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The PFM Group
Public Financial Management, Inc.
PFM Asset Management LLC
PFM Advisors

To: Members of Chattanooga Fire and Police Pension Fund Task Force

From: Vijay Kapoor

Date: November 16, 2013

Re: Scenario Costing Request

As you know, last week I requested that the Pension Fund's actuary Segal cost a scenario which changed benefits to look more like those that existed prior to the benefit changes in 1999. I made this request to provide the Task Force with an additional data point as it continues its work.

The changes that I requested the actuary to cost included:

- Elimination of the DROP benefit
- A reduction to the Cost of Living Adjustment to 1% until the Plan's funded percentage reached 90%, and then a switch to CPI assuming a maximum of 3% as long as the funded percentage remains above 90% (Note: COLA in 1999 was tied to CPI with a maximum of 3% and member needed to be age 55 to receive it)
- Minimum age requirement of 55 (Note: This was the minimum age requirement in 1999 for those who had been hired after 11/3/1992)
- Increase in the employee contribution to 12% (Note: the employee contribution in 1999 was 8%)
- The new hire plan change proposed by the Pension Board of a 2.5% multiplier

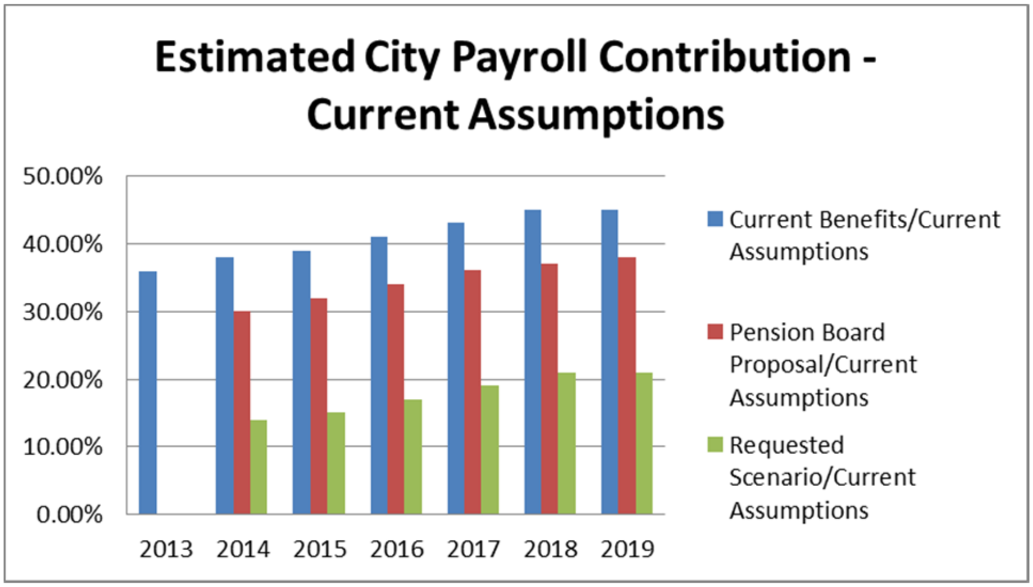
I am attaching the analysis that I received from Segal. In the tables and charts provided in this cover memorandum, I have summarized the estimated City percentage of payroll contributions for 2014-2019 based on the numbers provided in the attached analysis, from the actuarial valuation, and from previous Task Force presentations.

While not requested, Segal also provided some non-actuarial commentary and advice on the management of the workforce and their view on the likelihood of what it may look like in the future. Segal states on page 7 that "The 1999 plan changes achieved the primary goals of allowing employees to leave prior to 30 years of service and reducing the number of members who were no longer up to the physical, mental, and emotional challenges of the job. With changes of the nature described herein, a return to the pre-1999 state of the City's sworn workforce is likely."

The City asked to respond to these statements and I was provided the following from Travis McDonough. "Segal's statement implies that many of the individuals who retired soon after the benefit changes in 1999 were unfit to do their jobs. For the Pension Board's actuary to suggest that Mayor Berke's administration would allow such a situation to occur under any set of benefits is irresponsible and not credible. If a police officer or a firefighter is unfit for duty, we will address the issue directly in ways that are responsible to the taxpayer."

Analysis Under Current Assumptions

The following chart and table reflect the City percentage of payroll contributions using the current actuarial assumptions (7.75% discount rate, 10 year smoothing) if no changes were made (Current Benefits), under the Pension Board's proposal, and under the scenario that I described earlier (Requested Scenario).



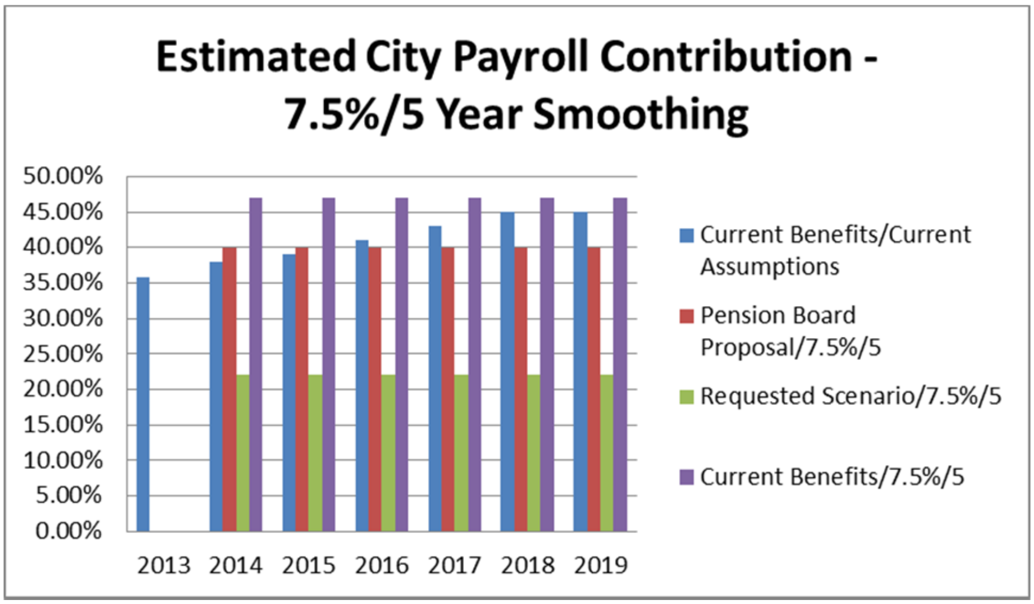
Estimated City Percentage of Payroll Contributions – Current Assumptions

	2013	2014	2015	2016	2017	2018	2019
Current Benefits/Current Assumptions	35.86%	38%	39%	41%	43%	45%	45%
Pension Board Proposal/Current Assumptions	n/a	30%	32%	34%	36%	37%	38%
Requested Scenario/Current Assumptions	n/a	14%	15%	17%	19%	21%	21%

The 2013 Current Benefit/Current Assumption percentage of payroll contributions came from page 12 of the CFPPF Actuarial Valuation and Review as of January 1, 2013. The 2014-2019 Current Benefits/Current Assumptions, Pension Board Proposal/Current Assumptions, and Requested Scenario/Current Assumption percentages of payroll contributions came from page 11 of the attached analysis dated November 14, 2013.

Analysis Under 7.5% Discount Rate, 5 Year Smoothing

The following table and chart reflect the City percentage of payroll contributions using the actuarial assumption of a 7.5% discount rate and immediately returning to the 5 year smoothing calculation. For comparison purposes, I have also included the current benefit/current assumption calculation reference above.



Estimated City Percentage of Payroll Contributions – 7.5% Discount Rate/5 Year Smoothing

	2013	2014	2015	2016	2017	2018	2019
Current Benefits/Current Assumptions	35.86%	38%	39%	41%	43%	45%	45%
Pension Board Proposal/7.5%/5	n/a	40%	40%	40%	40%	40%	40%
Requested Scenario/7.5%/5	n/a	22%	22%	22%	22%	22%	22%
Current Benefits/7.5%/5	n/a	47%	47%	47%	47%	47%	47%

The 2013 Current Benefit/Current Assumption percentage of payroll contributions came from page 12 of the CFPPF Actuarial Valuation and Review as of January 1, 2013. The 2014-2019 Current Benefits/Current Assumptions and Requested Scenario/7.5%/5 percentages of payroll contributions came from page 12 of the attached analysis dated November 14, 2013. The Current Benefits/7.5%/5 and Pension Board Proposal/7.5%/5 percentages of payroll contributions came from pages 16 and 18 respectively of Segal's October 28, 2013, presentation to the Task Force.

Attachment: Letter from Segal Consulting entitled "Chattanooga Fire & Police Pension Fund – Requested Benefit Changes" dated November 14, 2013

Segal Consulting

2018 Powers Ferry Road SE Suite 850 Atlanta, GA 30339-7200
T 678.306.3100 www.segalco.com

November 14, 2013

VIA EMAIL

Mr. Vijay Kapoor
Director, Workforce Consulting
The PFM Group
Two Logan Square
18th & Arch Streets Suite 1600
Philadelphia, PA 19103

Re: Chattanooga Fire & Police Pension Fund – Requested Benefit Changes

Dear Mr. Kapoor:

As requested, we have performed projections for the Chattanooga Fire & Police Pension Fund ("Fund", "Plan") based on your request sent to Mr. Frank Hamilton on November 5, 2013 and your answers to his request for clarification on November 6, 2013.

At your direction, the plan changes applicable to active participants have been applied to all active participants, regardless of whether or not they are currently retirement eligible. The COLA changes have been applied to retirees and beneficiaries currently in payment status, as well as to current active participants. We make no assumptions or comments regarding the legality of any requested changes, we have simply completed the projections as requested, except as noted on the following page concerning the COLA.

Plan Changes Valued

Appendix A compares the current plan of benefits and your proposed plan of benefits. A summary of the requested plan changes follows:

- Removal of DROP
- Change in Cost of Living Adjustment (COLA)
- Increase in employee contribution rate to 12%
- Change in normal retirement eligibility to age 55 with 25 years of service
- Change in Final Average Salary for participants hired prior to July 1, 1999
- Change in benefit multiplier for new hires to 2.5% per year

For purposes of this study, plan changes are assumed to occur as of January 1, 2014. The January 1, 2013 actuarial valuation, projected to January 1, 2014, is the starting point, or "baseline", for these projections.

Change in COLA as it Relates to Funded Percentage

The original request asked for a 1% COLA until the Plan's funded percentage reaches at least 90% on an actuarial value of assets basis, with a switch to CPI, assuming a maximum of 3%, as long as the funded percentage remains above 90%, and a reversion to a 1% COLA if the funded percentage is projected to dip below 90%.

As will be shown in the projections, **a change in COLA has no impact in these projections on when the Plan reaches a 90% funded level**. Although the amounts of projected employer contributions are obviously less with a lower COLA, the reduction in contributions means the Plan assets would be less as well. So, while liabilities would be less with a lesser COLA, so would assets, assuming the City continues to contribute the amounts recommended in the actuarial valuations.

The COLA as requested does not lend itself to a clear "if…then…" type of programming, analysis, and valuation of liabilities, and would be administratively complex. Instead, we have prepared your request assuming a 1% COLA ongoing as well as assuming a 2.25% COLA ongoing.

When contemplating any changes to the COLA, it should be noted that **the City of Chattanooga Firefighters and Police Officers do not participate in Social Security**. For most members, the **benefit provided by the Fund is their primary means of retirement income**.

Asset Smoothing Period

At the City's request, in an attempt to reduce its increased contribution requirement brought on by market losses in 2008, the Board agreed, with the January 1, 2010 actuarial valuation, to retroactively apply a 10-year smoothing period to asset losses from 2008 and 2009 and to keep the 10-year smoothing period ongoing. With the 2013 valuation, 50% of the asset loss from 2008 had been recognized, with 50% still to be recognized over the next five valuations.

The projections have been performed under two different asset methods: 1) assuming the current ten-year smoothing period continues until the gain first established in the 2013 valuation is fully recognized, with a switch to five-year smoothing thereafter, and 2) fully recognizing the remaining 2008 plan year asset loss immediately, and recalculating the as yet unrecognized asset gains/losses from 2009-2013 as if they had originally been determined using five-year asset smoothing.

As will be shown, changing to the five-year asset smoothing methodology immediately does produce savings of, on average, approximately $400,000 per year. **Over the next four years, however, projected contributions are significantly higher if you recognized the losses outstanding from 2008 immediately.**

Projections Performed

Projections on the following ten (10) scenarios are included in this letter:

Scenario	Plan Provisions	COLA	Discount Rate / Inflation	Asset Smoothing Period
1	Current	3.00%	7.75% / 3.25%	10 years
2	Board's Proposal	2.25%	7.75% / 3.25%	10 years
3	Proposed	1.00%	7.75% / 3.25%	10 years
4	Proposed	1.00%	7.75% / 3.25%	5 years
5	Proposed	2.25%	7.75% / 3.25%	10 years
6	Proposed	2.25%	7.75% / 3.25%	5 years
7	Proposed	1.00%	7.50% / 3.00%	10 years
8	Proposed	1.00%	7.50% / 3.00%	5 years
9	Proposed	2.25%	7.50% / 3.00%	10 years
10	Proposed	2.25%	7.50% / 3.00%	5 years

Expected Change in Retirement Patterns Due To Change in Retirement Eligibility

The Pension Board adopted an updated set of assumptions for the Plan effective January 1, 2010, as recommended in the most recent experience study for the period January 1, 2005 – December 31, 2009. The next experience study is due to be performed prior to the January 1, 2015 actuarial valuation and will cover the period January 1, 2010 – December 31, 2014.

If the DROP is removed, and a minimum retirement age of 55 is implemented, we expect retirement patterns to differ from those currently projected, as shown in Graphs 1 and 2. Graphs 1 and 2 are based on the data used in the January 1, 2013 actuarial valuation and show the 725 active participants as of January 1, 2013 who will not have at least 25 years of service as of January 1 2014.

Graph 1 shows the distribution of 569 active participants that will have at least 25 years of service prior to reaching age 55. Graph 2 shows the distribution of 196 active participants that will reach 25 years of service after turning age 55.

As can be seen in these graphs, the majority of currently active participants would be forced to work more than 25 years before they are eligible to retire (Graph 1), with **252** of these 569 **participants having to work between 30 – 33 years before they would be eligible to retire**. In the January 1, 2013 actuarial valuation, only three (3) active participants had greater than 30 years of service.

In Graph 2, we see that 196 participants will have to work to between ages 55 – 70 before they achieve 25 years of service.

Because of what would be an older and longer-service workforce, we have modified retirement rates and disability rates.

It is assumed that Fund participants would know of any pending changes prior to implementation, and that those currently eligible to retire would be able to do so under the current plan provisions prior to implementation of any new benefit or retirement eligibility changes. We are assuming a spike in retirements by these participants after the announcement of any plan changes and before their implementation. We have also modified retirement rates ongoing to account for the change in retirement eligibility.

Along with the change in retirement patterns, we have increased the assumed incidence of disability and lowered the on-the-job disability assumption from 67% to 50%.

For these projections, all actuarial assumptions and methodologies, as well as demographic and economic data, are the same as those used in the January 1, 2013 actuarial valuation, unless stated otherwise in this report and noted in Appendix B.

Appendix B shows the retirement rates in use in the January 1, 2013 actuarial valuation and in this study.

The current disability rates are 25% of the OASDI disability rates. For these studies, we are using the full OASDI disability rates.

For the scenarios that use a 7.50% discount rate, we have changed the inflation and salary growth components to 3.00% and reflected this decrease in the current salary scales.

Retirement at Age 65 if Less than 25 Years of Service

The Plan currently allows for retirement with a terminated vested benefit after age 55 and 10 years of service, with a reduced benefit multiplier of 2.4%. This is a feature of the Plan that is not currently taken advantage of very often, as most participants that terminate prior to 25 years of service take a refund of member contributions instead of leaving their money in the Fund and opting for a future monthly benefit.

The Plan does not allow for retirement at age 65 with less than 25 years of service. One of the assumptions made in these projections for the requested plan changes is that anyone who is vested (10 years of service) and reaches age 65 prior to having obtained 25 years of service will not wait until they reach 25 years of service but will instead retire with a terminated vested benefit.

Employee's Share of Normal Cost

The recommended employer contribution has two components: the employer's (city's) normal cost and the payment on the Unfunded Actuarial Accrued Liability (UAAL). The normal cost is essentially the cost attributable to benefits earned by active participants during the plan year.

The Total Normal Cost (employer's normal cost plus employee contributions) as of January 1, 2014, under the current benefit structure, is projected to be 17.00% of payroll. The blended employee contribution rate is projected to be 8.71% of pay, leaving a city normal cost of 8.29%

of pay, excluding administrative expenses. This equates to employees paying approximately 51% of the cost of future benefit accruals.

Under the Board's proposal, the Total Normal Cost is projected to be 14.86% of payroll, and the employees would pay 65% of the cost of their future benefit accruals.

As shown in the table below, under the requested scenarios, the Total Normal Cost percentages range from 12.94% to 14.78%. With employee contributions of 12% of pay, under your proposed plan, ***employees would pay between 81% to 93% of their future benefit accruals.***

Scenarios	Plan Provisions	COLA	Discount Rate / Inflation	Total Normal Cost as a Percentage of Payroll	Employee Portion of Total Normal Cost	Ciy Portion of Total Normal Cost
1	Current	3.00%	7.75% / 3.25%	17.00%	51%	49%
2	Board's Proposal	2.25%	7.75% / 3.25%	14.86%	65%	35%
3 & 4	Proposed	1.00%	7.75% / 3.25%	12.94%	93%	7%
5 & 6	Proposed	2.25%	7.75% / 3.25%	14.43%	83%	17%
7 & 8	Proposed	1.00%	7.50% / 3.00%	13.22%	91%	9%
9 & 10	Proposed	2.25%	7.50% / 3.00%	14.78%	81%	19%

Scenario 1 - The employee's portion is projected to decline to 47% by the end of the projection period.
Scenario 2 - The employee's portion is projected to decline to 61% by the end of the projection period.
Sceanrios 3- 10 - The employee's portion is projected to remain level throughout the projection period.

This data is shown graphically in Graph 9.

As with all projections, the Total Normal Cost as a percentage of pay is not guaranteed to remain level and may fluctuate over time.

Minimum City Contribution of 10%

The current City ordinance states the City will contribute a minimum of 10% of payroll to the Fund. We have not included this requirement in these projections. If this requirement in the ordinance is maintained, the City would have increased contributions from those shown herein once the Fund is projected to become fully funded.

Projections – Through January 1, 2044

As requested, we have prepared projections based on the current plan of benefits and the plan and assumption changes described herein. The projections run through the January 1, 2044 plan year. All plan changes for purposes of these projections are assumed to occur as of January 1, 2014.

Graphs 3 - 8 show projected City contributions as a percentage of pay (Graphs 3 and 4) and dollar amount (Graphs 5 and 6), as well as projected funded percentage (Graphs 7 and 8).

All dollar amounts and percentages in the graphs reflect rounded numbers. All dollar amounts are rounded to the nearest million.

Projected City Contributions

Ten sets of projected city contributions are shown below. The contributions are for the plan years 2014 – 2044.

Scenario	Plan Provisions	COLA	Discount Rate / Inflation	Asset Smoothing Period	Projected Contributions (in Millions)
1	Current	3.00%	7.75% / 3.25%	10 years	$724
2	Board's Proposal	2.25%	7.75% / 3.25%	10 years	$598
3	Proposed	1.00%	7.75% / 3.25%	10 years	$331
4	Proposed	1.00%	7.75% / 3.25%	5 years	$319
5	Proposed	2.25%	7.75% / 3.25%	10 years	$458
6	Proposed	2.25%	7.75% / 3.25%	5 years	$445
7	Proposed	1.00%	7.50% / 3.00%	10 years	$342
8	Proposed	1.00%	7.50% / 3.00%	5 years	$330
9	Proposed	2.25%	7.50% / 3.00%	10 years	$469
10	Proposed	2.25%	7.50% / 3.00%	5 years	$457

Non-Pension Costs and Possible Unintended Consequences

The requested plan changes would undoubtedly lower projected city contributions to the Fund. However, other costs would rise as a result of these plan changes, although these are not costs we are in a position to quantify. Regardless, these items should be taken into consideration when contemplating possible changes to retirement benefits.

One result of a minimum retirement age of 55 is that participants will be forced to work longer than they would have otherwise (see Graph 1). As a result, these participants will remain on the City's payroll for a longer period of time, presumably with escalating pay, and, while working, will not be replaced by younger employees making far less in salary.

Aside from an increase in payroll, the City's healthcare costs will assuredly increase for two reasons. First, as employees work longer and retire at older ages, their healthcare needs will increase. Second, active employees only pay 20% of their health insurance costs, while retired participants pay 30%.

Aside from the direct costs involved with an older, longer-working workforce are the issues of promotion and retention. With the glut of longer-service employees that will develop, the problem may once again arise of limited opportunities for promotion for younger, more able-bodied employees. If opportunities for advancement are limited, employee retention issues may develop.

Under the requested scenarios, we envision a return to the problems that necessitated the plan design changes of 1999. That is, the Fire and Police departments will once again become top-heavy, with older, likely less able-bodied workers. The 1999 plan changes achieved the primary goals of allowing employees to leave prior to 30 years of service and reducing the number of members who were no longer up to the physical, mental, and emotional challenges of the job. With changes of the nature described herein, a return to the pre-1999 state of the City's sworn workforce is likely.

GASB Changes

In June 2012, the Governmental Accounting Standards Board (GASB) approved two new statements, Statement No. 67, *Financial Reporting for Pension Plans*, and Statement No. 68, *Accounting and Financial Reporting for Pensions*. These statements replace Statement No. 25, *Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans*, and Statement No. 27, *Accounting for Pensions by State and Local Governmental Employers*. These new statements change how the Fund and the City has to calculate its liabilities for financial disclosures, but do not change how the Fund or the City has to calculate its liabilities for its contribution requirements.

GASB No. 67 is effective for fiscal years beginning after June 15, 2013 and GASB No. 68 is effective for fiscal years beginning after June 15, 2014.

The projections contained herein are based on the current methodology for calculating contribution requirements and do not consider the reporting requirements of either GASB No. 67 or GASB No. 68.

Caveats

Segal does not practice law and is not in a position to comment on the legality of the proposed benefit changes, nor are we recommending any specific changes. The proposed studies were requested by PFM and the City.

Actual results may differ significantly from the measurements shown in the attached projections due to such factors as: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the smoothing of investment gains or losses); changes in plan provisions or applicable laws; and the City contributing amounts other than those recommended. The projections assume no future economic or demographic losses.

The projections contained herein assume the City contributes the recommended contribution dollar amount projected for each fiscal year.

The results of these projections are not a guarantee of future performance and should be used as a guideline, not an absolute, while making decisions regarding the future of the Fund.

The information contained in this letter was prepared for use by PFM and the City of Chattanooga for internal planning purposes. We are not responsible for representations made by PFM or the City regarding the information herein to any third parties. Please note that care should be taken in using the information in this letter, including the attachments, independent of the whole letter to avoid possible misinterpretation of the results.

We, Leon F. (Rocky) Joyner, Jr. and Jeffrey S. Williams, are members of the American Academy of Actuaries and meet their Qualification Standards to render the actuarial opinion herein.

Once you have had a chance to review the results, please let us know if you have any questions.

Sincerely yours,

Leon F. (Rocky) Joyner, Jr., FCA, ASA, MAAA, EA
Vice President & Consulting Actuary

Jeffrey S. Williams, FCA, ASA, MAAA, EA
Consulting Actuary

cc: Pension Board, CFPPF
Mr. Frank Hamilton, CFPPF
Mr. Bill Robinson, Pension Board Attorney
Ms. Danelle Cook, Segal
Mr. Adam Benson, PFM

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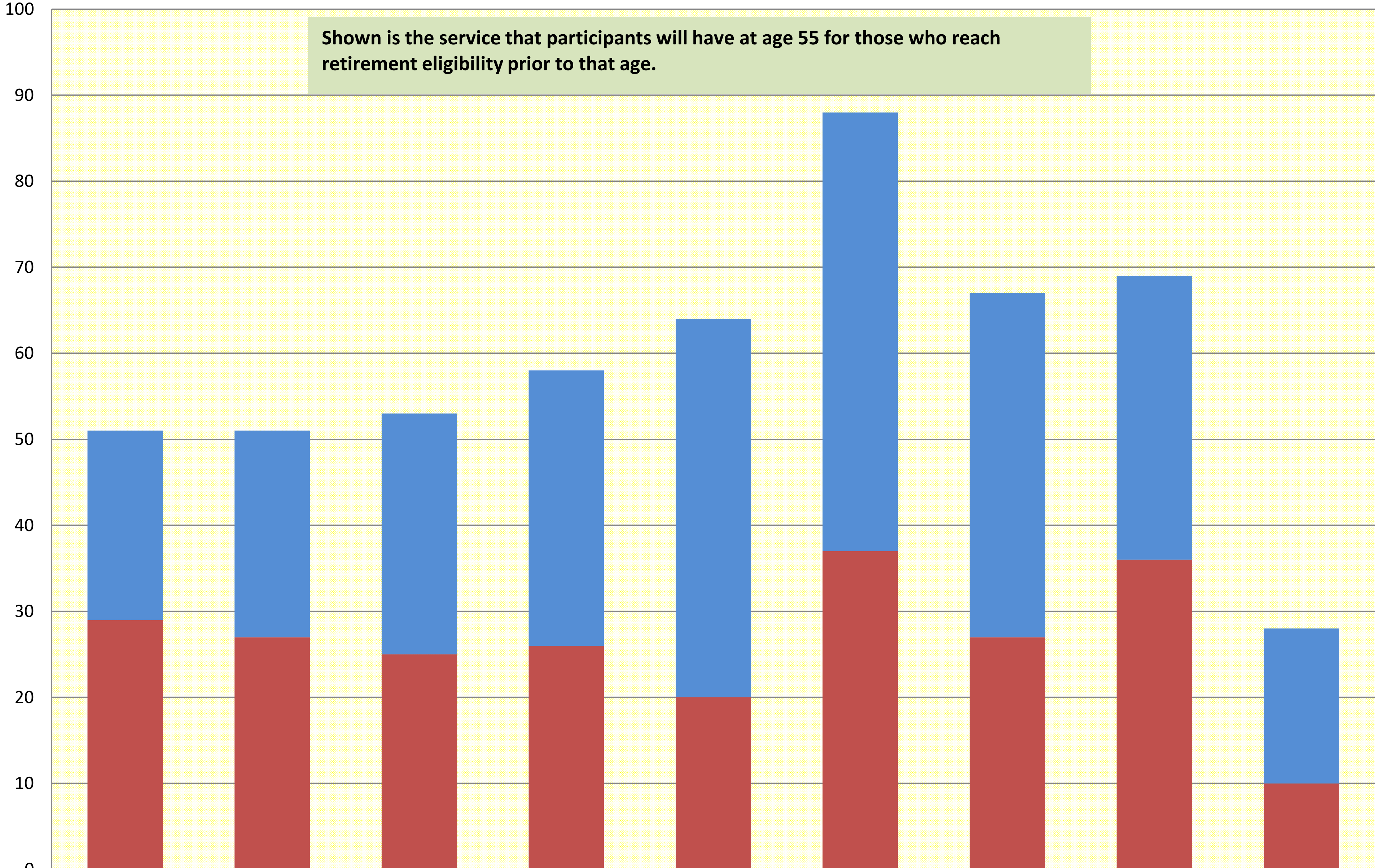
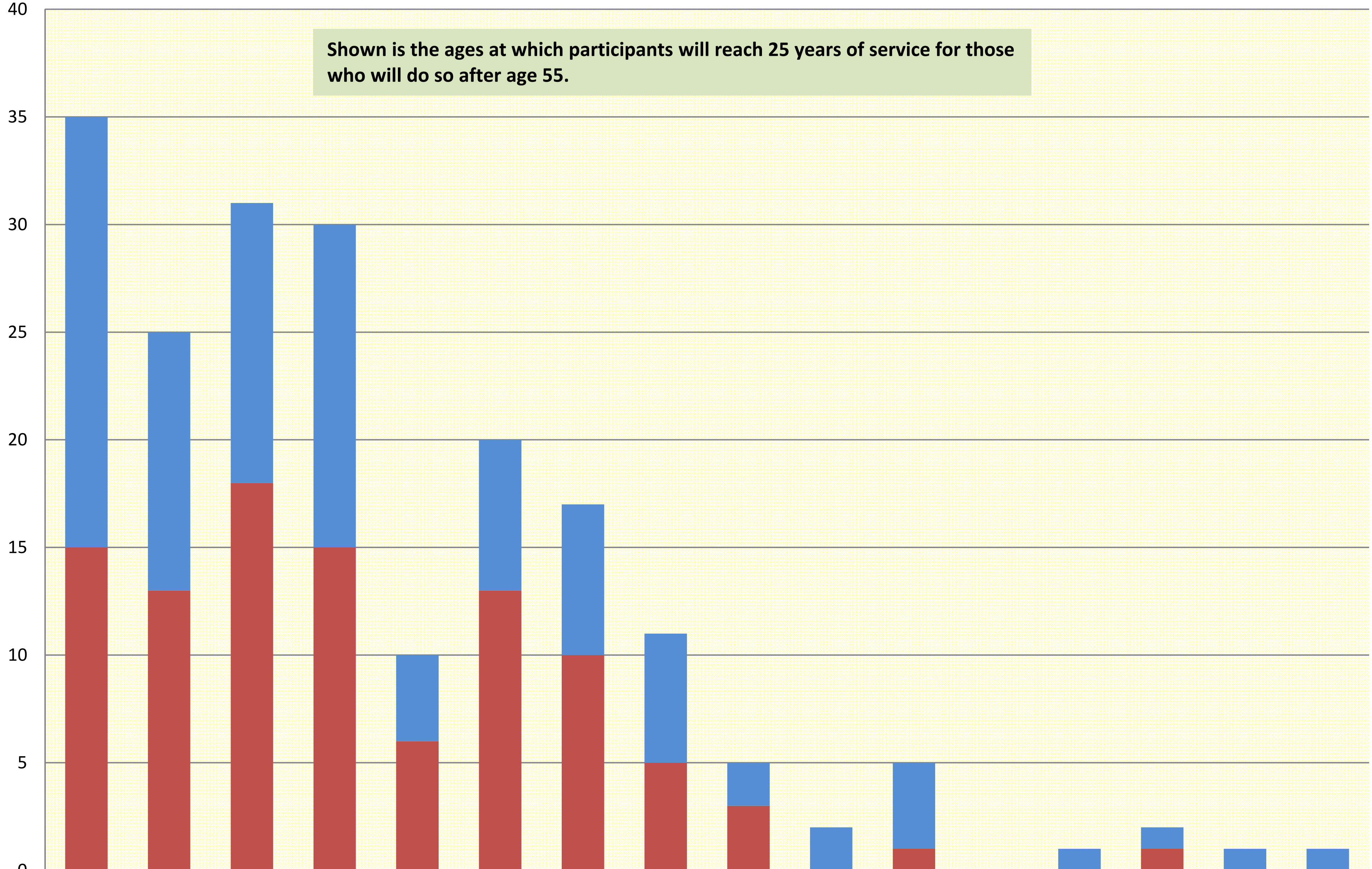
Chattanooga Fire & Police Pension Fund
Actives Not Retirement Eligible as of January 1, 2014



Service	25-26	26-27	27-28	28-29	29-30	30-31	31-32	32-33	33-34
Police	22	24	28	32	44	51	40	33	18
Fire	29	27	25	26	20	37	27	36	10

Chattanooga Fire & Police Pension Fund

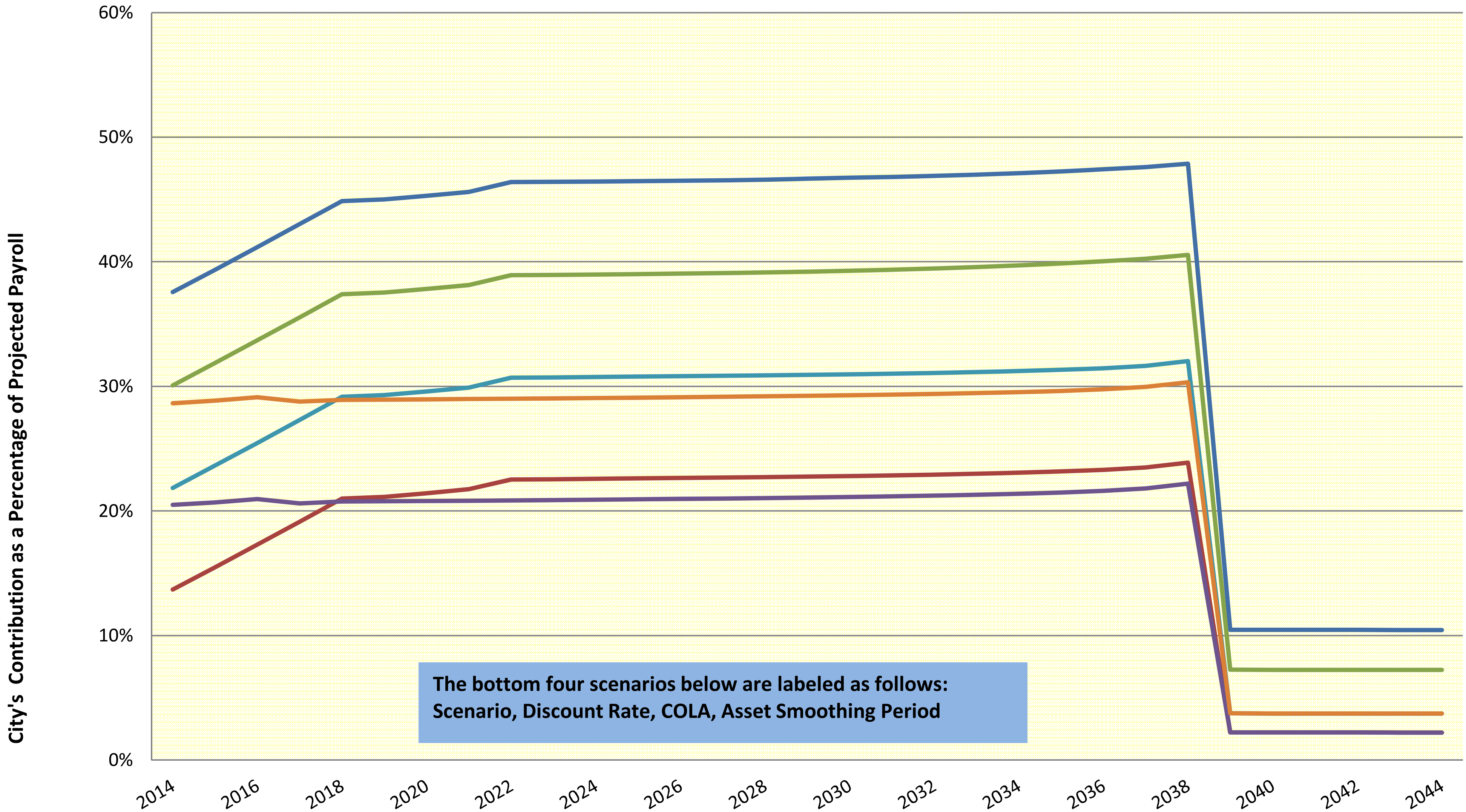
Actives Not Retirement Eligible As of January 1, 2014



Age	55-56	56-57	57-58	58-59	60-61	61-62	62-63	63-64	64-65	65-66	66-67	67-68	68-69	69-70	70-71	71-72
Police	20	12	13	15	4	7	7	6	2	2	4	0	1	1	1	1
Fire	15	13	18	15	6	13	10	5	3	0	1	0	0	1	0	0

Chattanooga Fire & Police Pension Fund

Projection of City's Contribution Rate as a Percentage of Payroll

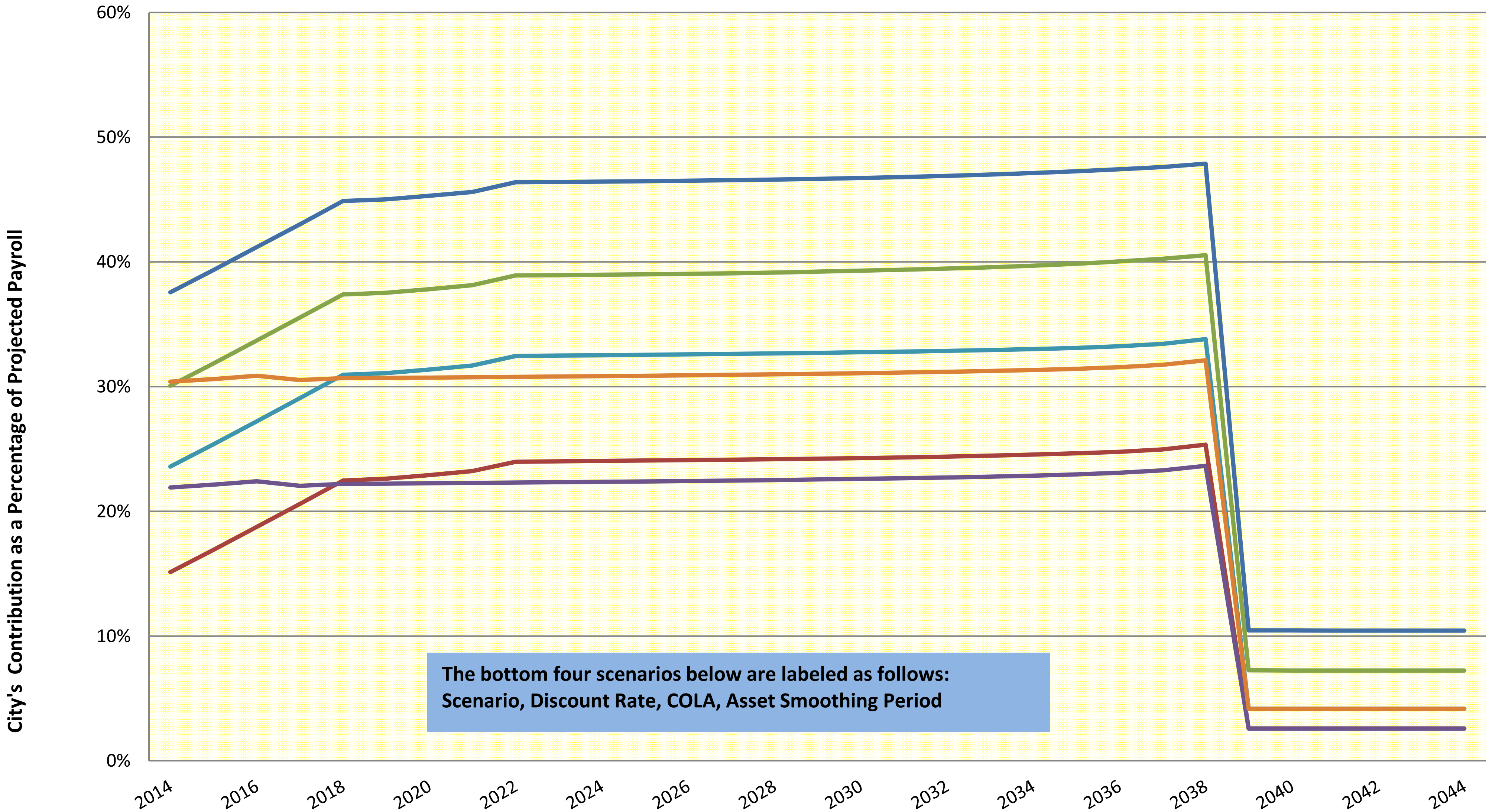


	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1, 7.75% - Current	38%	39%	41%	43%	45%	45%	45%	46%	46%	46%	46%	46%	46%	47%	47%	47%
2, 7.75% - Board	30%	32%	34%	36%	37%	38%	38%	38%	39%	39%	39%	39%	39%	39%	39%	39%
3, 7.75%, 1.00%, 10	14%	15%	17%	19%	21%	21%	21%	22%	23%	23%	23%	23%	23%	23%	23%	23%
4, 7.75%, 1.00%, 5	20%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
5, 7.75%, 2.25%, 10	22%	24%	25%	27%	29%	29%	30%	30%	31%	31%	31%	31%	31%	31%	31%	31%
6, 7.75%, 2.25%, 5	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%	29%

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044
1, 7.75% - Current	47%	47%	47%	47%	47%	47%	47%	48%	48%	10%	10%	10%	10%	10%	10%
2, 7.75% - Board	39%	39%	39%	40%	40%	40%	40%	40%	41%	7%	7%	7%	7%	7%	7%
3, 7.75%, 1.00%, 10	23%	23%	23%	23%	23%	23%	23%	23%	24%	2%	2%	2%	2%	2%	2%
4, 7.75%, 1.00%, 5	21%	21%	21%	21%	21%	21%	22%	22%	22%	2%	2%	2%	2%	2%	2%
5, 7.75%, 2.25%, 10	31%	31%	31%	31%	31%	31%	31%	32%	32%	4%	4%	4%	4%	4%	4%
6, 7.75%, 2.25%, 5	29%	29%	29%	29%	30%	30%	30%	30%	30%	4%	4%	4%	4%	4%	4%

Chattanooga Fire & Police Pension Fund

Projection of City's Contribution Rate as a Percentage of Payroll

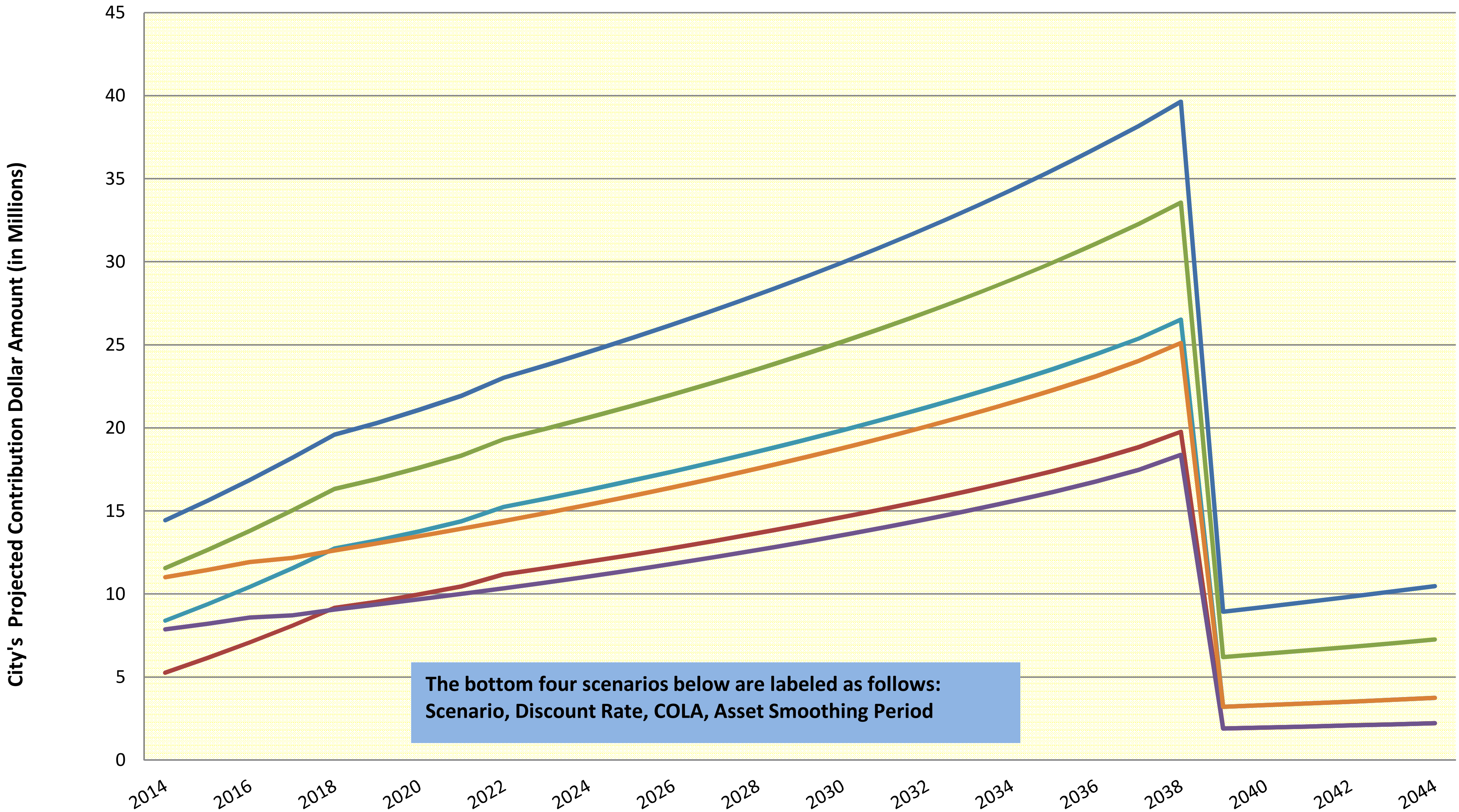


	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
1, 7.75% - Current	38%	39%	41%	43%	45%	45%	45%	46%	46%	46%	46%	46%	46%	47%	47%
2, 7.75% - Board	30%	32%	34%	36%	37%	38%	38%	38%	39%	39%	39%	39%	39%	39%	39%
7, 7.50%, 1.00%, 10	15%	17%	19%	21%	22%	23%	23%	23%	24%	24%	24%	24%	24%	24%	24%
8, 7.50%, 1.00%, 5	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%	23%
9, 7.50%, 2.25%, 10	24%	25%	27%	29%	31%	31%	31%	32%	32%	32%	33%	33%	33%	33%	33%
10, 7.50%, 2.25%, 5	30%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%

	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044
1, 7.75% - Current	47%	47%	47%	47%	47%	47%	47%	47%	48%	48%	10%	10%	10%	10%	10%	10%
2, 7.75% - Board	39%	39%	39%	39%	40%	40%	40%	40%	40%	41%	7%	7%	7%	7%	7%	7%
7, 7.50%, 1.00%, 10	24%	24%	24%	24%	24%	25%	25%	25%	25%	25%	3%	3%	3%	3%	3%	3%
8, 7.50%, 1.00%, 5	23%	23%	23%	23%	23%	23%	23%	23%	23%	24%	3%	3%	3%	3%	3%	3%
9, 7.50%, 2.25%, 10	33%	33%	33%	33%	33%	33%	33%	33%	33%	34%	4%	4%	4%	4%	4%	4%
10, 7.50%, 2.25%, 5	31%	31%	31%	31%	31%	31%	31%	32%	32%	32%	4%	4%	4%	4%	4%	4%

Chattanooga Fire & Police Pension Fund

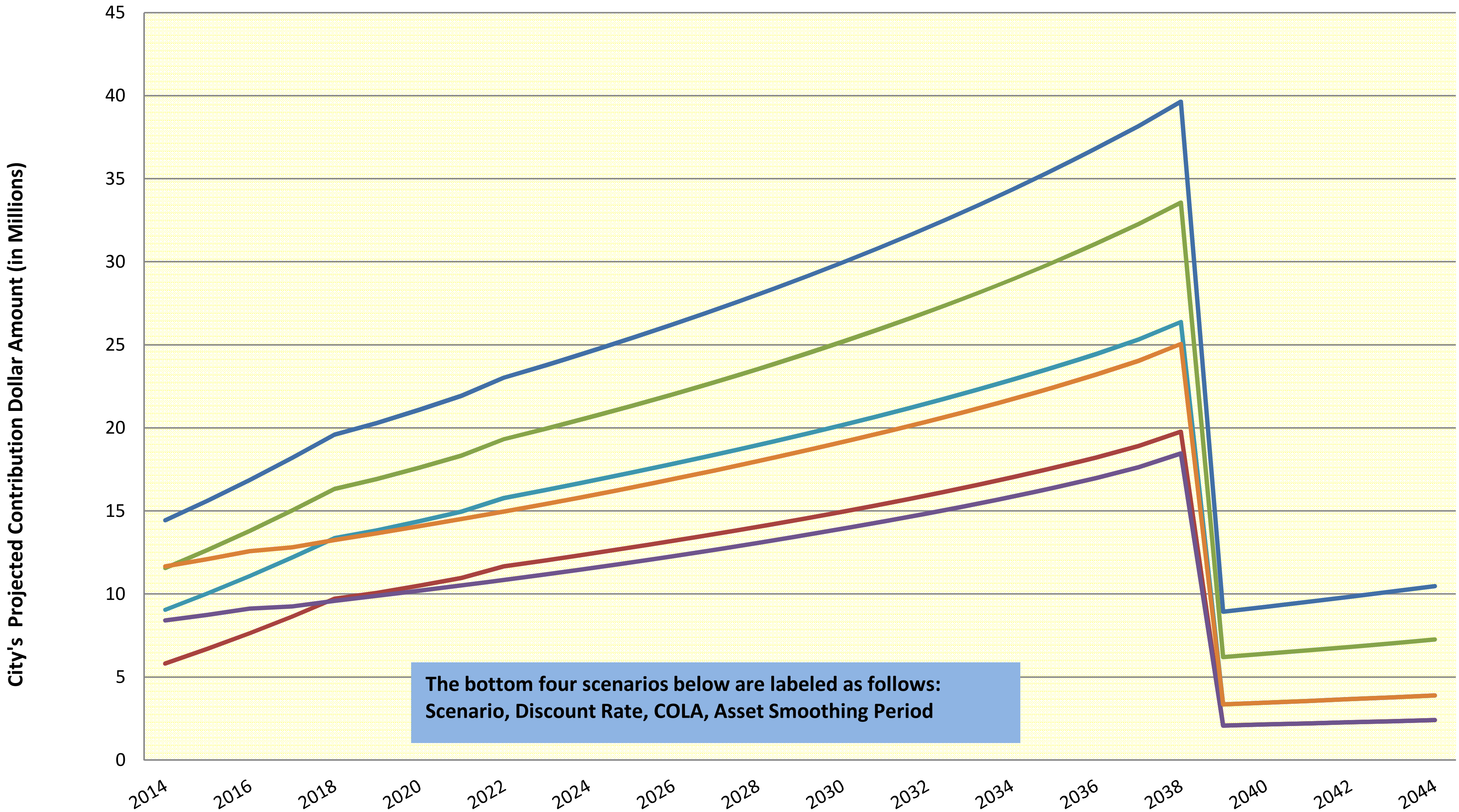
Projection of City's Contribution as a Dollar Amount (in Millions)



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044
1, 7.75% - Current	14	16	17	18	20	20	21	22	23	24	25	25	26	27	28	29	30	31	32	33	34	36	37	38	40	9	9	10	10	10	10
2, 7.75% - Board	12	13	14	15	16	17	18	18	19	20	21	21	22	23	24	24	25	26	27	28	29	30	31	32	34	6	6	7	7	7	7
3, 7.75%, 1.00%, 10	5	6	7	8	9	10	10	10	11	12	12	12	13	13	14	14	15	15	16	16	17	17	18	19	20	2	2	2	2	2	2
4, 7.75%, 1.00%, 5	8	8	9	9	9	9	10	10	10	11	11	11	12	12	13	13	14	14	15	15	16	16	17	17	18	2	2	2	2	2	2
5, 7.75%, 2.25%, 10	8	9	10	12	13	13	14	14	15	16	16	17	17	18	19	19	20	21	21	22	23	24	24	25	27	3	3	3	4	4	4
6, 7.75%, 2.25%, 5	11	11	12	12	13	13	13	14	14	15	15	16	16	17	18	18	19	19	20	21	22	22	23	24	25	3	3	3	4	4	4

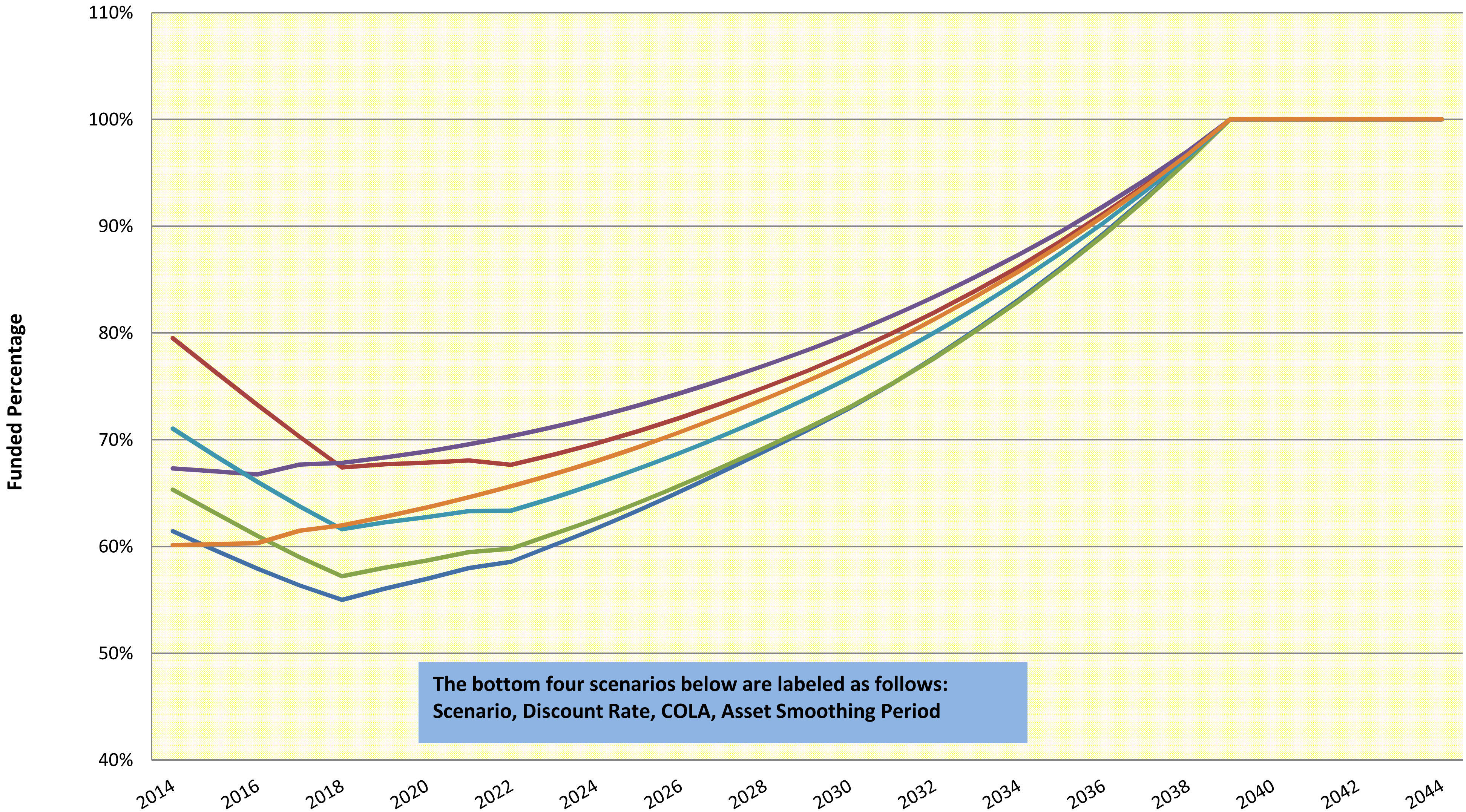
Chattanooga Fire & Police Pension Fund

Projection of City's Contribution as a Dollar Amount (in Millions)



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044
1, 7.75% - Current	14	16	17	18	20	20	21	22	23	24	25	25	26	27	28	29	30	31	32	33	34	36	37	38	40	9	9	10	10	10	10
2, 7.75% - Board	12	13	14	15	16	17	18	18	19	20	21	21	22	23	24	24	25	26	27	28	29	30	31	32	34	6	6	7	7	7	7
7, 7.50%, 1.00%, 10	6	7	8	9	10	10	10	11	12	12	12	13	13	14	14	14	15	15	16	16	17	18	18	19	20	2	2	2	2	2	2
8, 7.50%, 1.00%, 5	8	9	9	9	10	10	10	11	11	11	12	12	12	13	13	13	14	14	15	15	16	16	17	18	18	2	2	2	2	2	2
9, 7.50%, 2.25%, 10	9	10	11	12	13	14	14	15	16	16	17	17	18	18	19	20	20	21	21	22	23	24	24	25	26	3	3	4	4	4	4
10, 7.50%, 2.25%, 5	12	12	13	13	13	14	14	15	15	15	16	16	17	17	18	19	19	20	20	21	22	22	23	24	25	3	3	4	4	4	4

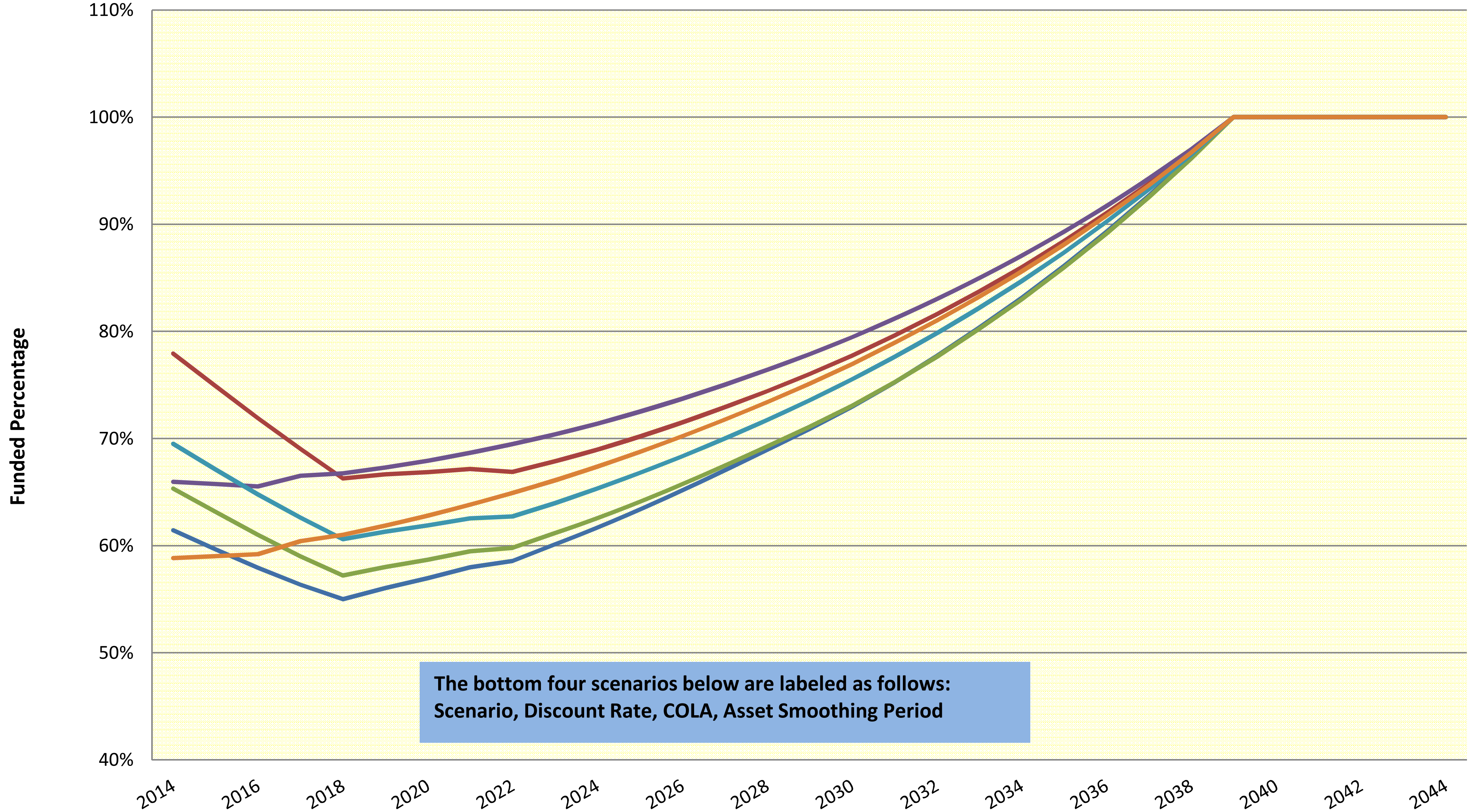
Chattanooga Fire & Police Pension Fund
Projection of Funded Percentage



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
1, 7.75% - Current	61%	60%	58%	56%	55%	56%	57%	58%	59%	60%	62%	63%	65%	67%	69%
2, 7.75% - Board	65%	63%	61%	59%	57%	58%	59%	59%	60%	61%	63%	64%	66%	67%	69%
3, 7.75%, 1.00%, 10	80%	76%	73%	70%	67%	68%	68%	68%	68%	69%	70%	71%	72%	73%	75%
4, 7.75%, 1.00%, 5	67%	67%	67%	68%	68%	68%	69%	70%	70%	71%	72%	73%	74%	76%	77%
5, 7.75%, 2.25%, 10	71%	69%	66%	64%	62%	62%	63%	63%	63%	65%	66%	67%	69%	70%	72%
6, 7.75%, 2.25%, 5	60%	60%	60%	61%	62%	63%	64%	65%	66%	67%	68%	69%	71%	72%	74%

	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044
1, 7.75% - Current	71%	73%	75%	78%	80%	83%	86%	89%	93%	96%	100%	100%	100%	100%	100%	100%
2, 7.75% - Board	71%	73%	75%	78%	80%	83%	86%	89%	93%	96%	100%	100%	100%	100%	100%	100%
3, 7.75%, 1.00%, 10	76%	78%	80%	82%	84%	86%	89%	91%	94%	97%	100%	100%	100%	100%	100%	100%
4, 7.75%, 1.00%, 5	78%	80%	82%	83%	85%	87%	89%	92%	94%	97%	100%	100%	100%	100%	100%	100%
5, 7.75%, 2.25%, 10	74%	76%	78%	80%	82%	85%	87%	90%	93%	97%	100%	100%	100%	100%	100%	100%
6, 7.75%, 2.25%, 5	75%	77%	79%	81%	83%	86%	88%	91%	94%	97%	100%	100%	100%	100%	100%	100%

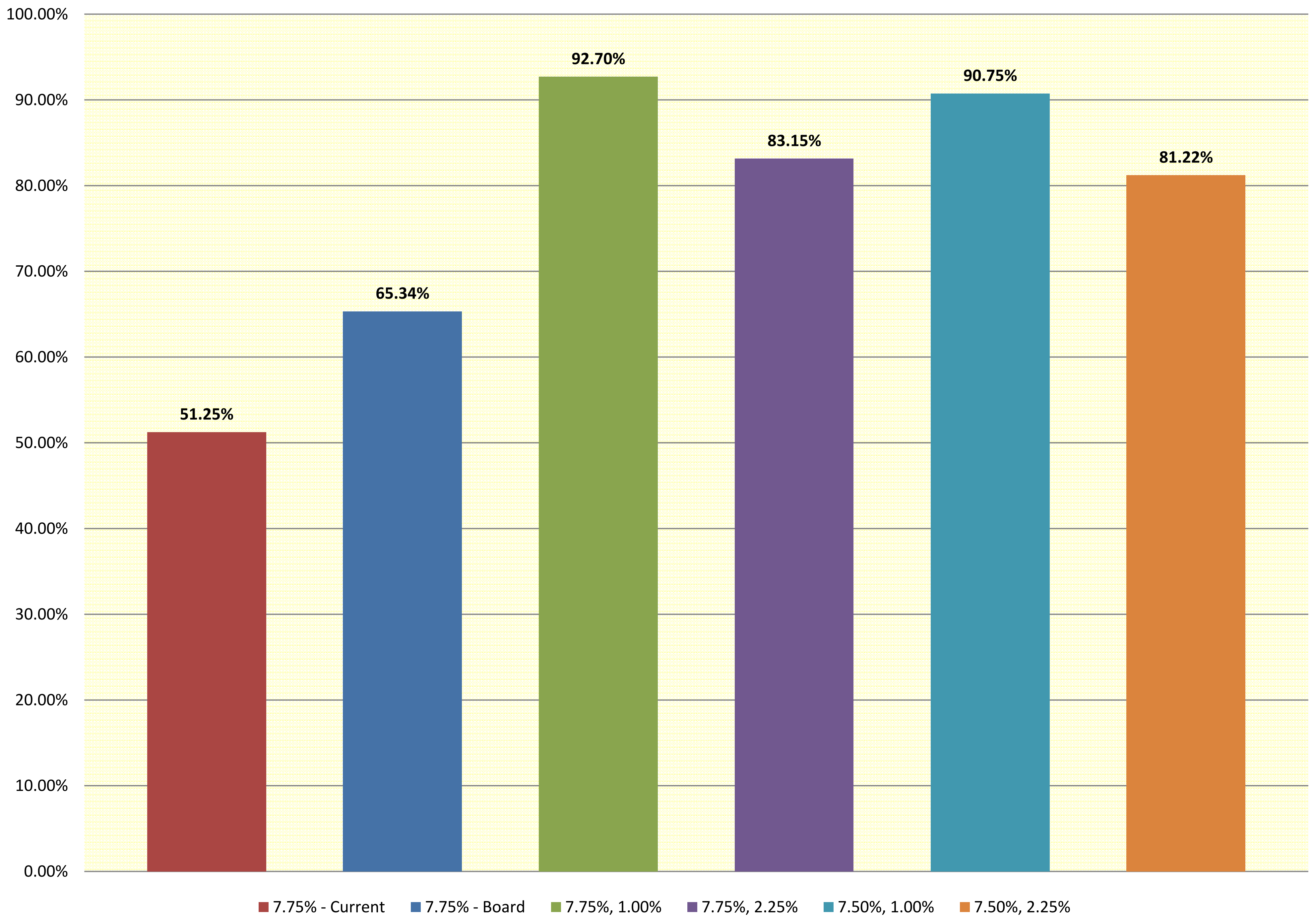
Chattanooga Fire & Police Pension Fund
Projection of Funded Percentage



	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044
1, 7.75% - Current	61%	60%	58%	56%	55%	56%	57%	58%	59%	60%	62%	63%	65%	67%	69%	71%	73%	75%	78%	80%	83%	86%	89%	93%	96%	100%	100%	100%	100%	100%	100%
2, 7.75% - Board	65%	63%	61%	59%	57%	58%	59%	59%	60%	61%	63%	64%	66%	67%	69%	71%	73%	75%	78%	80%	83%	86%	89%	93%	96%	100%	100%	100%	100%	100%	100%
7, 7.50%, 1.00%, 10	78%	75%	72%	69%	66%	67%	67%	67%	67%	68%	69%	70%	71%	73%	74%	76%	78%	80%	82%	84%	86%	88%	91%	94%	97%	100%	100%	100%	100%	100%	100%
8, 7.50%, 1.00%, 5	66%	66%	66%	67%	67%	67%	68%	69%	69%	70%	71%	72%	74%	75%	76%	78%	79%	81%	83%	85%	87%	89%	92%	94%	97%	100%	100%	100%	100%	100%	100%
9, 7.50%, 2.25%, 10	70%	67%	65%	63%	61%	61%	62%	63%	63%	64%	65%	67%	68%	70%	72%	74%	76%	78%	80%	82%	85%	87%	90%	93%	96%	100%	100%	100%	100%	100%	100%
10, 7.50%, 2.25%, 5	59%	59%	59%	60%	61%	62%	63%	64%	65%	66%	67%	69%	70%	72%	73%	75%	77%	79%	81%	83%	86%	88%	91%	94%	97%	100%	100%	100%	100%	100%	100%

Chattanooga Fire & Police Pension Fund

Percent of Future Benefit Accruals that Employees Will Pay



Appendix A – Plan Provisions

Current Plan Provisions

- COLA of 3.00% per year
- DROP eligible for participants with at least 25 and no more than 30 years of service; form of DROP dependent on date of hire and employee contribution rate
- Employee contribution rate of either 8% or 9% of pay
- Retirement eligibility at any age with 25 years of service
- Minimum Final Average Salary of $41,138 for participants hired prior to July 1, 1999
- Benefit multiplier of 2.75% for the first 25 years of service and 1.25% for years 26 – 30, with a maximum of 75% of Final Average Salary

Requested Plan Provisions

- COLA of either 1.00% or 2.25% per year
- Removal of DROP
- Employee contribution rate of 12% of pay
- Retirement eligibility at age 55 with 25 years of service
- Final Average Salary based on own pay history
- New hires only – benefit multiplier of 2.50% for each of the first 30 years, with a maximum of 75% of Final Average Salary

Only those provisions requested to change are listed above.

Appendix B
Comparison of Proposed Changes in Retirement Rates

Current Assumed Retirement Rates*				Proposed Assumed Retirement Rates*			
Employees hired prior to January 1, 2009 with 9% contribution rate		Employees hired prior to January 1, 2009, with 8% contribution rate, and employees hired on or after January 1, 2009		Assumed rates in 2014 for those with 25 or more years of service		Assumed ongoing rates for those with less than 25 years of service as of January 1, 2014**	
Years of Service	Rate	Years of Service	Rate	Age	Rate	Age	Rate
Less than 25	0%	Less than 25	0%	48	60%	55	75%
25	25%	25	20%	49	65%	56	50%
26	10%	26	10%	50	80%	57	50%
27	60%	27	10%	51	80%	58	50%
28	80%	28	30%	52	90%	59	50%
29	80%	29	35%	53	50%	60 or older	100%
30	100%	30	80%	54	50%		
31	100%	31	80%				
32 or more	100%	32 or more	100%				

* Participants who will not reach 25 years prior to age 65 are assumed to retire at age 65.

** All retirement eligible participants are assumed to retire upon attainment of 30 years if over age 55.