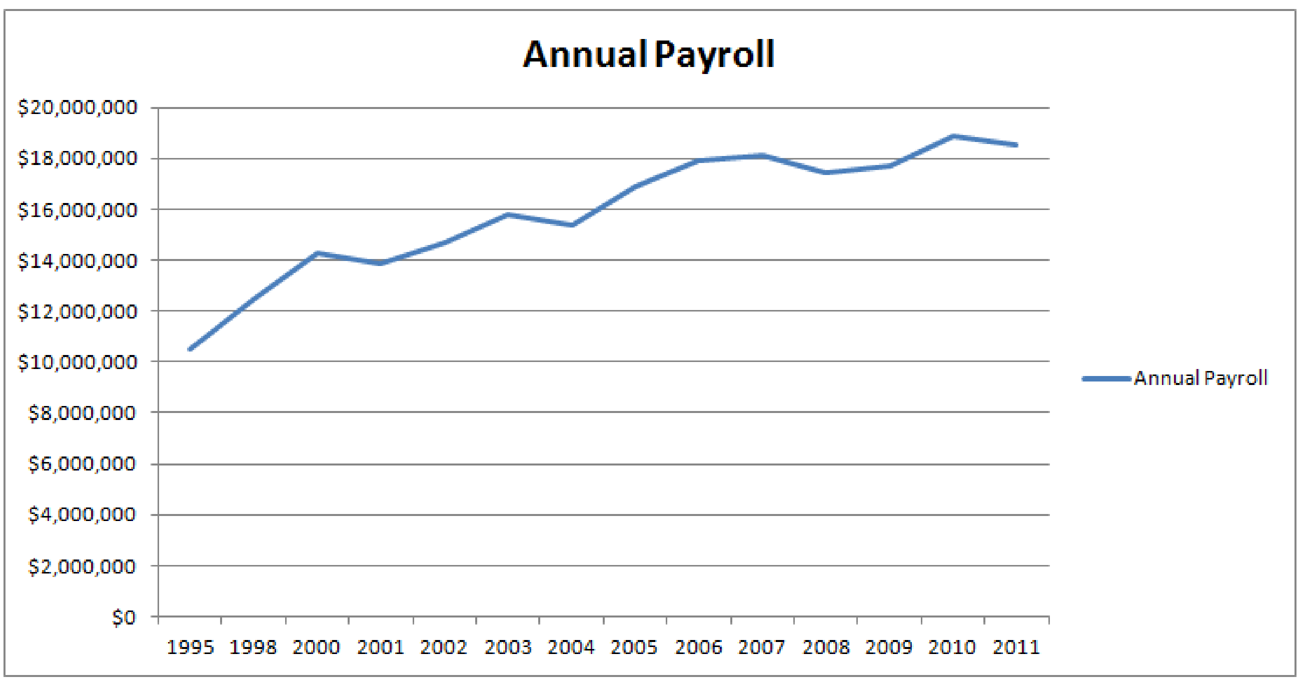
**Total**

| Age | Number | Average Benefit | Total Benefit |
|---|---|---|---|
| 30-34 | - | - | - |
| 35-39 | - | - | - |
| 40-44 | - | - | - |
| 45-49 | - | - | - |
| 50-54 | - | - | - |
| 55-59 | 1 | 21,598 | 21,598 |
| 60-64 | - | - | - |
| 65-69 | - | - | - |
| 70-74 | 1 | 5,405 | 5,405 |
| 75-79 | 3 | 6,730 | 20,191 |
| 80-84 | 12 | 7,989 | 95,866 |
| 85-89 | 22 | 14,660 | 322,511 |
| 90+ | 16 | 7,459 | 119,339 |
| TOTAL | 55 | $ 10,635 | $ 584,911 |



## *SCHEDULE OF ACTIVE MEMBER VALUATION DATA*

| | Schedule of Active Member Valuation Data | | | |
|---|---|---|---|---|
| *Valuation Date* | *Number* | *Annual Payroll* | *Annual Average Pay* | *% Increase In Average Pay* |
| 7/1/1995 | 296 | 10,472,776 | 35,381 | N/A |
| 7/1/1998 | 281 | 12,488,783 | 44,444 | 7.9 |
| 7/1/2000 | 292 | 14,297,381 | 48,964 | 5.0 |
| 7/1/2001 | 289 | 13,858,966 | 47,955 | -2.1 |
| 7/1/2002 | 288 | 14,659,470 | 50,901 | 6.1 |
| 7/1/2003 | 294 | 15,760,360 | 53,607 | 5.3 |
| 7/1/2004 | 280 | 15,386,235 | 54,951 | 2.5 |
| 7/1/2005 | 293 | 16,897,240 | 57,670 | 4.9 |
| 7/1/2006 | 292 | 17,886,311 | 61,254 | 6.2 |
| 7/1/2007 | 291 | 18,107,293 | 62,224 | 1.6 |
| 7/1/2008 | 286 | 17,461,156 | 61,053 | -1.9 |
| 7/1/2009 | 287 | 17,731,200 | 61,781 | 1.2 |
| 7/1/2010 | 292 | 18,858,528 | 64,584 | 4.5 |
| 7/1/2011 | 280 | 18,519,001 | 66,139 | 2.4 |



## *ACTUARIAL METHODS AND ASSUMPTIONS*

**Actuarial Methods**

1. Actuarial Cost Method

   The Projected Unit Cost Method has been used in this valuation. Under this method, the normal cost is the present value of the prospective benefits prorated by one year of service to the amount of service at termination of employment.

   The actuarial accrued liability represents the theoretical accumulation of all prior years' normal costs for the plan members as if the program had always been in effect. The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over plan assets.

2. Asset Valuation Method

   Market value of assets.

**Actuarial Assumptions**

1. Investment Return

   7.875% per year net of investment expenses

2. Salary Increases

| ***Years of Service*** | ***Salary Increase*** |
|---|---|
| 0-1 | 8.50% |
| 2-4 | 3.25 |
| 5 | 11.00 |
| 6-9 | 3.50 |
| 10 | 4.25 |
| 11-14 | 3.75 |
| 15 | 4.50 |
| 16-19 | 3.75 |
| 20 | 4.75 |
| 21-24 | 3.25 |
| 25+ | 2.00 |

## *ACTUARIAL METHODS AND ASSUMPTIONS*
## (continued)

3. Withdrawal Prior to Retirement — No withdrawal is assumed.

4. Disability Prior to Retirement

| ***Age*** | ***Disability Assumption*** | ***Prior Valuation*** |
|---|---|---|
| 25 | .40% | .11% |
| 30 | .40 | .14 |
| 35 | .40 | .18 |
| 40 | .40 | .28 |
| 45 | 1.00 | .45 |
| 50 | 1.25 | .76 |
| 55 | 1.20 | 1.26 |
| 60 | .85 | 2.03 |

5. Rates of Retirement — Retirement is assumed to happen at the earlier of age 65 or years of completed service shown below. *Prior year valuation used earlier of age 65 and 27 years of service.*

| ***Service*** | ***Retirement Assumption*** | ***Service*** | ***Retirement Assumption*** |
|---|---|---|---|
| 20 | 20% | 30 | 25% |
| 21 | 7 | 31 | 20 |
| 22 | 8 | 32 | 20 |
| 23 | 20 | 33 | 35 |
| 24 | 10 | 34 | 35 |
| 25 | 10 | 35 | 50 |
| 26 | 10 | 36 | 50 |
| 27 | 10 | 37 | 50 |
| 28 | 10 | 38 | 50 |
| 29 | 10 | 39+ | 100 |

## *ACTUARIAL METHODS AND ASSUMPTIONS*
## (continued)

| | | |
|---|---|---|
| 6. | Mortality | The RP-2000 combined mortality table adjusted to Blue Collar (male tables) with 1 year setback. *Prior year valuation used RP-2000 projected 10 years*. |
| 7. | Disabled Life Mortality | The RP-2000 combined mortality table adjusted to Blue Collar (male tables) set forward 1 year for males and 2 years for females. *Prior year valuation used PBGC mortality table for disabled participants receiving Social Security Benefits.* |
| 8. | Family Composition | Male employees are assumed 90% married with one dependent child. Female employees are assumed 75% married with one dependent child. The age difference between member and spouse is assumed to be 3 years (the male being the older). |
| 9. | Administrative Expenses | Administrative amount of $42,700 for the Fiscal Year excluding investment management fees and custodial fee. Administrative expense is added to the Normal Cost. |
| 10. | Longevity | Longevity increases are assumed to be part of the salary increase assumption. |
| 11. | Contribution Timing | Contributions are assumed to be made in four equal contributions on July 1, October 1, January 1 and April 1. |
| 12. | Valuation Date | July 1, 2011. |

## *SUMMARY OF PRINCIPAL PROVISIONS*

| | | |
|---|---|---|
| 1. | Participation | Participation is mandatory for employees of the City of Pawtucket who are covered under a collective bargaining agreement between the City of Pawtucket and the Pawtucket Fire Fighters Independent Union and the City of Pawtucket and the Pawtucket Lodge No. 4, Fraternal Order of Police. |
| 2. | Member Contributions | Member contributions are 7.5% of pay. |
| 3. | Service Retirement | |
| | a. Eligibility | Completion of 20 years of service. |
| | b. Benefit Amount | 50% of final average compensation plus an additional 3% of final average compensation for each year of service over 20 years, not to exceed 3 1/3 years. Final average compensation is defined as the highest year's salary rate. |
| 4. | Disability Retirement | |
| | a. Eligibility | Total and permanently incapacitated for duty. |
| | b. Benefit Amount | 66 2/3% of compensation at date of disability plus an additional 10% of compensation for each dependent child (until the child attains age 21), not to exceed 80% of compensation, payable to normal retirement date. If the date of disability is after 20 years of service, the disability benefit is payable until the member would have completed 25 years of employment. A normal retirement benefit is payable after the disability benefit is no longer payable. |
| 5. | Pre-retirement Death | |
| | a. Eligibility | No age or service requirements. |
| | b. Retirement Allowance | 50% of compensation at date of death plus an additional 10% of compensation for each dependent child (until the child attains age 21), not to exceed 70% of compensation, payable for the lifetime of the surviving spouse or until the spouse remarries. |

## *SUMMARY OF PRINCIPAL PROVISIONS*
## (continued)

6. Termination Non-Vested

   a. Eligibility — None

   b. Benefit Amount — Refund of employee contributions, if any, plus interest.

7. Post-Retirement Death — Benefit payable for the remainder of the 10-year certain period. Then a benefit of 67½% of the participant's pension benefit is payable to the surviving spouse.

8. Funeral Allowance (Firefighters) — $10,000 funeral allowance payable to firefighters who die in the line of duty.

9. Post-Retirement Cost-of-Living Increases

**Fire**

| Effective Date | Increase | Compounded |
|---|---|---|
| April 1, 1984 | 3.00% | Every 3 Years |
| July 1, 1986 | 1.50% | Annually |
| July 1, 1994 | 1.75% | Annually |
| July 1, 1995 | 2.00% | Annually |
| July 1, 1999 | 3.00% | Annually |
| July 1, 2004 | 3.00% | Annually |

**Police**

| Effective Date | Annual Increase |
|---|---|
| July 1, 1988 | 1.00% |
| July 1, 1989 | 1.50% |
| July 1, 1994 | 1.75% |
| July 1, 1996 | 2.00% |
| July 1, 1998 | 3.00% |
| July 1, 2004 | 3.00% |

The cost-of-living adjustment is made on the service retirement benefit and the continuation of the service retirement benefit during the 10-year certain period. It is not applicable to a disability benefit or to a survivor benefit except as noted above.

## *GLOSSARY OF TERMS*

| | | |
|---|---|---|
| 1. | Present Value of Benefits | Represents the dollar value today of all benefits expected to be earned by current members if all actuarial assumptions are exactly realized. |
| 2. | Actuarial Cost Method | The procedure that is used to allocate the present value of benefits between the liability that is attributable to past service (Actuarial Accrued Liability) and that attributable to future service. |
| 3. | Actuarial Assumptions | Estimates are made as to the occurrence of certain events that determine the level of benefits to be paid and how long they will be provided. The more important actuarial assumptions include the investment return on assets, salary increases and the rates of withdrawal, disability, retirement and mortality. |
| 4. | Actuarial Accrued Liability | The portion of the Present Value of Benefits that is attributable to past service. |
| 5. | Normal Cost | The portion of the Present Value of Benefits that is attributable to benefits to be earned in the coming year. |
| 6. | Actuarial Assets | Market value of assets of the funds. |
| 7. | Unfunded Actuarial Accrued Liability | That portion of the Actuarial Accrued Liability not covered by System Assets. |
| 8. | GASB | Governmental Accounting Standards Board is the agency that oversees financial reporting and issues guidance for disclosure of pension system liabilities. |

9. Funding Schedule

A schedule of contributions intended to fund the pension plan. The funding schedule is composed of two parts: an amortization of the unfunded liability and the normal cost. The unfunded liability is funded over a period of time, referred to as the length of the funding schedule, until the unfunded liability would become fully funded.

# Attachment #3

STONE
CONSULTING, INC.

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FINANCE

November 30, 2012

Ms. Joanna L'Heureux
Finance Director
City of Pawtucket
City Hall
137 Roosevelt Avenue
Pawtucket, RI 02860

Dear Ms. L'Heureux:

The City of Pawtucket Police and Firefighters Pension Plan requested that Stone Consulting, Inc. provide the City of Pawtucket (City) with the Governmental Accounting Standards Board (GASB) Statements Number 25 and Number 27 for Fiscal Year 2012. These statements are the accounting profession's standard for accounting and financial reporting of defined benefit pension plans in the public sector.

The City of Pawtucket Police and Firefighters Plan is referred to as being composed of two plans, the so-called "New" plan and the "Old" plan. Firefighters who were hired prior to July 1, 1972 and police officers who were hired prior to July 1, 1973 are part of the "Old" plan. All of the "Old" plan participants are now retirees or beneficiaries. The new plan has been funded on an actuarial basis even though the actual contributions have been made sporadically and have mostly fallen short of the actuarially determined contribution. The City has funded the plan in this manner due to the City's difficult financial position and the City's determination of financial priorities. The Old plan has been funded on a pay-as-you-go basis.

We have calculated a Net Pension Obligation (NPO) for each plan as of the end of Fiscal 2012. The NPO is an accumulation with interest of the differences between the annual required contribution ("ARC" which is actuarially determined) and actual contributions. This accumulation starts with the period starting after December 15, 1986 (Fiscal 1988). The ARC is calculated as part of an actuarial valuation and is typically composed of the cost of the current year's benefits (normal cost) and an amortization of the unfunded actuarial accrued liability (accumulated liability based on past service minus the assets of the plan).

An NPO of zero indicates that all ARCs have been made. A positive NPO means that actual contributions fell short of the ARCs, and a negative NPO means that actual contributions were greater than the ARCs.

T (508) 359-9600
F (508) 359-0190
Lstone@stoneconsult.com

5 West Mill Street, Suite #4
Medfield, MA 02052

The NPOs are as follow:

| Plan | NPO at the end of Fiscal 2012 |
|---|---|
| Old Plan | $821,456 |
| New Plan | $82,900,684 |

Exhibits 1 and 2 give the details of the calculation of the NPO for the Old and New plans. Exhibit 3 has the annual pension cost (APC) for the Old and New plans. The APC is the actuarial required contribution minus the adjustment to the ARC plus the interest on the NPO. If there is no NPO, the APC is equal to the ARC.

For the new plan, the ARC is based on the July 1, 2010 actuarial valuation report, as the July 1, 2011 actuarial valuation report was not used for Fiscal 2012. Note that the disclosure amounts shown in Exhibit 4 were based on the most recent actuarial valuation report. The July 1, 2011 actuarial valuation report, dated October 12, 2012, by Stone Consulting, Inc. is the most recent report.

Please contact us if you have any questions about the material presented. We are pleased to work with you and your auditors regarding these statements.

Sincerely,

Lawrence B. Stone

Lawrence B. Stone
Member, American Academy of Actuaries

Enclosures

# CITY OF PAWTUCKET POLICE AND FIREFIGHTERS PENSION PLAN

## EXHIBIT I
## NET PENSION OBLIGATION FOR THE OLD PLAN

| Fiscal Year | Annual Required Contribution (ARC)[1] | NPO at end of year | Interest on NPO | Adjustment to ARC | Actual Contribution | Interest Rate | Amortization Factor |
|---|---|---|---|---|---|---|---|
| 2001 | 1,037,790 | 102,545 | - | - | 935,245 | 8.25% | 6.90334 |
| 2002 | 888,006 | 91,035 | 8,460 | 15,942 | 892,034 | 8.25% | 6.43244 |
| 2003 | 833,016 | 74,944 | 7,510 | 14,153 | 842,465 | 8.25% | 6.43243 |
| 2004 | 840,194 | 114,866 | 6,183 | 12,654 | 793,801 | 8.25% | 5.92268 |
| 2005 | 984,035 | 308,321 | 9,189 | 19,234 | 780,535 | 8.00% | 5.97208 |
| 2006 | 925,047 | 454,705 | 24,666 | 56,984 | 746,345 | 8.00% | 5.41062 |
| 2007 | 930,140 | 619,538 | 36,376 | 84,039 | 717,644 | 8.00% | 5.41062 |
| 2008 | 859,343 | 722,232 | 49,563 | 118,996 | 687,216 | 8.00% | 5.20637 |
| 2009 | 790,725 | 786,633 | 57,779 | 138,721 | 645,382 | 8.00% | 5.20637 |
| 2010 | 766,692 | 835,367 | 61,947 | 150,445 | 629,460 | 7.875% | 5.22287 |
| 2011 | 706,564 | 839,431 | 65,785 | 159,766 | 608,519 | 7.875% | 5.22287 |
| 2012 | 654,915 | 821,456 | 66,105 | 160,543 | 578,452 | 7.875% | 5.22287 |

[1] Annual Required Contributions were calculated based on previous actuarial valuations and amortization periods as follows:

| | |
|---|---|
| Fiscal 2001 | 10 years assuming payment in the middle of the year |
| Fiscal 2002 | 9 years assuming payment in the middle of the year |
| Fiscal 2003 | 9 years assuming payment in the middle of the year |
| Fiscal 2003-2005 | 8 years assuming payment in the middle of the year |
| Fiscal 2006-2007 | 7 years assuming payment in the middle of the year |
| Fiscal 2008-2012 | 7 years assuming payment in the beginning of the year |

Actual contributions are being made on a pay-as-you-go basis

STONE
CONSULTING, INC.

# CITY OF PAWTUCKET POLICE AND FIREFIGHTERS PENSION PLAN
## EXHIBIT 2
## NET PENSION OBLIGATION FOR THE NEW PLAN

| Fiscal Year | Annual Required Contribution (ARC)[1] | NPO at end of year | Interest on NPO | Adjustment to ARC | Actual Contribution | Interest Rate | Amortization Factor |
|---|---|---|---|---|---|---|---|
| 1988 | 2,181,465 | 476,170 | | - | 1,705,295 | 8.25% | 12.12121 |
| 1989 | 2,413,767 | 708,937 | 39,284 | 39,284 | 2,181,000 | 8.25% | 12.12121 |
| 1990 | 2,764,722 | 1,473,659 | 58,487 | 58,487 | 2,000,000 | 8.25% | 12.12121 |
| 1991 | 2,545,451 | 1,979,205 | 121,577 | 161,482 | 2,000,000 | 8.25% | 9.12586 |
| 1992 | 2,856,762 | 3,782,373 | 163,284 | 216,879 | 1,000,000 | 8.25% | 9.12586 |
| 1993 | 3,157,761 | 6,837,712 | 312,046 | 414,468 | 0 | 8.25% | 9.12586 |
| 1994 | 3,629,257 | 10,281,812 | 564,111 | 749,268 | 0 | 8.25% | 9.12586 |
| 1995 | 4,164,927 | 14,168,321 | 848,250 | 1,126,668 | 0 | 8.25% | 9.12586 |
| 1996 | 5,082,842 | 19,150,907 | 1,168,886 | 1,269,142 | 0 | 8.25% | 11.16370 |
| 1997 | 5,697,142 | 24,712,537 | 1,579,950 | 1,715,462 | 0 | 8.25% | 11.16370 |
| 1998 | 6,380,364 | 29,518,034 | 2,038,784 | 2,213,651 | 1,400,000 | 8.25% | 11.16370 |
| 1999 | 3,112,324 | 32,348,309 | 2,435,238 | 1,657,287 | 1,060,000 | 8.25% | 17.81106 |
| 2000 | 3,354,106 | 35,382,469 | 2,668,735 | 1,848,681 | 1,140,000 | 8.25% | 17.49805 |
| 2001 | 4,261,676 | 39,122,753 | 2,919,054 | 2,060,446 | 1,380,000 | 8.25% | 17.17224 |
| 2002 | 4,352,892 | 42,566,968 | 3,227,627 | 2,076,304 | 2,060,000 | 8.25% | 18.84250 |
| 2003 | 5,100,727 | 46,460,377 | 3,511,775 | 2,259,093 | 2,460,000 | 8.25% | 18.84250 |
| 2004 | 5,477,070 | 50,494,705 | 3,832,981 | 2,465,723 | 2,810,000 | 8.25% | 18.84250 |
| 2005 | 6,068,846 | 54,836,562 | 4,039,576 | 2,606,566 | 3,160,000 | 8.00% | 19.37212 |
| 2006 | 6,699,593 | 59,582,386 | 4,386,925 | 2,830,695 | 3,510,000 | 8.00% | 19.37212 |
| 2007 | 7,362,251 | 64,775,551 | 4,766,591 | 3,075,677 | 3,860,000 | 8.00% | 19.37212 |
| 2008 | 7,433,922 | 69,837,766 | 5,182,044 | 3,343,751 | 4,210,000 | 8.00% | 19.37212 |
| 2009 | 8,117,103 | 75,076,824 | 5,587,021 | 3,605,065 | 4,860,000 | 8.00% | 19.37212 |
| 2010 | 9,387,665 | 77,223,196 | 5,912,300 | 4,047,593 | 9,106,000 | 7.875% | 18.54851 |
| 2011 | 10,531,718 | 80,111,931 | 6,081,327 | 4,163,310 | 9,561,000 | 7.875% | 18.54851 |
| 2012 | 10,952,987 | 82,900,684 | 6,308,815 | 4,319,049 | 10,154,000 | 7.875% | 18.54851 |

[1] The ARCs in 1988, 1993, 1994, 1995, 1997, 1998 and 2000 were estimated.

# CITY OF PAWTUCKET POLICE AND FIREFIGHTERS PENSION PLAN

## EXHIBIT 3
## ANNUAL PENSION COST FOR THE OLD AND NEW PLANS
## FISCAL 2012

| | OLD PLAN | NEW PLAN |
|---|---|---|
| Annual required contribution | $654,915 | $10,952,987 |
| Interest on net pension obligation | 66,105 | 6,308,815 |
| Adjustment to annual required contribution | (160,543) | (4,319,049) |
| Annual pension cost | $560,477 | $12,942,753 |
| Contributions made | (578,452) | (10,154,000) |
| Increase (decrease) in net pension obligation | $17,975 | $2,788,753 |
| Net pension obligation beginning of year | 839,431 | 80,111,931 |
| Net pension obligation end of year | $821,456 | $82,900,684 |

## EXHIBIT 4
## ACCRUED LIABILITIES AND ASSETS AS OF JULY 1, 2011

| | |
|---|---|
| **OLD PLAN** | |
| Accrued Liability | $3,424,357 |
| Assets | 0 |
| Unfunded Accrued Liability | $3,424,357 |
| **NEW PLAN** | |
| Accrued Liability | $218,309,558 |
| Assets | 73,435,524 |
| Unfunded Accrued Liability | $144,874,034 |

# Attachment #4

City of Pawtucket

# OTHER POST-EMPLOYMENT BENEFITS

## RESULTS MEETING
## January 22, 2013

Lawrence B. Stone, F.C.C., E.A., M.A.A.A.
Kevin K. Gabriel, F.S.A, M.A.A.A

STONE
CONSULTING, INC.

5 West Mill Street, Suite 4, Medfield MA 02052
T. (508) 359-9600 F. (508) 359-0190 e-mail: Lstone@stoneconsult.com

# Background

- July 1, 2011 other post-employment benefits (OPEB)
  - Medical Insurance
    - Retirees, beneficiaries and surviving spouses
  - Dental Insurance
- GASB Statement 45
  - Tier 1; FY 2008 initial adoption
  - Third valuation; fifth year in; for FY 2012
    - Prior valuations 7/2007 and 7/2009.
    - Statement requires at least every two years
    - 26 years for schedule (alternatives possible)
    - Next valuation 7/1/2013. Start early.

# Actuarial Results (as of 7/1/2011)



| | Unfunded System (4.00% Interest Rate) | Funded System (7.50% Interest Rate) |
|---|---|---|
| **Actuarial Accrued Liability** | $312.3 million | $201.0 million |
| **Service Cost** | $6.2 million | $3.2 million |
| **Amortization Cost** (26-year/30-year amortization) (3.25% increasing amortization) | $13.1 million | $11.3 million |
| **Annual Required Contribution (ARC)** | $19.3 million | $14.5 million |
| **Pay-As-You-Go** | $12.9 million | $12.9 million |
| **Charge to Net Assets** | $6.3 million | $0 after $1.6 million additional contribution |

# Actuarial Results (as of 7/1/2011)



| | Unfunded System | Funded System |
|---|---|---|
| **Interest Rate** | 4.00% | 7.50% |
| **AL Total** | $312.3 million | $201.0 million |
| **Accrued Liability Breakdown** | Active Employees: $95.4M<br>Retirees, Spouses, and Survivors: $216.8M<br>**Total $312.3M** | Active Employees: $53.7M<br>Retirees, Spouses, and Survivors: $147.3M<br>**Total $201.0M** |

# Actuarial Results by Group (at 4.00%)



| | Normal Cost | ARC | Active AAL | Retired AAL | Total AAL |
|---|---|---|---|---|---|
| **Water** | $193,026 | $424,086 | $2,756,071 | $2,739,918 | $5,495,989 |
| **Firefighters** | $1,822,040 | $6,910,256 | $31,801,835 | $89,226,635 | $121,028,470 |
| **Police** | $2,519,286 | $7,695,085 | $33,583,455 | $89,528,260 | $123,111,715 |
| **Schools** | $625,491 | $2,033,154 | $12,438,372 | $21,044,339 | $33,482,711 |
| **Remainder of City** | $998,013 | $2,223,160 | $14,857,801 | $14,283,591 | $35,322,418 |
| **Total** | $6,157,856 | $19,285,740 | $95,437,534 | $216,822,743 | $312,260,277 |

# Sensitivity Study



- Increase/Decrease of 1% per year in trend rate* (4.00% interest scenario)

**+1%**

| | |
|---|---|
| **Accrued Liability:** | **$49.9 Million (16%)** |
| **Service Cost:** | **2.1 Million (23%)** |
| **Amortization:** | **1.4 Million (16%)** |
| **ARC:** | **3.5 Million (18%)** |

**-1%**

| | |
|---|---|
| **Accrued Liability:** | **($40.4 Million)** |
| **Service Cost:** | **(1.7 Million)** |
| **Amortization:** | **(1.1 Million)** |
| **ARC:** | **(2.8 Million)** |

*See base trend rates on page 29.

# Comparison to Prior Valuation (Total Results)



| | 7/1/2011 (4.00% Interest Rate) | 7/1/2009 (4.25% Interest Rate) | % Change |
|---|---|---|---|
| **Active AAL** | $95.4 million | $144.9 million | -34.1% |
| **Retiree AAL** | $216.1 million | $233.3 million | -7.1% |
| **Service Cost** (Normal Cost) | $6.2 million | $7.5 million | -18.4% |
| **Amortization Cost** (Length: 26 years for 2012, 28 years for 2010) | $13.1 million | $15.3 million | -14.4% |
| **Annual Required Contribution (ARC)** | $19.3 million | $22.9 million | -15.7% |
| **Pay-As-You-Go** | $12.9 million | $12.5 million | +3.2% |

# Comparison to Prior Valuation (Comments)



- Interest rate change from 4.25% to 4.00% increased NC by 5% and AAL by 4%.
- Noneconomic assumptions changes
- Retirement eligibility changed significantly
  - Many people will not be eligible for benefits or if eligible, much later

# OPEB Costs by Year [3]



| Fiscal Year | ARC | Int on NOO [1] | ARC Adj | OPEB Cost | Total Contributions [2] | Change in NOO | NOO |
|---|---|---|---|---|---|---|---|
| **2008** | $29,044,043 | NA | NA | $29,044,043 | 9,766,451 | $19,277,592 | $19,277,592 |
| **2009** | $31,011,620 | $867,492 | $733,941 | $31,145,171 | 10,032,096 | $21,113,075 | $40,390,667 |
| **2010** | $22,881,686 | $1,716,603 | $1,638,017 | $22,960,272 | 11,416,382 | $11,543,890 | $51,934,557 |
| **2011** | $24,211,420 | $2,207,219 | $2,174,140 | $24,244,499 | 12,541,409 | $11,703,090 | $63,637,647 |
| **2012** | $19,285,740 | $2,545,506 | $2,675,421 | $19,155,825 | 12,939,217 | $6,216,608 | $69,854,254 |
| **2013** | $20,257,675 | $2,794,170 | $3,043,553 | $20,008,292 | 12,953,770 | $7,054,522 | $76,908,777 |
| **2014** | $21,319,455 | $3,076,351 | $3,478,303 | $20,917,503 | 13,160,960 | $7,756,543 | $84,665,319 |
| **2015** | $22,473,806 | $3,386,613 | $3,981,561 | $21,878,858 | 13,485,986 | $8,392,872 | $93,058,191 |

(1) NOO = Net OPEB Obligation
(2) Assumes no cash contribution other than pay-as-you-go payments.
(3) Based on unfunded scenario at 4.00% discount rate for Fiscal Years 2012 on. Prior figures based on latest Pawtucket financial statements. Figures below boxed area are from this valuation.

# Annual OPEB Cost and NOO Table
## (with City figures for prior years )



| | Fiscal 2013 | Fiscal 2012 | Fiscal 2011 | Fiscal 2010 | Fiscal 2009 |
|---|---|---|---|---|---|
| Unfunded Accrued Liability | $317,959,394 | $312,260,277 | $390,466,112 | $378,184,421 | $437,601,577 |
| | | | | | |
| Service Cost | $6,404,170 | $6,157,856 | $7,865,309 | $7,544,661 | $14,351,154 |
| Amortization of UAL | $13,853,505 | $13,127,884 | $16,346,111 | $15,337,025 | $16,660,466 |
| ARC | $20,257,675 | $19,285,740 | $24,211,420 | $22,881,686 | $31,011,620 |
| | | | | | |
| Interest on NOO | $2,794,170 | $2,545,506 | $2,207,219 | $1,716,603 | $867,492 |
| ARC Adjustment | $3,043,553 | $2,675,421 | $2,174,140 | $1,638,017 | $733,941 |
| OPEB Cost | $20,008,292 | $19,155,825 | $24,244,499 | $22,960,272 | $31,145,171 |
| | | | | | |
| Premiums and Implicit Subsidy Paid | $12,953,770 | $12,939,217 | $12,541,409 | $11,416,382 | $10,032,096 |
| Cash contributions | $0 | $0 | $0 | $0 | $0 |
| Total Contribtuions | $12,953,770 | $12,939,217 | $12,541,409 | $11,416,382 | $10,032,096 |
| | | | | | |
| Change in NOO | $7,054,522 | $6,216,608 | $11,703,090 | $11,543,890 | $21,113,075 |
| | | | | | |
| NOO Beginning of Fiscal Year | $69,854,254 | $63,637,647 | $51,934,557 | $40,390,667 | $19,277,592 |
| | | | | | |
| NOO End of Fiscal Year | $76,908,777 | $69,854,254 | $63,637,647 | $51,934,557 | $40,390,667 |

# Water Dept OPEB Cost and NOO Table
## (with City figures for prior years )



| | Fiscal 2013 | Fiscal 2012 | Fiscal 2011 | Fiscal 2010 | Fiscal 2009 |
|---|---|---|---|---|---|
| Unfunded Accrued Liability | $5,596,855 | $5,495,989 | $5,373,356 | $5,372,163 | $5,115,974 |
| | | | | | |
| Service Cost | $200,747 | $193,026 | $280,980 | $269,525 | $284,267 |
| Amortization of UAL | $243,855 | $231,060 | $224,945 | $217,865 | $194,777 |
| ARC | $444,602 | $424,086 | $505,925 | $487,390 | $479,044 |
| | | | | | |
| Interest on NOO | $49,821 | $45,491 | $38,615 | $23,622 | $12,283 |
| ARC Adjustment | $54,268 | $47,813 | $35,923 | $22,540 | $10,392 |
| OPEB Cost | $440,156 | $421,764 | $508,617 | $488,472 | $480,935 |
| | | | | | |
| Premiums and Implicit Subsidy Paid | $318,644 | $313,512 | $229,447 | $186,166 | $198,083 |
| Cash contributions | $0 | $0 | $0 | $0 | $0 |
| Total Contribtuions | $318,644 | $313,512 | $229,447 | $186,166 | $198,083 |
| | | | | | |
| Change in NOO | $121,512 | $108,252 | $279,170 | $302,306 | $282,852 |
| | | | | | |
| NOO Beginning of Fiscal Year | $1,245,537 | $1,137,285 | $858,115 | $555,809 | $272,957 |
| | | | | | |
| NOO End of Fiscal Year | $1,367,048 | $1,245,537 | $1,137,285 | $858,115 | $555,809 |

# Schedule of Funding Progress[1]



| Actuarial Valuation Date | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) [Projected Unit Credit Method] (b) | Unfunded AAL UAAL (b-a) | Funded Ratio (a/b) | Covered Payroll (c) | UAAL as a percentage of Covered Payroll ((b-a)/c) |
|---|---|---|---|---|---|---|
| 7/1/2007 | $0 | $414,578 | $414,578 | 0.00% | NA | NA |
| 7/1/2009 | $0 | $378,184 | $378,184 | 0.00% | NA | NA |
| 7/1/2011 | $0 | $312,260 | $312,260 | 0.00% | $92,030 | 339.3% |

(1) All amounts in thousands

# Method and Assumptions

# Methodology



- Actuarial Cost Method
  - Projected Unit Credit
  - Per GASB, attributed over employee's working lifetime
    - Liability for past service is the accrued actuarial liability
    - Liability for this year (one year's worth) of service is the service cost (comparable to normal cost)

# Eligible Groups and Plans: City



- City, excluding Police and Fire
  - Go to Plan 65 at age 65
  - No dental (100% EE paid) or life.  No spousal coverage
- Firefighters
  - If hired before 4/1/86, in Commercial plan at age 65. Else go to Plan 65
  - No Life but Dental paid by City. Surviving spouses covered.
- Police
  - If hired before 4/28/94 in Commercial plan at age 65. Else go to Plan 65.
  - No Life but Dental paid by City.  Surviving spouses covered for 10 years.
- All coverages 100% paid for by City

# Eligible Groups and Plans : Schools



- Medical and Dental
- Small coinsurance amounts for retirees (9.0% or flat amount that is similar)
- Spouses not covered
- Coverage ends at 65
- Need 15 years of Pawtucket service to be eligible for benefits

# Eligible Participants



- Eligible groups:
  - Active employees (including teachers)
    - Currently eligible for insurance
  - Retirees, and beneficiaries
  - Surviving spouses
  - Disability retirees
- Eligibility based on retirement from Pawtucket Retirement System and State Systems (MERS and ERS). Reflects changes from RIRSA
  - ERS and MERS members have retirement ages of SSNRA with lower retirement age grandfathered based on service

# Assumptions and Methodologies



- Use open or closed amortizations
  - Assumed closed
  - 30 Years starting in Fiscal 2008
    - 26 years remaining for unfunded
    - 30 years remaining for funded
    - If used 30 years for unfunded, would decrease ARC by $1.6 million
- Assumptions
  - Interest rates
  - Trend rates
  - Retirement, disability, withdrawal and mortality tables
    - But 15 years service needed for teachers
- Funding policy

# Assumptions: Participation City



- Participation rates:
  - Participation (All): 100%
  - Current enrolled retirees: 100%
  - Spouse coverage (if applicable): 90%
- All coverages 100% paid for by the employer.
  - Premium splits will impact participation rates.

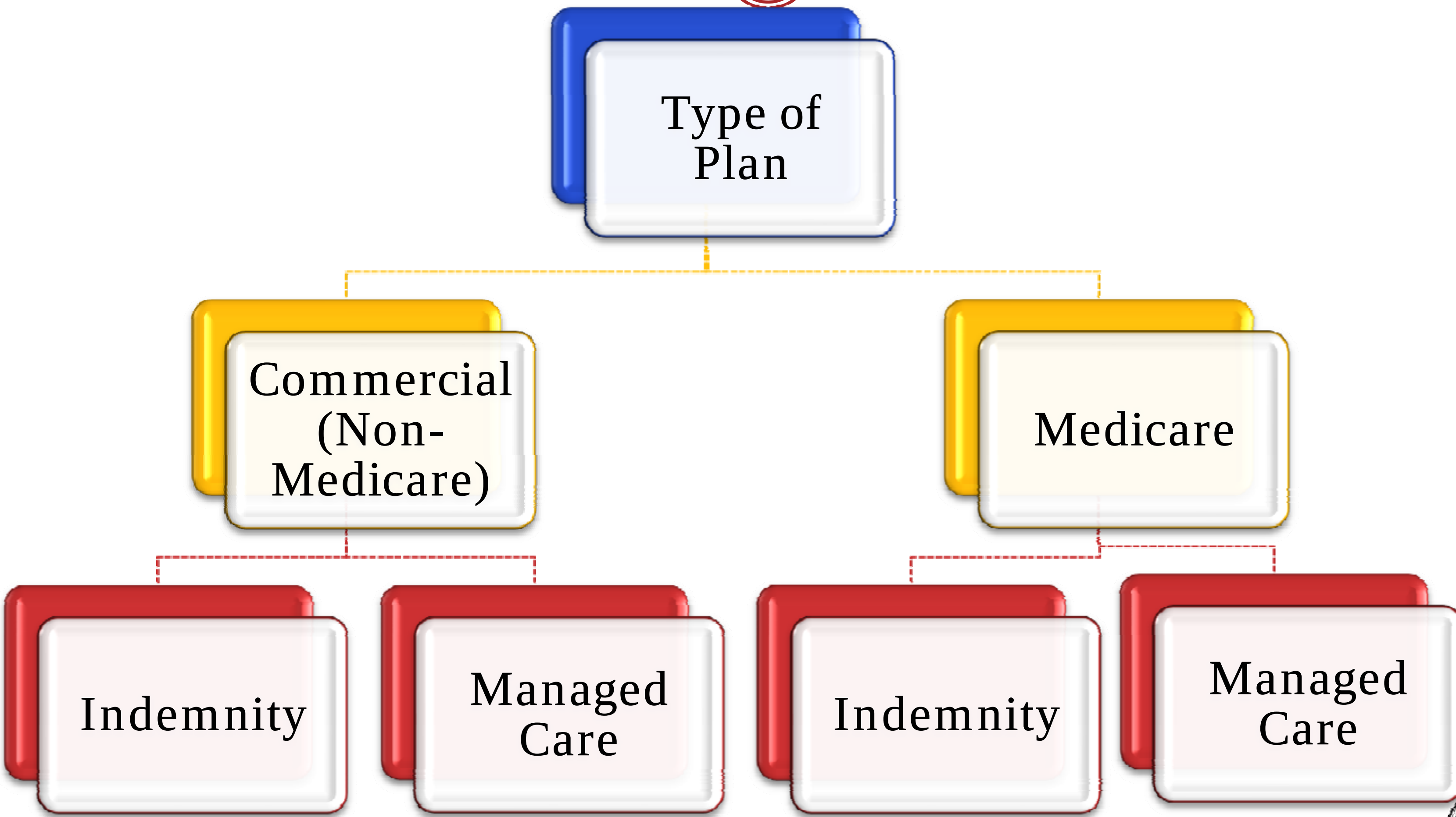
# Assumptions: Participation Schools



- Participation rates:
  - Current enrolled retirees: 100%
  - Spouse coverage: 80%
  - Participation (Medical): 100%
  - Participation (Dental): 100%
- Premium Splits:
  - Administrators and Teachers: 91% paid for by the employer
  - Non-Teachers: Flat amount.
  - Premium splits will impact participation rates.

# Assumptions: Plan Analysis





# Assumptions: Plan Selection (City)



| Status | Age | Pre-65 Retirement | 65+ Retirement |
|---|---|---|---|
| Active | Under 65 | 95% Commercial Managed Care | 95% Medicare Indemnity |
| | | 5% Commercial Indemnity | 2.5% Commercial Managed Care |
| | | | 2.5% Commercial Indemnity |
| Active | 65+ | NA | 95% Medicare Indemnity |
| | | | 2.5% Commercial Managed Care |
| | | | 2.5% Commercial Indemnity |
| Retired | Under 65 | Current Plan | 95% Medicare Indemnity |
| | | | 2.5% Commercial Managed Care |
| | | | 2.5% Commercial Indemnity |
| | | | or |
| | | | Actual Plan if already in Medicare |
| Retired | 65+ | NA | Current Plan |

# Assumptions: Plan Selection (Firefighters)



| Status | Age | Pre-65 Retirement | 65+ Retirement |
|---|---|---|---|
| Active (pre 4/1/86) | Under 65 | 90% Commercial Managed Care | 75% Commercial Indemnity |
| | | 10% Commercial Indemnity | 25% Commercial Managed Care |
| | | | or |
| Active (Post 3/31/86) | | | 100% Medicare Indemnity |
| Active (pre 4/1/86) | 65+ | NA | 75% Commercial Indemnity |
| | | | 25% Commercial Managed Care |
| | | | or |
| Active (Post 3/31/86) | | | 100% Medicare Indemnity |
| Retired (pre 4/1/86) | Under 65 | Current Plan | 75% Commercial Indemnity |
| | | | 25% Commercial Managed Care |
| | | | or |
| Retired (Post 3/31/86) | | | 100% Medicare Indemnity |
| Retired | 65+ | NA | Current Plan |

# Assumptions: Plan Selection (Police)



| Status | Age | Pre-65 Retirement | 65+ Retirement |
|---|---|---|---|
| Active (pre 4/28/94) | Under 65 | 80% Commercial Managed Care | 90% Commercial Indemnity |
| | | 20% Commercial Indemnity | 10% Commercial Managed Care |
| | | | or |
| Active (Post 4/27/94) | | | 100% Medicare Indemnity |
| Active (pre 4/28/94) | 65+ | NA | 90% Commercial Indemnity |
| | | | 10% Commercial Managed Care |
| | | | or |
| Active (Post 4/27/94) | | | 100% Medicare Indemnity |
| Retired (pre 4/28/94) | Under 65 | Current Plan | 90% Commercial Indemnity |
| | | | 10% Commercial Managed Care |
| | | | or |
| Retired (Post 4/27/94) | | | 100% Medicare Indemnity |
| Retired | 65+ | NA | Current Plan |

# Assumptions: Plan Selection (Schools)



| Status | Age | Pre-65 Retirement | 65+ Retirement |
|---|---|---|---|
| Active | Under 65 | 55% Commercial Managed Care<br>37.5% Commercial Indemnity<br>7.5% Buyback | NA |
| Active | 65+ | NA | NA |
| Retired | Under 65 | Current Plan | NA |
| Retired | 65+ | NA | NA |

# Assumptions: Claim Costs



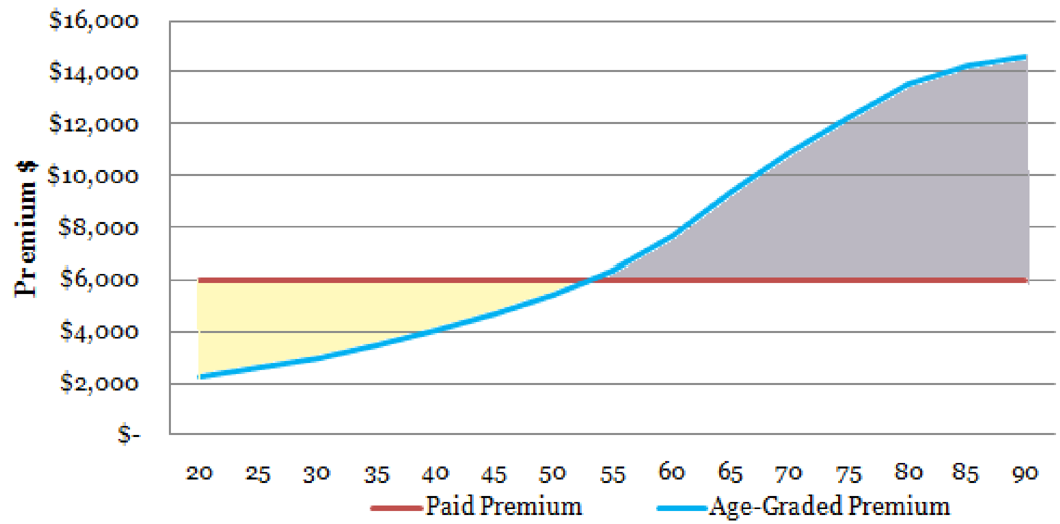
- Initial per capita health care costs based on premiums.
- Using weighted average premiums.
- Expenses included.
- Costs derived by attained age.

# Assumptions: Claims by Age



- Initial per capita health care costs:
  - Costs by attained age were derived using assumed increases in morbidity by age as follows (applies to commercial plans only):

| Age | Cost |
|---|---|
| 50 | 100 |
| 55 | 118 |
| 60 | 140 |
| 65 | 172 |
| 70 | 200 |
| 75 | 226 |
| 80 | 250 |
| 85 | 262 |
| 90 and over | 269 |




*Source: "Aging Curves for Health Care Costs in Retirement", J.P. Petertil, August 1, 2003: Study sponsored by the Society of Actuaries Health Section*

# Assumptions: Trend (City and Schools)



- Annual rate of cost increases (Trend)

| Year | Commercial Managed Care | Commercial Indemnity | Medicare Indemnity | Dental | Buyback |
|---|---|---|---|---|---|
| **2012** | -0.46% | -0.17% | 2.90% | 0.00% | 5.00% |
| **2013** | 7.00% | 8.00% | 9.00% | 7.00% | 5.00% |
| **2014** | 6.50% | 7.50% | 8.50% | 6.00% | 5.00% |
| **2015** | 6.00% | 7.00% | 8.00% | 5.50% | 5.00% |
| **2016** | 5.50% | 6.50% | 7.50% | 5.00% | 5.00% |
| **2017** | 5.00% | 6.00% | 7.00% | 5.00% | 5.00% |
| **2018** | 5.00% | 6.00% | 6.50% | 5.00% | 5.00% |
| **2019** | 5.00% | 6.00% | 6.00% | 5.00% | 5.00% |
| **2020** | 5.00% | 6.00% | 6.00% | 5.00% | 5.00% |
| **2021+** | 5.00% | 6.00% | 6.00% | 5.00% | 5.00% |

# Assumptions: Trends (Cont'd)



- Actual rate increases have varied substantially
  - Nearly impossible to predict future health care costs
  - Use of graded scale to ultimate rate is most common procedure
    - Will produce actuarial gain or loss in future years as actual experience differs from projected trend rates

# Follow-Up

# Future Valuations



- GASB accounting standard
  - Calls for actuarial valuations at least every two years to determine Annual Required Contribution (“ARC”)
  - More often if there are significant changes to the plan

# Assumptions: Claim Costs



- Initial per capita health care costs:
  - Derived claims costs were used instead of basing on actual claims
  - Using weighted average working rates for current membership
  - Considered data creditable – all with one vendor

- Insurance products in 3 categories

Commercial
- Indemnity
- Managed Care

Medicare
- Indemnity

  - Administrative expenses included in claim costs

# Assumptions: Sample Claim Costs (City Employees)



- Initial annual per capita health care costs City:
- At 7/1/2011

| Age-65 Cost Assumption | Indemnity | Managed Care | Dental |
|---|---|---|---|
| Commercial (Single) | $8,340 | $11,408 | $359 |
| Commercial Pre-65 Blended (90% Family) | $20,333 | $26,930 | $843 |
| Commercial Post-65 Blended (90% Family) | $20,333 | $26,930 | $843 |
| Medicare (Single) | $1,599 | NA | NA |

# Assumptions: Sample Claim Costs (School Employees)



- Initial annual per capita health care costs Schools:
- At 7/1/2011

| Age-65 Cost Assumption | Indemnity | Managed Care | Dental |
|---|---|---|---|
| Commercial (Single) | $7,258 | $9,599 | $516 |
| Commercial Pre-65 Blended (80% family) | $16,492 | $21,255 | $1,286 |
| Medicare (Single) | NA | NA | NA |

# Assumptions (Cont'd)



- Actual rate increases have varied substantially
  - Nearly impossible to predict future health care costs
  - Use of graded scale to ultimate rate is most common procedure
    - Will produce actuarial gain or loss in future years as actual experience differs from projected trend rates

# Next Steps



- Finalize
  - Incorporate any assumption changes, data updates or corrections
  - Final actuarial report
- Communicate to various stakeholders
- Look at plan design for savings
- Funding
  - Funding policy
  - Trust and Asset allocation policy
  - Managers and custodian

# City: Plan Information(1)



| Name of Plan | Type of Plan | Individual Rate | Retirees Enrolled | Family Rate | Retirees Enrolled | EE Contribution % |
|---|---|---|---|---|---|---|
| Classic Blue Cross | Commercial Indemnity | $816.41 | 13 | $2,113.60 | 133 | 0.00% |
| Healthmate | Commercial Managed Care | $563.56 | 35 | $1,399.54 | 193 | 0.00% |
| Blue Chip | Commercial Managed Care | $564.11 | 2 | $1,437.95 | 6 | 0.00% |
| Plan 65 | Medicare Indemnity | $157.58 | 91 | NA | NA | 0.00% |
| | | | | | | |
| Delta Dental | Dental | $26.31 | 42 | $81.96 | 147 | 0.00% |

(1) Rates shown are weighted averages of multiple plans.

# Schools: Plan Information



| Name of Plan | Type of Plan | EE Rate | Retirees Enrolled | Family Rate | Retirees Enrolled | EE Contribution % |
|---|---|---|---|---|---|---|
| Classic Blue Cross | Commercial Indemnity | $496.28 | 35 | $1,265.84 | 72 | 9.0% |
| Healthmate | Commercial Managed Care | $480.85 | 27 | $1,244.58 | 140 | 9.0% |
| Blue Chip | Commercial Managed Care | $493.41 | 1 | $1,171.83 | 0 | 9.0% |
| United | Commercial Managed Care | $719.64 | 3 | $1,722.41 | 8 | 9.0% |
| Buyback | Buyback | $250.00 | 21 | NA | NA | NA |

# City: Active Distribution



| Age Group | 0-4 | 5-9 | 10-15 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40+ | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **0-19** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **20-24** | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **6** |
| **25-29** | 24 | 23 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | **48** |
| **30-34** | 22 | 26 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | **55** |
| **35-39** | 9 | 28 | 23 | 6 | 1 | 0 | 0 | 0 | 0 | **67** |
| **40-44** | 10 | 21 | 21 | 23 | 18 | 0 | 0 | 0 | 0 | **93** |
| **45-49** | 12 | 15 | 12 | 23 | 20 | 7 | 1 | 0 | 0 | **90** |
| **50-54** | 13 | 14 | 17 | 7 | 20 | 14 | 0 | 2 | 0 | **87** |
| **55-59** | 5 | 7 | 10 | 3 | 13 | 9 | 2 | 2 | 0 | **51** |
| **60-64** | 4 | 3 | 5 | 3 | 4 | 1 | 4 | 5 | 0 | **29** |
| **65-69** | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | **4** |
| **70-74** | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | **2** |
| **75-79** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **80-84** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | **1** |
| **85-89** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **90-94** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **95-99** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **100+** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **TOTAL** | **106** | **137** | **99** | **66** | **76** | **32** | **7** | **10** | **0** | **533** |

# Schools: Active Distribution



| Age Group | 0-4 | 5-9 | 10-15 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40+ | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **0-19** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **20-24** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **25-29** | 25 | 7 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | **33** |
| **30-34** | 15 | 56 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | **93** |
| **35-39** | 9 | 31 | 56 | 16 | 0 | 0 | 0 | 0 | 0 | **112** |
| **40-44** | 13 | 28 | 52 | 35 | 4 | 0 | 0 | 0 | 0 | **132** |
| **45-49** | 15 | 21 | 41 | 22 | 34 | 2 | 0 | 0 | 0 | **135** |
| **50-54** | 11 | 21 | 30 | 46 | 31 | 15 | 3 | 0 | 0 | **157** |
| **55-59** | 5 | 17 | 31 | 36 | 27 | 10 | 3 | 0 | 0 | **129** |
| **60-64** | 1 | 9 | 17 | 20 | 30 | 3 | 2 | 2 | 1 | **85** |
| **65-69** | 0 | 3 | 5 | 3 | 6 | 1 | 0 | 1 | 1 | **20** |
| **70-74** | 0 | 0 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | **5** |
| **75-79** | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | **2** |
| **80-84** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **85-89** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **90-94** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **95-99** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **100+** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **0** |
| **TOTAL** | **94** | **193** | **258** | **179** | **135** | **31** | **8** | **3** | **2** | **903** |

# City: Retiree and Beneficiary Distribution

(Includes all retirees eligible for benefits as well as benefitciaries)



| Age Group | Number |
|---|---|
| 0-19 | 0 |
| 20-24 | 0 |
| 25-29 | 0 |
| 30-34 | 1 |
| 35-39 | 1 |
| 40-44 | 8 |
| 45-49 | 32 |
| 50-54 | 44 |
| 55-59 | 73 |
| 60-64 | 88 |
| 65-69 | 92 |
| 70-74 | 53 |
| 75-79 | 37 |
| 80-84 | 21 |
| 85-89 | 20 |
| 90-94 | 3 |
| 95-99 | 0 |
| 100+ | 0 |
| TOTAL | 473 |

# Schools: Retiree and Beneficiary Distribution

(Includes all retirees eligible for benefits as well as benefitciaries)



| Age Group | Number |
|---|---|
| **0-19** | 0 |
| **20-24** | 0 |
| **25-29** | 0 |
| **30-34** | 0 |
| **35-39** | 0 |
| **40-44** | 0 |
| **45-49** | 0 |
| **50-54** | 4 |
| **55-59** | 75 |
| **60-64** | 216 |
| **65-69** | 12 |
| **70-74** | 0 |
| **75-79** | 0 |
| **80-84** | 0 |
| **85-89** | 0 |
| **90-94** | 0 |
| **95-99** | 0 |
| **100+** | 0 |
| **TOTAL** | 307 |

## Actuarial Methods and Assumptions

| | | | |
|---|---|---|---|
| 1. | Actuarial Cost Method | Costs are attributed between past and future service using the Projected Unit Credit cost method. For attribution purposes, benefits are assumed to accrue over all employee service until decrement. | |
| 2. | Interest Rate/Discount Rate | 7.50% per year net of investment expenses for funded program.<br>4.00% per year net of investment expenses for an unfunded program | |
| 3. | Mortality | Actives: | City: 75% of the RP2000 Combined Healthy mortality table (sex-distinct) with White Collar adjustment.<br><br>Police and Fire: the RP-2000 Combined Healthy mortality table (male tables) with Blue Collar adjustment, setback 1 year.<br><br>Teachers and Administrators: 50% of the RP2000 mortality table with White Collar adjustment. |
| | | Retirees: | Male Non-Teachers: 115% of the RP-2000 Combined Healthy mortality table projected using Scale AA on a generational basis.<br><br>Female Non-Teachers: 95% of the RP-2000 Combined Healthy mortality table projected using Scale AA on a generational basis.<br><br>Teachers and Administrators: Tables provided by Gabriel, Roeder, Smith from the Employees Retirement System of RI June 30, 2011 valuation projected using Scale AA and using generational mortality.<br><br>Police and Fire: the RP-2000 Combined Healthy mortality table (male tables) with Blue Collar adjustment set forward 1 year. |
| | | Disabled: | All but police/fire: Males 60% of PBGC Table Va; Females: 60% of PBGC Table VIa. |

| | |
|---|---|
| | Police/Fire: The RP-2000 Combined Healthy mortality table (male tables) adjusted to Blue Collar set forward 1 year for males and 2 years for females. |

4. Eligibility for Vested Post-Retirement Medical Benefits upon Withdrawal

Employees who withdraw from employment and do not retire are ineligible for post-retirement medical benefits even if they are vested in their retirement benefit.

5a. Withdrawal Prior to Retirement: All Except Police and Fire

The rates shown for the following sample ages illustrate the withdrawal assumption for reasons other than retirement, disability and death. These are based on the ERS and the MERS Valuations. These rates apply to all participants but Police and Fire.

| *Years of Service* | *Male (excludes Teachers)* | *Female (excludes Teachers)* | *Male Teacher* | *Female Teacher* |
|---|---|---|---|---|
| 0 | 17.50% | 18.00% | 17.00% | 8.90% |
| 1 | 10.87% | 11.43% | 9.00% | 7.78% |
| 2 | 9.22% | 9.73% | 5.62% | 6.81% |
| 3 | 7.78% | 8.24% | 4.55% | 5.95% |
| 4 | 6.55% | 6.95% | 3.64% | 5.21% |
| 5 | 5.52% | 5.84% | 2.89% | 4.55% |
| 6 | 4.65% | 4.91% | 2.29% | 3.98% |
| 7 | 3.94% | 4.12% | 1.81% | 3.48% |
| 8 | 3.37% | 3.48% | 1.45% | 3.05% |
| 9 | 2.93% | 2.96% | 1.20% | 2.66% |
| 10 | 2.60% | 2.55% | 1.20% | 2.33% |
| 11 | 2.36% | 2,23% | 1.20% | 2.04% |
| 12 | 2.20% | 1.99% | 1.20% | 1.78% |
| 13 | 2.09% | 1.81% | 1.20% | 1.56% |
| 14 | 2.04% | 1.69% | 1.20% | 1.36% |
| 15 | 2.01% | 1.59% | 1.20% | 1.19% |
| 16 | 2.00% | 1.52% | 1.20% | 1.04% |
| 17 | 1.98% | 1.45% | 1.20% | 0.91% |
| 18 | 1.95% | 1.37% | 1.20% | 0.80% |
| 19 | 1.87% | 1.27% | 1.20% | 0.70% |
| 20 | 1.75% | 1.12% | 0.94% | 0.61% |
| 21 | 1.56% | 0.92% | 0.94% | 0.53% |
| 22 | 1.29% | 0.65% | 0.94% | 0.47% |
| 23 | 0.92% | 0.30% | 0.94% | 0.41% |
| 24 | 0.44% | 0.00% | 0.94% | 0.36% |

5b. Withdrawal Prior to Retirement: Police and Fire — None assumed.

6a. Disability Prior to Retirement (City: other than Teachers, Police and Fire)

| *Age* | *Male Accidental* | *Female Accidental* | *Male Ordinary* | *Female Ordinary* |
|---|---|---|---|---|
| 25 | 0.23% | 0.08% | 0.63% | 0.27% |
| 30 | 0.28% | 0.09% | 0.77% | 0.33% |
| 35 | 0.38% | 0.12% | 1.05% | 0.45% |
| 40 | 0.55% | 0.18% | 1.54% | 0.66% |
| 45 | 0.90% | 0.29% | 2.52% | 1.08% |
| 50 | 1.53% | 0.49% | 4.27% | 1.83% |
| 55 | 2.53% | 0.81% | 7.07% | 3.03% |
| 60 | 3.53% | 1.13% | 9.87% | 4.23% |

6b. Disability Prior to Retirement (Teachers)

| *Age* | *Male Accidental* | *Female Accidental* | *Male Ordinary* | *Female Ordinary* |
|---|---|---|---|---|
| 25 | 0.04% | 0.04% | 0.23% | 0.23% |
| 30 | 0.04% | 0.04% | 0.28% | 0.28% |
| 35 | 0.06% | 0.06% | 0.38% | 0.38% |
| 40 | 0.09% | 0.09% | 0.55% | 0.55% |
| 45 | 0.14% | 0.14% | 0.90% | 0.90% |
| 50 | 0.24% | 0.24% | 1.53% | 1.53% |
| 55 | 0.40% | 0.40% | 2.53% | 2.53% |
| 60 | 0.56% | 0.56% | 3.53% | 3.53% |

## Actuarial Methods and Assumptions
(Continued)

6c. Disability Prior to Retirement
(Police and Fire)

| Age | Male and Female Rate |
|---|---|
| 25 | 0.40% |
| 30 | 0.40% |
| 35 | 0.40% |
| 40 | 0.40% |
| 45 | 1.00% |
| 50 | 1.25% |
| 55 | 1.20% |
| 60 | 0.85% |

7a. Rates of Retirement (School Department and City)

School department employees must have 15 years of service with Pawtucket School Department to be eligible for retirement.

Separate male and female rates for general City employees. For members who reach 30 years of service before age 58, service based rates are used. For other members, age-based rates are used.;

Because of the enactment of the RIRSA in 2011, the retirement assumption was modified for members not eligible for retirement by July 1, 2012. Members who would have been assumed not retire at an earlier age under the rules in effect before the enactment of the provision changes are assumed to retire when first eligible for an unreduced benefit. This demand is recognized by adding a 10% probability for every year the member has deferred to the probability of retirement at this age.

The same approach is applied to both City employees and those in the School Department

The rates used are based on the whether an employee becomes eligible due to the service requirement, 30 years of service, or age 58 with 10 years of service (15 years in the case of non-teacher school department as discussed above). The 10% amount discussed in the prior paragraph is added to these numbers.

## Actuarial Methods and Assumptions

(Continued)

| Males (excludes Police, Fire, and Teachers) | | | | Females (excludes Police, Fire, and Teachers) | | | |
|---|---|---|---|---|---|---|---|
| Service (00/30) | | Age (58/10) | | Service (00/30) | | Age (58/10) | |
| Service | Ret Rate | Age | Ret Rate | Service | Ret Rate | Age | Ret Rate |
| 30 | 30.0% | 58 | 12.0% | 30 | 30.0% | 58 | 12.0% |
| 31 | 30.0% | 59 | 10.0% | 31 | 25.0% | 59 | 10.0% |
| 32 | 25.0% | 60 | 10.0% | 32 | 10.0% | 60 | 10.0% |
| 33 | 25.0% | 61 | 10.0% | 33 | 10.0% | 61 | 10.0% |
| 34 | 25.0% | 62 | 30.0% | 34 | 10.0% | 62 | 20.0% |
| 35 | 25.0% | 63 | 20.0% | 35 | 15.0% | 63 | 15.0% |
| 36 | 25.0% | 64 | 20.0% | 36 | 20.0% | 64 | 15.0% |
| 37 | 25.0% | 65 | 20.0% | 37 | 25.0% | 65 | 20.0% |
| 38 | 35.0% | 66 | 25.0% | 38 | 25.0% | 66 | 25.0% |
| 39 | 50.0% | 67 | 25.0% | 39 | 25.0% | 67 | 25.0% |
| 40 | 100.0% | 68 | 25.0% | 40 | 100.0% | 68 | 25.0% |
| | | 69 | 30.0% | | | 69 | 25.0% |
| | | 70 | 30.0% | | | 70 | 20.0% |
| | | 71 | 30.0% | | | 71 | 20.0% |
| | | 72 | 30.0% | | | 72 | 20.0% |
| | | 73 | 30.0% | | | 73 | 20.0% |
| | | 74 | 30.0% | | | 74 | 20.0% |
| | | 75 | 100.0% | | | 75 | 100.0% |

# Actuarial Methods and Assumptions
(Continued)

| Male Teachers | | | | Female Teachers | | | |
|---|---|---|---|---|---|---|---|
| Service (00/28) | | Age (60/10) | | Service (00/28) | | Age (60/10) | |
| Service | Ret Rate | Age | Ret Rate | Service | Ret Rate | Age | Ret Rate |
| 28 | 25.0% | 60 | 20.0% | 28 | 20.0% | 60 | 20.0% |
| 29 | 15.0% | 61 | 15.0% | 29 | 15.0% | 61 | 15.0% |
| 30 | 20.0% | 62 | 30.0% | 30 | 20.0% | 62 | 25.0% |
| 31 | 20.0% | 63 | 25.0% | 31 | 20.0% | 63 | 20.0% |
| 32 | 30.0% | 64 | 10.0% | 32 | 30.0% | 64 | 20.0% |
| 33 | 30.0% | 65 | 25.0% | 33 | 30.0% | 65 | 35.0% |
| 34 | 40.0% | 66 | 25.0% | 34 | 30.0% | 66 | 25.0% |
| 35 | 55.0% | 67 | 25.0% | 35 | 50.0% | 67 | 25.0% |
| 36 | 40.0% | 68 | 25.0% | 36 | 40.0% | 68 | 25.0% |
| 37 | 40.0% | 69 | 25.0% | 37 | 40.0% | 69 | 25.0% |
| 38 | 40.0% | 70 | 25.0% | 38 | 40.0% | 70 | 25.0% |
| 39 | 40.0% | 71 | 25.0% | 39 | 40.0% | 71 | 25.0% |
| 40 | 100.0% | 72 | 25.0% | 40 | 100.0% | 72 | 25.0% |
| | | 73 | 25.0% | | | 73 | 25.0% |
| | | 74 | 25.0% | | | 74 | 25.0% |
| | | 75 | 100.0% | | | 75 | 100.0% |

## Actuarial Methods and Assumptions
(Continued)

7b. Rates of Retirement (Police and Fire)

Retirement is based on the earlier of age 65 or years of completed service shown below.

| ***Service*** | ***Retirement Rate*** | ***Service*** | ***Retirement Rate*** |
|---|---|---|---|
| 20 | 20% | 30 | 25% |
| 21 | 7 | 31 | 20 |
| 22 | 8 | 32 | 20 |
| 23 | 20 | 33 | 35 |
| 24 | 10 | 34 | 35 |
| 25 | 10 | 35 | 50 |
| 26 | 10 | 36 | 50 |
| 27 | 10 | 37 | 50 |
| 28 | 10 | 38 | 50 |
| 26 | 10 | 39+ | 100 |

## Actuarial Methods and Assumptions

8. Claim Costs

8a. City: Initial Health Care Claim Costs

| Age | Managed Care Individual Commercial | Managed Care Blended Commercial Pre-65 | Managed Care Blended Commercial Post-65 | Indemnity Individual Commercial | Indemnity Blended Commercial Pre-65 | Indemnity Blended Commercial Post-65 | Indemnity Medicare |
|---|---|---|---|---|---|---|---|
| 55 | $7,051.59 | $18,000.38 | $18,000.38 | $5,506.54 | $13,869.84 | $13,869.84 | $1,090.44 |
| 60 | $8,415.62 | $21,482.29 | $21,482.29 | $6,571.70 | $16,552.76 | $16,552.76 | $1,301.37 |
| 65 | $10,337.71 | $26,388.77 | $26,388.77 | $8,072.65 | $20,333.35 | $20,333.35 | $1,598.60 |
| 70 | $11,984.24 | $30,591.81 | $30,591.81 | $9,358.42 | $23,571.92 | $23,571.92 | $1,853.21 |
| 75 | $13,559.07 | $34,611.83 | $34,611.83 | $10,588.19 | $26,669.47 | $26,669.47 | $2,096.74 |
| 80 | $14,970.31 | $38,214.25 | $38,214.25 | $11,690.22 | $29,445.25 | $29,445.25 | $2,314.97 |
| 85 | $15,733.95 | $40,163.57 | $40,163.57 | $12,286.54 | $30,947.25 | $30,947.25 | $2,433.06 |

8b. Teachers: Initial Health Care Claim Costs

| Age | Managed Care Individual Commercial | Managed Care Blended Commercial | Indemnity Individual Commercial | Indemnity Blended Commercial |
|---|---|---|---|---|
| 55 | $6,547.41 | $14,498.43 | $4,951.01 | $11,249.82 |
| 60 | $7,813.91 | $17,302.93 | $5,908.71 | $13,425.93 |
| 65 | $9,598.59 | $21,254.86 | $7,258.24 | $16,492.36 |
| 70 | $11,127.39 | $24,640.21 | $8,414.29 | $19,119.17 |
| 75 | $12,589.62 | $27,878.13 | $9,519.99 | $21,631.59 |
| 80 | $13,899.96 | $30,779.71 | $10,510.84 | $23,883.02 |
| 85 | $14,609.00 | $32,349.79 | $11,047.00 | $25,101.29 |

8c.Non-Teachers and Teachers: Initial Dental Claim Costs

| Age | Dental Town Individual/ | Dental Town Blended | Dental Schools Individual/ | Dental Schools Blended |
|---|---|---|---|---|
| 55 | $334.13 | $784.31 | $475.30 | $1,185.61 |
| 60 | $351.79 | $825.74 | $495.11 | $1,235.02 |
| 65 | $359.20 | $843.14 | $515.75 | $1,286.49 |
| 70 | $366.76 | $860.90 | $525.36 | $1,310.47 |
| 75 | $374.49 | $879.04 | $535.15 | $1,334.90 |
| 80 | $380.80 | $893.85 | $537.13 | $1,339.83 |
| 85 | $384.39 | $902.28 | $537.13 | $1,339.83 |

8d. Blending Factors for Different Groups (Gives % of families for pre and post 65 medical as well as Dental (all ages))

| Group | % Family |
|---|---|
| City, Pre-65 | 90.0% |
| City, Post-65 | 90.0% |
| School System | 80.0% |
| Dental(Town) | 65.0% |
| Dental(School) | 70.0% |

9. Trend Rates By Plan (City and School System)

| Year | Commercial Managed Care | Commercial Indemnity | Medicare Indemnity | Dental | Buybacks |
|---|---|---|---|---|---|
| 2011 | -0.17% | -0.46% | 2.90% | 0.00% | 5.00% |
| 2012 | 8.00% | 9.00% | 8.00% | 7.00% | 5.00% |
| 2013 | 7.50% | 8.50% | 7.50% | 6.00% | 5.00% |
| 2014 | 7.00% | 8.00% | 7.00% | 5.50% | 5.00% |
| 2015 | 6.50% | 7.50% | 6.50% | 5.00% | 5.00% |
| 2016 | 6.00% | 7.00% | 6.00% | 5.00% | 5.00% |
| 2017 | 5.50% | 6.50% | 5.50% | 5.00% | 5.00% |
| 2018 | 5.00% | 6.00% | 5.00% | 5.00% | 5.00% |
| 2019 | 5.00% | 5.50% | 5.00% | 5.00% | 5.00% |
| 2020+ | 5.00% | 5.00% | 5.00% | 5.00% | 5.00% |

## Actuarial Methods and Assumptions
(Continued)

| | | |
|---|---|---|
| 11. | Medicare Eligibility | Employees: 100%<br>Spouses: 100% |
| 12. | Participation Rates | Current retirees and spouses are assumed to continue the same coverage they have as of the valuation date. No future election of coverage is assumed for those retirees and spouses who currently have not elected coverage.<br><br>All Retirees: 100% of the active employees eligible for post-employment medical benefits are assumed to elect Medical Coverage immediately upon.<br><br>For all Retirees: Of those electing coverage, 80% are assumed to have a covered spouse at retirement. Participants with no or unknown current coverage (e.g. active employees and/or vested inactives who do not currently participate in Pawtucket's medical plans) are assumed to elect retiree coverage at the same rates as currently covered active employees. Medicare-eligible retirees currently under age 65 are assumed to elect a Medicare plan option at age 65. |
| 13. | Expenses | Administrative expenses are included in the per capita medical cost assumption. |

# Actuarial Methods and Assumptions
(Continued)

14. Plan Enrollment Rates

These are the rates are which retirees select medical plans, given that they enroll in a medical plan. The selection patterns follow the table below

| A. City Employees | | | |
|---|---|---|---|
| Status | Age | Pre-65 Retirement | 65+ Retirement |
| Active | Under 65 | 95% Commercial Managed Care<br>5% Commercial Indemnity | 95% Medicare Indemnity<br>2.5% Commercial Managed Care<br>2.5% Commercial Indemnity |
| Active | 65+ | NA | 95% Medicare Indemnity<br>2.5% Commercial Managed Care<br>2.5% Commercial Indemnity |
| Retired | Under 65 | Current Plan | 95% Medicare Indemnity<br>2.5% Commercial Managed Care<br>2.5% Commercial Indemnity<br>or<br>Actual Plan if already in Medicare |
| Retired | 65+ | NA | Current Plan |

| B. Firefighters | | | |
|---|---|---|---|
| Status | Age | Pre-65 Retirement | 65+ Retirement |
| Active | Under 65(pre 4/1/86)<br><br>Under 65 (post 3/31/86) | 90% Commercial Managed Care<br>10% Commercial Indemnity | 75% Commercial Indemnity<br>25% Commercial Managed Care<br>or<br>100% Medicare Indemnity |
| Active | 65+ (pre 4/1/86)<br><br>65+ (post 3/31/86) | NA | 75% Commercial Indemnity<br>25% Commercial Managed Care<br>or<br>100% Medicare Indemnity |
| Retired | Under 65 (pre 4/1/86)<br><br>Under 65 (post 3/31/86) | Current Plan | 75% Commercial Indemnity<br>25% Commercial Managed Care<br>or<br>100% Medicare Indemnity |
| Retired | 65+ | NA | Current Plan |

C. Police

| tatus | Age | Pre-65 Retirement | 65+ Retirement |
|---|---|---|---|
| Active | Under 65(pre 4/28/94)<br>Under 65 (post 4/27/94) | 80% Commercial Managed Care<br>20% Commercial Indemnity | 90% Commercial Indemnity<br>10% Commercial Managed Care<br>or<br>100% Medicare Indemnity |
| Active | 65+ (pre 4/28/94)<br>65+ (Post 4/27/94) | NA | 90% Commercial Indemnity<br>10% Commercial Managed Care<br>or<br>100% Medicare Indemnity |
| Retired | Under 65 (pre 4/28/94)<br>Under 65 (post 4/27/94) | Current Plan | 90% Commercial Indemnity<br>10% Commercial Managed Care<br>or<br>100% Medicare Indemnity |
| Retired | 65+ | NA | Current Plan |

D. School System

| Status | Age | Pre-65 Retirement | 65+ Retirement |
|---|---|---|---|
| Active | Under 65 | 55% Commercial Managed Care<br>37.5% Commercial Indemnity<br>7.5% Buyback | NA |
| Active | 65+ | NA | NA |
| Retired | Under 65 | Current Plan | NA |
| Retired | 65+ | NA | NA |

15. Projections

The July 1, 2011 valuation was not adjusted for timing when determining the funding schedule. This means that the Pay-as-you-go amount as well as the Actuarial Valuation results have not been modified for interest or any other timing factor in our presentation.

## Principal Plan Provisions Recognized in Valuation

| | | |
|---|---|---|
| 1. | Eligibility for Benefits | Current retirees, beneficiaries and spouses of Pawtucket are eligible for medical benefits.<br><br>Current employees who retire with a benefit from the Pawtucket Retirement Board. Spouses are only covered for police, fire, and teachers<br><br>Survivors of Pawtucket employees and retirees are also eligible for medical benefits. |
| 2. | Medical Benefits | Various Medical and Dental plans offered by Pawtucket to its own employees. |
| 3. | Retiree Contributions | Based on data provided by Pawtucket. Applicable to Teachers and School Administrators only. |

## Acknowledgement of Qualifications*

We, Lawrence Stone and Kevin Gabriel, are consultants for Stone Consulting, Inc. and are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

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