PENSION REVIEW COMMITTEE

Examination of Lincoln Police & Fire Defined Benefit Plan

May 2016

Committee Members:

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Trent Fellers, *Chair of Lincoln City Council*
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Police and fire public pensions are a difficult topic. These pensions are in trouble, for a variety of reasons, all over the country. There are exceptions but in many places public safety pensions are significantly underfunded—meaning they may not be counted to make good on retirement benefits promised to police officers and firefighters. The scale of pension problems is enormous. In some cities pension problems were dealt with through bankruptcy. Some cities have slashed other spending to sink more money into their pension funds. Some places haven't dealt with their pension problems at all and continue to "kick the can down the road".

It's not surprising good or easy solutions to pension issues are elusive. Depending on the severity of a pension fund's problems its fixes are not universally acceptable. Solutions are inherently controversial. Underfunded plans often need infusions of significant amounts of hard-to-find money to reach proper funding levels. Lincoln is not exempt from these realities though our police and fire pension problems are not as severe as some.

Even so, **Lincoln's Police and Fire pension fund is underfunded by *103 million dollars***. This doesn't mean an additional $103 million is needed right now. It does mean if we don't put a reasonable plan into place to fix our funding issues we are being willfully unresponsive to a problem that will continue to grow to the serious detriment of our community.

Being increasingly concerned about Lincoln's pension issues, Mayor Chris Beutler and City Council Chair Trent Fellers organized a committee of citizens to evaluate Lincoln's pension issues and report on its findings. The Committee, which operated in accordance with the Open Meetings Law, was meant to function as a blue-ribbon panel: a group of capable and objective citizens, all but Council Chair Fellers independent and distanced from political processes, who would study the pension issue in earnest and issue a straight-forward report for use by others in understanding the problem and its solutions. "Others" includes elected officials and union leaders—people empowered to show leadership and take action.

The authority to deal with pension issues unilaterally is limited. Pension plan participants are represented by the Lincoln Police Union and the IAFF Local 644 (Lincoln Firefighters Union). These unions bargain with the City for the terms and conditions of their members' employment. Because they are comprised of public safety employees these unions are not allowed to strike. In part as an offset to the prohibition of striking, the Nebraska Commission of Industrial Relations (CIR) provides protections to unions in determining and resolving issues related to the fair compensation of public safety employees. The CIR doesn't get used much; it's expensive to make or defend a case and results are hard to predict. It's better for cities and unions to resolve their issues without turning to the CIR and mostly they do. But the threat of the CIR process, and its uncertainty, looms large.

Pensions are constitutionally protected long term contracts. Nebraska courts have interpreted this protection as preventing governing bodies from detrimentally changing pension terms without offering a corresponding benefit. While the CIR does not have jurisdiction to rule on whether a governing body violated the Constitution, it can, however, offset wages to account for a pension that is not in line with comparable cities. The sum of the CIR and case law is that Lincoln can't just go "fix" many of its pension problems by making changes that are not otherwise agreed to by the unions. Negotiations to make some, but not all, of the changes recommended by this

Committee are required for their lawful implementation. Such negotiations are difficult but possible.

The City, and the police and fire unions, while regularly negotiating other terms of employment and compensation, do not often address pension issues. In fairness, pensions are long term matters and ought not be subject to frequent changes or political winds. But they do need to be looked after, in the context of their perpetual life, with a willingness to make changes necessary to meet obligations and sustain funding.

Lincoln's police and fire pension plans are defined benefit plans. They promise police and firefighters retirement, death and disability benefits. In the private sector there has been a huge move away from defined benefit pension plans in favor of defined contribution plans. 401(k) and similar plans are today the standard retirement benefit in the private sector. Defined contribution plans vary in design and quality but they share a common and important characteristic: employee and employer make agreed-to contributions to an employee's retirement account but benefits and investment results are not guaranteed. This is the kind of arrangement in place for most of Lincoln's private sector employees, many of its public sector employees and most taxpayers who have a work-related retirement plan.

In the public sector there has also been movement away from defined benefit plans including for many public safety employees. Nebraska state law mandates that retirement plans for municipal public safety employees be defined contribution plans except for Lincoln and Omaha. It is possible to close existing defined benefit plans to new entrants but doing so is considered a drastic measure. Many traditional defined benefit pension plans for public safety employees around the country remain in place.

Police and firefighters maintain their work is special duty: physically demanding, potentially debilitating, sometimes dangerous, often stressful, requiring bravery and essential to citizen safety. Traditionally these factors, coupled with other considerations voiced in advocacy of police and firefighters, have resonated with the public and elected officials. Additionally, public safety unions are politically active in the representation of their members' interests. Unions want traditional pensions for their members because they feel deserving of such benefits, have been promised these benefits and believe it is fair for them to be in place. They act politically in ways they judge to be in their members' best interests.

An important consideration: the cost to close Lincoln's pension plan to new entrants and offer instead a defined contribution plan is calculated to be substantially more expensive than Lincoln's existing plan over the next thirty years—to the tune of an **additional $78 million**. Studies further indicate that defined benefit plans are more efficient, and cost less, than defined contribution plans providing the same benefit. This is disappointing to some who very much want Lincoln to move toward a defined contribution plan. Yet the unanimous belief of the Pension Review Committee is that we should retain Lincoln's defined benefit pension plan provided important changes are made to make it more affordable and sustainable.

Here are the basics of how Lincoln's police and fire pension plan works. There are some variations depending on when a plan participant entered the plan but to keep it simple we will illustrate the most current version of the pension plan and the one with the most participants.

An individual police officer or firefighter contributes 8% of their salary.[1] They are opted out of Social Security and neither make contributions to Social Security nor are eligible for Social Security benefits.

The City contributes all the rest of what is needed to fund the plan. The table below shows public safety employees and City contributions for an eight year period and the percentage of payroll represented:

Year	*Employees*		*City*	
2010	$2,296,533	6.87%	$4,014,414	12.00%
2011	$2,373,463	6.93%	$4,333,811	12.66%
2012	$2,418,690	6.76%	$6,052,202	16.92%
2013	$2,540,604	7.00%	$6,446,472	17.75%
2014	$2,613,971	6.86%	$7,865,292	20.64%
2015	$2,604,101	6.87%	$8,045,293	21.23%
2016	$2,915,817	6.88%	$8,000,000	19.66%
2017	$3,068,770	7.03%	$12,065,465	28.47%

2016 and 2017 are estimated numbers.

The City's Actuarial Recommended Contribution (ARC)[2] is contained in an annual valuation report prepared by an independent actuary. The City's contribution includes the cost of benefits allocated to the current plan year (Normal Cost) and administrative expenses, and also an amortized amount needed to make up the Unfunded Actuarial Liability (UAL). This added amount (UAL) needed to catch up the plan's funding is principally the result of the City not always contributing what it should, investment results below plan assumptions, and changes in life expectancy and other calculations made by the actuary.

See how the City's contribution increases substantially over the eight year period? Remember the amount currently contributed by the plan participants is fixed at 8%, while the City makes up all the difference. The City's recommended contribution has grown significantly and become a burdensome amount. Hence, the formation of the Pension Review Committee.

A firefighter or police officer is eligible to retire after 25 years of service and age 50. At retirement, and for the rest of their life, they have the option of receiving a monthly benefit equal to 64% of their final year's pay. Alternatively, they can receive a smaller monthly amount for the rest of their life and a beneficiary can continue to receive the same amount until they die. Guaranteed. There are rules in place which prohibit unfair manipulation (i.e., pension spiking) of

[1] 8% is the amount for most participants but the aggregate of all participants'' contributions is a lower percentage due to earlier plans having less than an 8% contribution rate.

[2] For purposes of this report the term ARC is utilized. Other terms such as Actuarially Determined Contribution (ADC) are now used in place of ARC but are essentially equivalent to ARC as it's used in this report.

the final year's pay. Lincoln's plan design is not especially rich or poor compared to that of other cities.

Some pension plans for police and firefighters include a cost of living adjustment (COLA). Lincoln does not have such a provision. Instead in Lincoln there is a kind of *faux* COLA, called a "13th Check". It's an annual additional payment to retirees, currently $1174, paid once a year and meant to boost the pension benefit over time to compensate for inflation. The 13th Check payment is a function of City ordinance conditioned on a sufficient balance existing in the 13th Check fund. The 13th Check fund in Lincoln derives its funding from the investment return of the main pension fund by siphoning off excess investment returns in good years and adding them to a separate 13th Check fund.

Lincoln's 13th Check fund has much more money than it is projected to need. This is thought to be by design, however. The Committee heard testimony that the growing balance of the 13th Check fund was meant to someday help start a true COLA. COLAs are in some pension plans but not others, the public safety unions in Lincoln would like to have a COLA as part of their members' pension plan.

The Committee recommends Lincoln's separate 13th Check fund and its balance be merged into the main pension fund. The 13th Check payment will continue to be made just as it has since its inception, except that the the City will be obligated to make such a payment every year.

There is substantial one-time and ongoing financial benefit to combining the 13th Check fund into the primary pension fund. Because of the way projected investment returns are actuarially calculated for the pension fund, and because there is a significant surplus in the current 13th Check fund that would be immediately realized, the underfunded amount of Lincoln's pension fund would reduce from **$103 million to approximately $51.5 million**. This represents a funded percentage improvement from 64% to 80%. Such improvement in the pension's funding level will help Lincoln maintain its AAA bond rating, which might otherwise be at risk due to a lower funded percentage.

This single change, which the Committee believes can be done by amending the pension ordinances, would lower the 2017 recommended contribution from **$12 million to approximately $7.8 million**. This reduction of $4.2 million changes the total percentage of salary contributed by the City from approximately **28% to 17%**. This change will have a lasting effect by lowering contributions made by the City because actuarially projected investment returns would no longer be subject to excess returns being diverted to the 13th Check fund.

Now that the scale of the problem has been given some context, let's expand a little on how the City got into this situation of being so seriously underfunded in the first place. It is the result of a number of things that are useful to identify so we don't repeat the mistakes of the past.

Investment returns have been a big factor. Every investor knows that investment markets took a big hit beginning in 2008. Lincoln's plan has suffered from lower than expected returns. While the Committee was not charged with evaluating investment results or the financial management of Lincoln's pension funds, we noted the change of investment advisors in 2014 and movement

toward what seems like a more coherent and balanced investment strategy. The Committee recommends regular evaluation of the investment advisor's performance compared to benchmarks. The Committee also recommends that the Investment Board, which evaluates and approves investment decisions, including allocations and selection of managers, not micro-manage the work of the advisor. There is no way to accurately identify how much of our underfunded status is due to lackluster investment results but an internal Committee study determined had the fund returned the targeted investment results over the last ten years the improvement in our fund balance might be as much as $34 million.

The actuarial assumptions play a crucial role in the bottom line, as a change in assumptions can increase the employer's obligation by millions of dollars. Assumptions are made regarding many aspects of the Pension including the assumed earnings rate, salary rates and life expectancy. People are living longer and we have to account for it when we calculate our future obligations. In 2014, the City approved necessary changes to the assumptions including a decrease from 7.5% to 6.75% to the assumed earnings rate. The net result of the 2014 changes was a $23 million increase to the UAL.

The Committee discussed the actuarially assumed earnings rate of 7.5%, which will be the rate for Lincoln's plan if the 13th Check fund is merged into the primary pension fund. 7.5% is consistent with the rate used for many pension plans. There are indications that assumed earnings rates are expected to be lower in the future. If Lincoln decides it is appropriate to reduce its rate, which the Committee does not recommend at this time but which may be appropriate in the future, new actuarial valuations will reflect a significant difference in funding requirements.

The last eight years the City contributed 99% of the recommended amount, however, the City made less than the recommended contribution in **19 of the last 26 years**. For 11 of these 19 years the pension was at a funded level of 100% or more. (A few times the City actually made contributions in excess of what was recommended.) Since 1990 the City has contributed approximately $7 million less than the recommended contributions. We don't know for certain why the City didn't make these payments. When the plan was fully funded or nearly fully funded perhaps our elected leaders felt they could contribute less than what was recommended. Certainly it was a way to balance the City's budget in the short run. Whatever the reasons, the City's pension contribution was shortchanged too often. The Committee thinks that's just bad policy and strongly recommends a funding policy requiring the pension plan be funded every year at either the Normal Cost or the ARC, whichever is greater.

As it is, the recommendations of this Committee offer substantial improvement to the funded status of Lincoln's pension plan, reduce its cost, endorse additional savings by way of negotiated plan changes and create sustainability. None of this works, however, if the City does not make its recommended contributions year after year. If we can't afford it, or are unwilling to commit the resources necessary to fund it properly, then the City's leaders must find a way to reduce our obligation. Not funding the City's obligation to the pension plan may also negatively impact the City's credit ratings for municipal bonds, a needed funding source for many projects. One thing on which all sides agree: the City must fund its obligation. Period.

The committee looked at other measures, mostly in the form of plan changes requiring a negotiation between the City and the unions, which are described below. Let's first reflect on why the unions might be willing to negotiate. After all, they have a pretty tight arrangement. They kick in 8% of salary and the City pays all the rest under the current plan. The unions are not obligated to negotiate changes to the pension plan—changes which will reduce pension costs but may also end up reducing benefits to their members.

Union members are also members of our community. They serve the community every day in ways that are extraordinary. Yes, it is their job to do so. But one hopes that they also serve out of a love for Lincoln and with a desire to keep Lincoln not only safe but also a great place to live. It's asking a lot but we believe those charged with public safety in Lincoln will negotiate in good faith knowing that Lincoln's pension is in trouble and needs modification. They may have to give up some plan features coincidental with the City's taxpayers making a commitment to increased funding of pensions. The amount of funding required of the City means difficult choices have to be made about funding sources and the entire City budget—not a pleasant task.

Frankly, it's possible to argue that the pension received by police officers and firefighters is a good financial deal for them notwithstanding the notion that it's also good public policy, and fair, for them to receive it. However, if the police and fire pension benefit and cost to the City was more widely understood by Lincoln's voters it's possible there would be strong pushback against its funding. The City's citizens, including other City employees who do not receive a defined benefit pension, might find the police and fire pension plan out-of-step with their own retirement benefits. Are citizens willing to pay higher taxes or reduce other services or capital projects to pay for police and fire pensions? The unions should be sensitive to negative exposure around their pensions and negotiate with the City for changes that reduce its cost.

Remember that police and fire pension plan participants currently contribute 8% of their salary in return for a life-long retirement benefit. Here is another important fact about the contributions made by police and fire employees: they don't pay any Social Security tax. They are opted out of Social Security. For only two percent more than police and firefighters would be putting into Social Security—and for far less than the combined cost of Social Security and a typical contribution to a defined contribution plan—they are receiving a significant retirement benefit. They don't receive Social Security benefits, however, unless they have other employment. Even then, their Social Security benefit is reduced because of their opted-out status. Still, the retirement benefit coming from the police and fire pension is an incredibly good deal—far better than what most people in Lincoln receive in retirement benefits.

Another reason the union might negotiate changes to the plan is that there may be things for them to gain—such as a true COLA. COLAs are expensive and can be a factor in the undoing of an otherwise well-funded pension plan. But if a COLA is carefully designed to be affordable, limited and as part of a package of changes recommended by this Committee for negotiation, the unions would have some incentive to make otherwise unappealing changes. A few years ago the City Council considered, and rejected, a COLA for the police and fire pension fund. At that time the firefighters' union was amenable to increasing their contribution to the pension fund by an additional 4% of their salary.

Ultimately, if pension issues in Lincoln cannot be resolved and if pension funding isn't deemed sustainable, there may well be increasing pressure to do away with a defined benefit plan altogether despite the costs of doing so. Or, perhaps more likely, pressure will be put on state government to make changes which allow cities to make modifications to pension plans more easily. Politically speaking it does seem like Nebraska's state government might be disposed to make such changes if business, community and City leaders in Lincoln and Omaha pressed for them.

Ultimately the biggest problem for Lincoln relates to its assumption of risk. The way Lincoln's police and fire pension plan is structured right now essentially all the risk is on the backs of the City and its taxpayers. Whatever is needed to fund the pension plan in excess of the 8% contributed by fire and police employees presently has to come from the City. Public safety employees take on no risk. If the markets don't perform well or if the actuarial assumptions about longevity and other variables create additional funding requirements its currently all on the City to make up the difference. In this regard it is a one-sided arrangement.

The last thing the Committee members want is for the City to have to reconvene another panel to address these same issues in ten years. The Committee believes its recommendations will go a long way toward making the police and fire pension funding sustainable. Even so, we cannot be certain of it. There are simply too many variables—especially related to investment performance.

The Committee recommends changing the way contributions are determined for Lincoln's plan. Instead of police and fire employees contributing a fixed amount—currently 8%—they would contribute a percentage of the total annual costs of the plan, with the City also contributing a percentage. This is an arrangement found in other plans. Some plans split the cost 50/50. Others are 60/40 or some other amount. If, for example, the pension plan cost was split with 60% paid by the City and 40% paid by public safety employees, the employee contribution could be about 10.25%--a small increase. The City's contribution could be reduced a like amount.

But something more important happens under this scenario. The cost of the plan becomes relevant to both employees and the City. Right now the cost of the plan is really of no relevance to public safety employees. If contributions are not fixed but rather split as a percentage of total cost, and the cost of the plan escalates for any reason, public safety employees and the City will be in the same boat. They would have common interests in addressing plan design and the cost of the plan. They would have every reason to work together. Risk would be shared and no longer be solely on the back of the City. In thinking about the sustainability of Lincoln's pension plan this is an idea that could have real and lasting impact.

Some members of the Committee were reluctant to sign on to this idea. They saw it as asking too much of the unions to agree to such a change. The idea of only asking to share the risk of incrementally increased cost due to longevity or related calculations was proposed by some Committee members. One Committee member argued that unless such a shared arrangement could be achieved that the plan should be transformed into a defined contribution plan. The majority of Committee members, however, approved a recommendation urging the City and the unions to negotiate a percentage split of the annual costs as a way to share risk and promote sustainability of Lincoln's police and fire pension plan.

Recommendations

To assist the Committee, the actuarial firm, Cavanaugh Macdonald, completed several cost proposals. These proposals are attached as exhibits.

The Committee notes that one cost proposal investigated placing new hires into a defined contribution plan. While the Committee has heard from many community members advocating for such a move, the Committee finds that this is not a fiscally responsible option and is not recommending this change. (Exhibit 1)

1. 13th Check: The 13th Check fund should be pooled with the regular Pension fund. Doing so would reduce the City's recommended contribution from $12 million to $7.8 million. The funded ratio would increase from 64% to 80%. (Exhibit 2)

2. Funding Policy: The City should establish a funding policy that follows objectives and recommendations consistent with the Government Finance Officers Association and the actuarial community. Funding should be at the greater of the ARC or Normal Cost. The policy should include amortization periods for future unfunded liabilities that do not exceed 20 years.

3. City Contribution: The City should fully fund the Pension according to the Funding Policy.

4. Reporting: City staff currently provide the Mayor and City Council with the Annual Actuarial Valuation Report. City staff should also provide Investment Board meeting minutes and quarterly investment reports. The entire pension plan and its funding status should be reviewed from time to time in a similar manner as the work undertaken by this Committee.

The Committee recommends that the City and Police and Fire unions negotiate changes to the Pension. The following items should be considered in the negotiations. They are meant as guidelines and examples and were used as the basis for the analysis provided by the actuary. The Committee understands a negotiation may yield somewhat different results.

5. Modify the benefit formula to provide a full retirement benefit after 30 years of service rather than 25 years of service: Assuming the 13th Check fund is pooled into the regular fund, this change would lower the City's current recommended contribution by $407,093 and $25,447,551 over approximately 30 years. (Exhibit 3)

6. Implement a three-year final average salary instead of a one-year final average salary when determining regular pay: Assuming the 13th Check fund is pooled into the regular fund, this change would lower the City's current recommended contribution by $285,384 and $17,079,407 over approximately 30 years. (Exhibit 4)

7. Elimination of Deferred Retirement Option Plan (DROP): Allows a member to retire for pension purposes but continue to work for up to five years. Assuming the 13th Check fund is pooled into the regular fund, this change would lower the City's current recommended contribution by $371,581 and $5,790.683 over approximately 30 years. (Exhibit 5)

8. Provide a true 1% Compound COLA beginning five years after retirement for new and active members: Assuming the 13th Check fund is pooled into the regular fund, this change would increase the City's current recommended contribution by $332,204 and $23,554,962 over approximately 30 years. (Exhibit 6)

9. The City and the unions share the total annual contribution according to a percentage split.

Acknowledgement

The Committee wishes to thank City staff and others who presented oral and written information to the Committee. The Committee was impressed with the presenters' depth of knowledge and commitment to Lincoln's citizens. This information was critical to the Committee's understanding and analysis of the issues, and ultimately in the formation of recommendations. Specifically, the Committee thanks the following staff and presenters:

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Ron Trouba, *President, IAFF Local 644*
John E. Cripe, *President, John E. Cripe and Associates*

Exhibits

Exhibit A

Exhibit 1, page 1

City of Lincoln Police and Fire Pension Fund

Baseline (Excludes COLA Pool Assets and Liabilities, 6.40% Assumed Rate of Return)
vs.
New Hires in Defined Contribution Plan/Current Members Remain in Defined Benefit Plan

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
			Baseline			**New Hires in DC Plan**								
Valuation	**Total Covered Payroll**					**DB Plan**			**DC Plan**			**Total Combined Plan**		
Date	Current	New	City NC Rate	UAAL Rate	Total Rate	City NC Rate	UAAL Rate	Total Rate	City NC Rate	UAAL Rate	Total Rate	City NC Rate	UAAL Rate	Total Rate
8/31/2015	$ 42,381,058	$ -	14.23%	13.19%	27.42%	17.44%	15.29%	32.73%	16.05%	15.29%	31.34%	17.44%	15.29%	32.73%
8/31/2016	41,941,895	1,597,689	14.10%	13.67%	27.77%	17.38%	16.07%	33.45%	16.05%	16.07%	32.12%	17.33%	16.07%	33.40%
8/31/2017	41,726,872	3,105,451	14.05%	13.80%	27.85%	17.42%	16.19%	33.61%	16.05%	16.19%	32.24%	17.32%	16.19%	33.51%
8/31/2018	41,293,873	4,770,436	13.96%	14.02%	27.98%	17.40%	16.39%	33.79%	16.05%	16.39%	32.44%	17.26%	16.39%	33.65%
8/31/2019	40,975,850	6,429,279	13.89%	14.51%	28.40%	17.43%	16.86%	34.29%	16.05%	16.86%	32.91%	17.24%	16.86%	34.10%
8/31/2020	40,598,973	8,165,709	13.85%	14.61%	28.46%	17.49%	16.94%	34.43%	16.05%	16.94%	32.99%	17.24%	16.94%	34.18%
8/31/2021	39,954,107	10,116,418	13.79%	14.70%	28.49%	17.52%	17.02%	34.54%	16.05%	17.02%	33.07%	17.23%	17.02%	34.25%
8/31/2022	39,290,285	12,135,412	13.74%	14.78%	28.52%	17.57%	17.07%	34.64%	16.05%	17.07%	33.12%	17.21%	17.07%	34.28%
8/31/2023	38,479,716	14,317,106	13.69%	14.85%	28.54%	17.62%	17.13%	34.75%	16.05%	17.13%	33.18%	17.19%	17.13%	34.32%
8/31/2024	37,656,723	16,578,512	13.65%	14.91%	28.56%	17.67%	17.17%	34.84%	16.05%	17.17%	33.22%	17.17%	17.17%	34.34%
8/31/2025	36,784,136	18,933,051	13.62%	14.97%	28.59%	17.74%	17.20%	34.94%	16.05%	17.20%	33.25%	17.16%	17.20%	34.36%
8/31/2026	35,751,806	21,453,145	13.61%	15.04%	28.65%	17.82%	17.25%	35.07%	16.05%	17.25%	33.30%	17.16%	17.25%	34.41%
8/31/2027	34,490,061	24,173,791	13.61%	15.13%	28.74%	17.91%	17.30%	35.21%	16.05%	17.30%	33.35%	17.15%	17.30%	34.45%
8/31/2028	33,175,943	27,000,667	13.60%	15.21%	28.81%	18.01%	17.35%	35.36%	16.05%	17.35%	33.40%	17.13%	17.35%	34.48%
8/31/2029	31,761,421	29,969,299	13.60%	15.30%	28.90%	18.11%	17.40%	35.51%	16.05%	17.40%	33.45%	17.11%	17.40%	34.51%
8/31/2030	30,277,771	33,069,419	13.60%	15.38%	28.98%	18.20%	16.50%	34.70%	16.05%	16.50%	32.55%	17.08%	16.50%	33.58%
8/31/2031	28,722,977	36,307,289	13.60%	15.46%	29.06%	18.29%	16.44%	34.73%	16.05%	16.44%	32.49%	17.04%	16.44%	33.48%
8/31/2032	27,175,609	39,626,421	13.60%	15.53%	29.13%	18.37%	16.44%	34.81%	16.05%	16.44%	32.49%	16.99%	16.44%	33.43%
8/31/2033	25,652,237	43,024,316	13.60%	15.60%	29.20%	18.43%	16.44%	34.87%	16.05%	16.44%	32.49%	16.94%	16.44%	33.38%
8/31/2034	24,028,284	46,567,631	13.61%	15.67%	29.28%	18.48%	16.44%	34.92%	16.05%	16.44%	32.49%	16.88%	16.44%	33.32%
8/31/2035	22,158,001	50,333,053	13.62%	15.76%	29.38%	18.53%	16.45%	34.98%	16.05%	16.45%	32.50%	16.81%	16.45%	33.26%
8/31/2036	20,295,523	54,183,208	13.64%	15.85%	29.49%	18.60%	16.44%	35.04%	16.05%	16.44%	32.49%	16.74%	16.44%	33.18%
8/31/2037	18,339,227	58,174,905	13.65%	15.96%	29.61%	18.66%	16.43%	35.09%	16.05%	16.43%	32.48%	16.67%	16.43%	33.10%
8/31/2038	16,196,620	62,373,106	13.68%	16.07%	29.75%	18.71%	16.42%	35.13%	16.05%	16.42%	32.47%	16.60%	16.42%	33.02%
8/31/2039	14,101,450	66,612,318	13.70%	16.20%	29.90%	18.78%	16.38%	35.16%	16.05%	16.38%	32.43%	16.53%	16.38%	32.91%
8/31/2040	12,106,480	70,868,653	13.72%	16.34%	30.06%	18.81%	16.01%	34.82%	16.05%	16.01%	32.06%	16.45%	16.01%	32.46%
8/31/2041	10,292,635	75,115,305	13.73%	16.52%	30.25%	18.85%	15.82%	34.67%	16.05%	15.82%	31.87%	16.39%	15.82%	32.21%
8/31/2042	8,588,284	79,350,621	13.75%	16.82%	30.57%	18.85%	15.66%	34.51%	16.05%	15.66%	31.71%	16.32%	15.66%	31.98%
8/31/2043	7,156,524	83,455,668	13.76%	17.56%	31.32%	18.86%	15.46%	34.32%	16.05%	15.46%	31.51%	16.27%	15.46%	31.73%
8/31/2044	5,922,982	87,471,604	13.77%	1.22%	14.99%	18.87%	0.00%	18.87%	16.05%	0.00%	16.05%	16.23%	0.00%	16.23%

Note: All assumptions, including the rate of return, are assumed to be met each year in the future. Unfunded actuarial liability is funded over total payroll (DC + DB).

Defined Contribution Plan Normal Cost Rate: 16.05% (9.00% ER match, 6.20% Social Security, 0.85% Duty disability and death benefit).

Assumed Return: Baseline is 6.40% in all years.
The DC Plan Study is 6.40% through 2029, 5.50% from 2030 through 2039 and 4.50% from 2040 forward.
Investment return assumption reduces over time in the DC Plan study to account for the assumed change to the asset allocation due to closure of DB Plan and impact on cash flows.

4/15/2016

Exhibit B

Exhibit 1, page 2

City of Lincoln Police and Fire Pension Fund

Baseline (Excludes COLA Pool Assets and Liabilities, 6.40% Assumed Rate of Return)
vs.
New Hires in Defined Contribution Plan/Current Members Remain in Defined Benefit Plan

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
			Baseline		**New Hires in DC Plan**						**City Contribution**
Valuation	**Total Covered Payroll**				**DB Plan**		**DC Plan**		**Total Combined Plan**		**Amount**
Date	Current	New	City Rate	City Amount	City Rate	City Amount	City Rate	City Amount	City Rate	City Amount	Difference
8/31/2015	$ 42,381,058	$ -	27.42%	$ 12,065,465	32.73%	$ 14,316,974	31.34%	$ -	32.73%	$ 14,316,974	$ 2,251,509
8/31/2016	41,941,895	1,597,689	27.77%	12,551,768	33.45%	14,471,260	32.12%	529,981	33.40%	15,001,241	2,449,473
8/31/2017	41,726,872	3,105,451	27.85%	12,960,928	33.61%	14,462,737	32.24%	1,033,868	33.51%	15,496,605	2,535,677
8/31/2018	41,293,873	4,770,436	27.98%	13,373,274	33.79%	14,389,599	32.44%	1,597,839	33.65%	15,987,438	2,614,165
8/31/2019	40,975,850	6,429,279	28.40%	13,962,582	34.29%	14,483,057	32.91%	2,183,739	34.10%	16,666,796	2,704,214
8/31/2020	40,598,973	8,165,709	28.46%	14,390,853	34.43%	14,405,357	32.99%	2,780,170	34.18%	17,185,527	2,794,674
8/31/2021	39,954,107	10,116,418	28.49%	14,797,152	34.54%	14,225,569	33.07%	3,452,754	34.25%	17,678,323	2,881,171
8/31/2022	39,290,285	12,135,412	28.52%	15,211,657	34.64%	14,026,750	33.12%	4,148,276	34.28%	18,175,026	2,963,369
8/31/2023	38,479,716	14,317,106	28.54%	15,630,814	34.75%	13,780,808	33.18%	4,903,135	34.32%	18,683,943	3,053,129
8/31/2024	37,656,723	16,578,512	28.56%	16,069,945	34.84%	13,522,328	33.22%	5,684,697	34.34%	19,207,025	3,137,080
8/31/2025	36,784,136	18,933,051	28.59%	16,531,226	34.94%	13,246,280	33.25%	6,498,265	34.36%	19,744,545	3,213,319
8/31/2026	35,751,806	21,453,145	28.65%	17,009,399	35.07%	12,924,459	33.30%	7,374,686	34.41%	20,299,145	3,289,746
8/31/2027	34,490,061	24,173,791	28.74%	17,492,831	35.21%	12,517,805	33.35%	8,323,157	34.45%	20,840,962	3,348,131
8/31/2028	33,175,943	27,000,667	28.81%	17,993,985	35.36%	12,091,282	33.40%	9,311,163	34.48%	21,402,445	3,408,460
8/31/2029	31,761,421	29,969,299	28.90%	18,514,261	35.51%	11,623,217	33.45%	10,351,201	34.51%	21,974,418	3,460,157
8/31/2030	30,277,771	33,069,419	28.98%	19,049,425	34.70%	10,837,718	32.55%	11,125,677	33.58%	21,963,395	2,913,970
8/31/2031	28,722,977	36,307,289	29.06%	19,613,141	34.73%	10,290,274	32.49%	12,194,549	33.48%	22,484,823	2,871,682
8/31/2032	27,175,609	39,626,421	29.13%	20,197,724	34.81%	9,758,656	32.49%	13,310,513	33.43%	23,069,169	2,871,445
8/31/2033	25,652,237	43,024,316	29.20%	20,810,922	34.87%	9,226,845	32.49%	14,452,759	33.38%	23,679,604	2,868,682
8/31/2034	24,028,284	46,567,631	29.28%	21,448,738	34.92%	8,656,613	32.49%	15,644,056	33.32%	24,300,669	2,851,932
8/31/2035	22,158,001	50,333,053	29.38%	22,106,390	34.98%	7,996,827	32.50%	16,915,763	33.26%	24,912,591	2,806,201
8/31/2036	20,295,523	54,183,208	29.49%	22,796,359	35.04%	7,336,781	32.49%	18,205,800	33.18%	25,542,581	2,746,221
8/31/2037	18,339,227	58,174,905	29.61%	23,505,567	35.09%	6,638,571	32.48%	19,542,890	33.10%	26,181,461	2,675,894
8/31/2038	16,196,620	62,373,106	29.75%	24,253,571	35.13%	5,871,279	32.47%	20,949,088	33.02%	26,820,367	2,566,796
8/31/2039	14,101,450	66,612,318	29.90%	25,037,202	35.16%	5,116,428	32.43%	22,348,219	32.91%	27,464,647	2,427,445
8/31/2040	12,106,480	70,868,653	30.06%	25,875,820	34.82%	4,351,292	32.06%	23,515,523	32.46%	27,866,814	1,990,994
8/31/2041	10,292,635	75,115,305	30.25%	26,798,471	34.67%	3,684,000	31.87%	24,782,478	32.21%	28,466,477	1,668,006
8/31/2042	8,588,284	79,350,621	30.57%	27,873,928	34.51%	3,060,262	31.71%	26,053,173	31.98%	29,113,435	1,239,507
8/31/2043	7,156,524	83,455,668	31.32%	29,395,431	34.32%	2,536,454	31.51%	27,233,708	31.73%	29,770,162	374,732
8/31/2044	5,922,982	87,471,604	14.99%	15,047,030	18.87%	1,184,109	16.05%	15,020,427	16.23%	16,204,536	1,157,506
				$ 572,365,857						$ 650,501,145	$ 78,135,288

Note: All assumptions, including the rate of return, are assumed to be met each year in the future. Unfunded actuarial liability is funded over total payroll (DC + DB).
Employer Contribution Amount includes Administrative Expenses.

Defined Contribution Plan Normal Cost Rate: 16.05% (9.00% ER match, 6.20% Social Security, 0.85% Duty disability and death benefit).

Assumed Return: Baseline is 6.40% in all years.
The DC Plan Study is 6.40% through 2029, 5.50% from 2030 through 2039 and 4.50% from 2040 forward.
Investment return assumption reduces over time in the DC Plan study to account for the assumed change to the asset allocation due to closure of DB Plan and impact on cash flows.

4/15/2016

Exhibit 1, page 3

Exhibit C

City of Lincoln Police and Fire Pension Fund

Baseline (Excludes COLA Pool Assets and Liabilities, 6.40% Assumed Rate of Return)
vs.
New Hires in Defined Contribution Plan/Current Members Remain in Defined Benefit Plan

	Baseline: Excludes COLA Pool Assets and Liabilities, 6.40% Assumed Rate of Return				DC Plan: Excludes COLA Pool Assets and Liabilities, 6.40% grading to 4.50% Assumed Rate of Return, New members to DC			
Valuation Date	Actuarial Liability	Actuarial Assets	Unfunded Actuarial Liability	Funded Ratio	Actuarial Liability	Actuarial Assets	Unfunded Actuarial Liability	Funded Ratio
8/31/2015	$ 286,493,673	$ 183,011,274	$ 103,482,399	63.9%	$ 302,980,343	$ 183,011,274	$ 119,969,069	60.4%
8/31/2016	299,576,557	191,719,383	107,857,174	64.0%	318,475,449	191,719,383	126,756,066	60.2%
8/31/2017	313,226,395	203,591,927	109,634,468	65.0%	334,382,778	205,794,781	128,587,997	61.5%
8/31/2018	327,174,839	215,457,799	111,717,040	65.9%	350,446,815	219,837,524	130,609,291	62.7%
8/31/2019	341,622,516	225,607,146	116,015,370	66.0%	366,830,687	232,028,885	134,801,802	63.3%
8/31/2020	356,498,943	239,503,888	116,995,055	67.2%	383,454,244	247,791,288	135,662,956	64.6%
8/31/2021	371,722,844	254,223,693	117,499,151	68.4%	400,204,726	264,194,758	136,009,968	66.0%
8/31/2022	387,266,996	269,556,687	117,710,309	69.6%	416,992,021	280,990,975	136,001,046	67.4%
8/31/2023	403,009,405	285,395,960	117,613,445	70.8%	433,662,024	298,016,687	135,645,337	68.7%
8/31/2024	419,005,248	301,790,611	117,214,637	72.0%	450,214,800	315,285,550	134,929,250	70.0%
8/31/2025	435,291,191	318,743,096	116,548,095	73.2%	466,646,255	332,753,194	133,893,061	71.3%
8/31/2026	451,841,273	336,266,783	115,574,490	74.4%	482,850,396	350,357,766	132,492,630	72.6%
8/31/2027	468,519,409	354,271,848	114,247,561	75.6%	498,618,120	367,952,990	130,665,130	73.8%
8/31/2028	485,365,949	372,804,794	112,561,155	76.8%	513,902,218	385,504,669	128,397,549	75.0%
8/31/2029	502,369,431	391,888,630	110,480,801	78.0%	528,620,958	402,949,567	125,671,391	76.2%
8/31/2030	519,577,605	411,590,448	107,987,157	79.2%	542,739,504	420,283,552	122,455,952	77.4%
8/31/2031	536,970,866	431,939,361	105,031,505	80.4%	551,347,066	433,702,965	117,644,101	78.7%
8/31/2032	554,594,933	453,004,913	101,590,020	81.7%	558,834,562	445,976,212	112,858,350	79.8%
8/31/2033	572,547,079	474,927,348	97,619,731	82.9%	565,211,919	457,640,275	107,571,644	81.0%
8/31/2034	590,818,362	497,748,154	93,070,208	84.2%	570,380,707	468,691,116	101,689,591	82.2%
8/31/2035	609,276,603	521,409,370	87,867,233	85.6%	574,101,217	478,972,074	95,129,143	83.4%
8/31/2036	627,985,119	546,016,046	81,969,073	86.9%	576,310,772	488,464,010	87,846,762	84.8%
8/31/2037	646,964,521	571,647,058	75,317,463	88.4%	576,946,209	497,107,766	79,838,443	86.2%
8/31/2038	666,119,200	598,293,236	67,825,964	89.8%	575,802,651	504,782,262	71,020,389	87.7%
8/31/2039	685,471,423	626,015,230	59,456,193	91.3%	572,842,079	511,471,476	61,370,603	89.3%
8/31/2040	705,131,391	655,012,545	50,118,846	92.9%	568,141,619	517,256,455	50,885,164	91.0%
8/31/2041	725,295,635	685,546,256	39,749,379	94.5%	556,356,737	517,265,550	39,091,187	93.0%
8/31/2042	746,044,519	717,817,622	28,226,897	96.2%	542,934,344	516,181,489	26,752,855	95.1%
8/31/2043	767,453,081	752,028,968	15,424,113	98.0%	528,085,630	514,384,651	13,700,979	97.4%
8/31/2044	789,589,444	788,485,310	1,104,134	99.9%	512,004,103	512,122,159	(118,056)	100.0%

Note: All assumptions, including the rate of return, are assumed to be met each year in the future. Unfunded actuarial liability is funded over total payroll (DC + DB).

Defined Contribution Plan Normal Cost Rate: 16.05% (9.00% ER match, 6.20% Social Security, 0.85% Duty disability and death benefit).

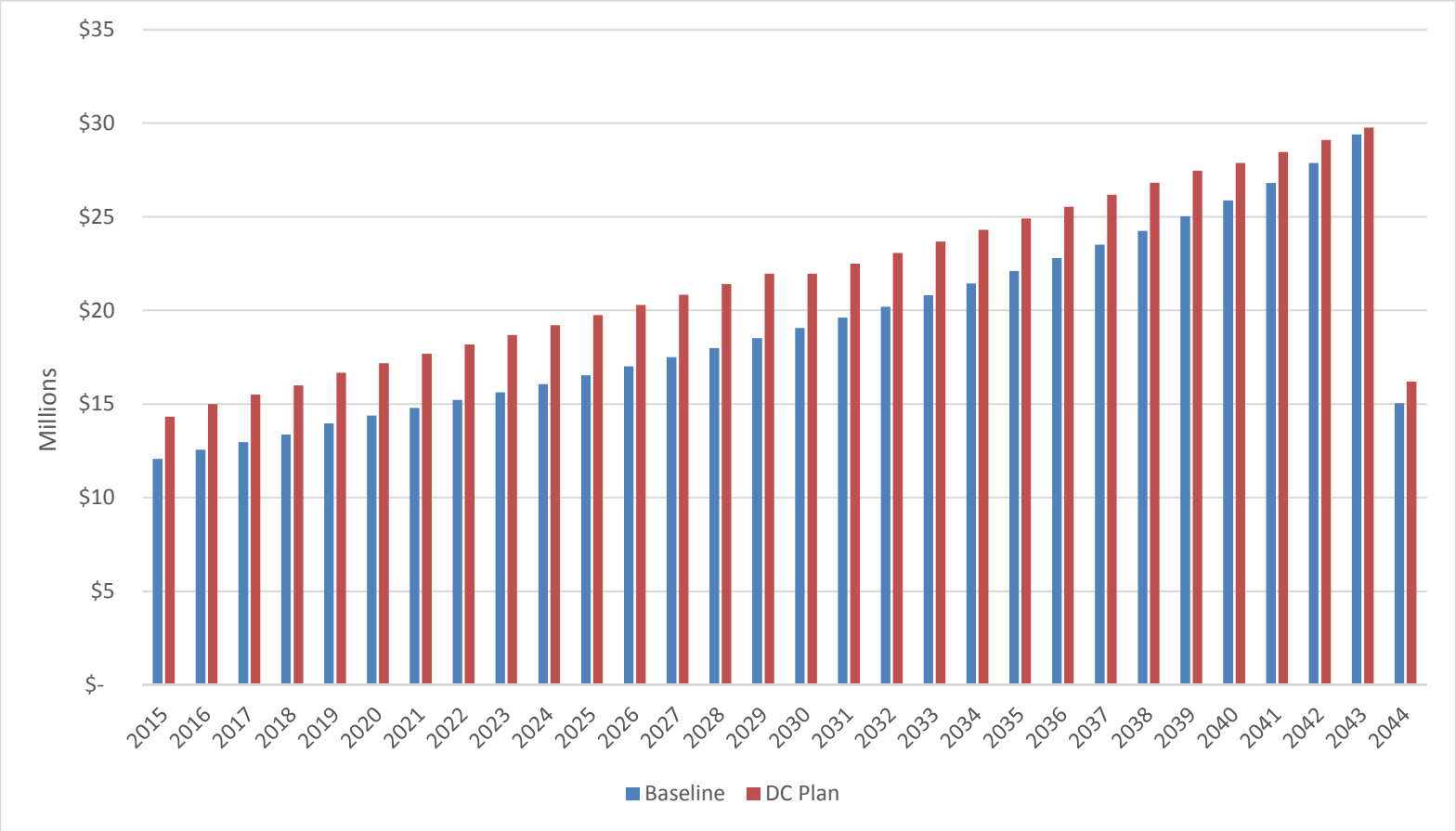
Assumed Return: Baseline is 6.40% in all years.
The DC Plan Study is 6.40% through 2029, 5.50% from 2030 through 2039 and 4.50% from 2040 forward.
Investment return assumption reduces over time in the DC Plan study to account for the assumed change to the asset allocation due to closure of DB Plan and impact on cash flows.

4/15/2016

Prepared by Cavanaugh Macdonald Consulting LLC

City Contribution Amounts

Exhibit 1, page 4



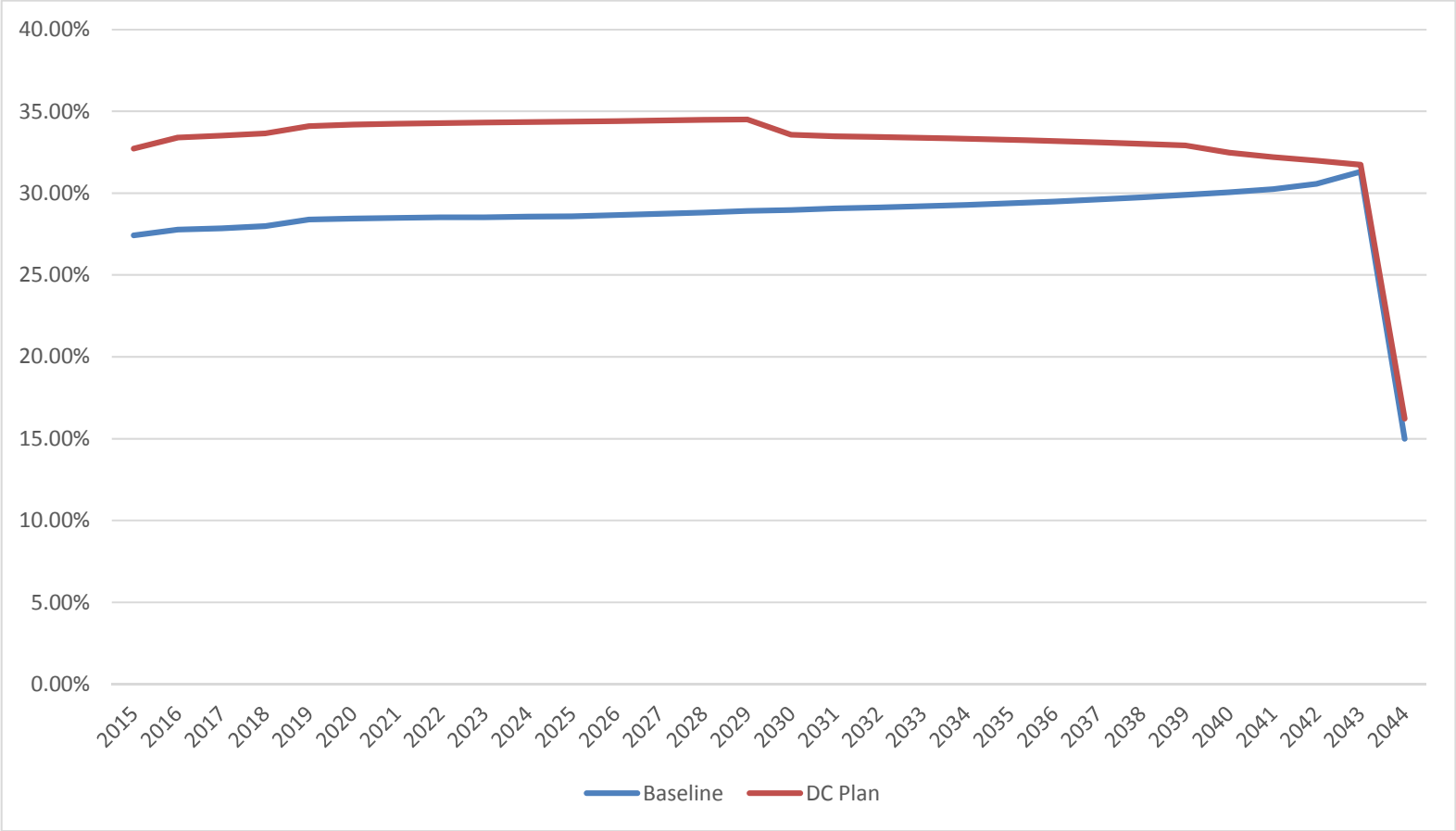
Note: All assumptions are assumed to be met each year in the future.
Actual costs will vary to the extent actual experience differs from that projected.

Baseline: Excludes COLA Pool assets and liabilities; 6.40% Assumed Rate of Return

DC Plan: Excludes COLA Pool asset and liabilities; 6.40% grading to 4.50% Assumed Rate of Return; New members to DC

City Contribution Rates

Exhibit 1, page 5



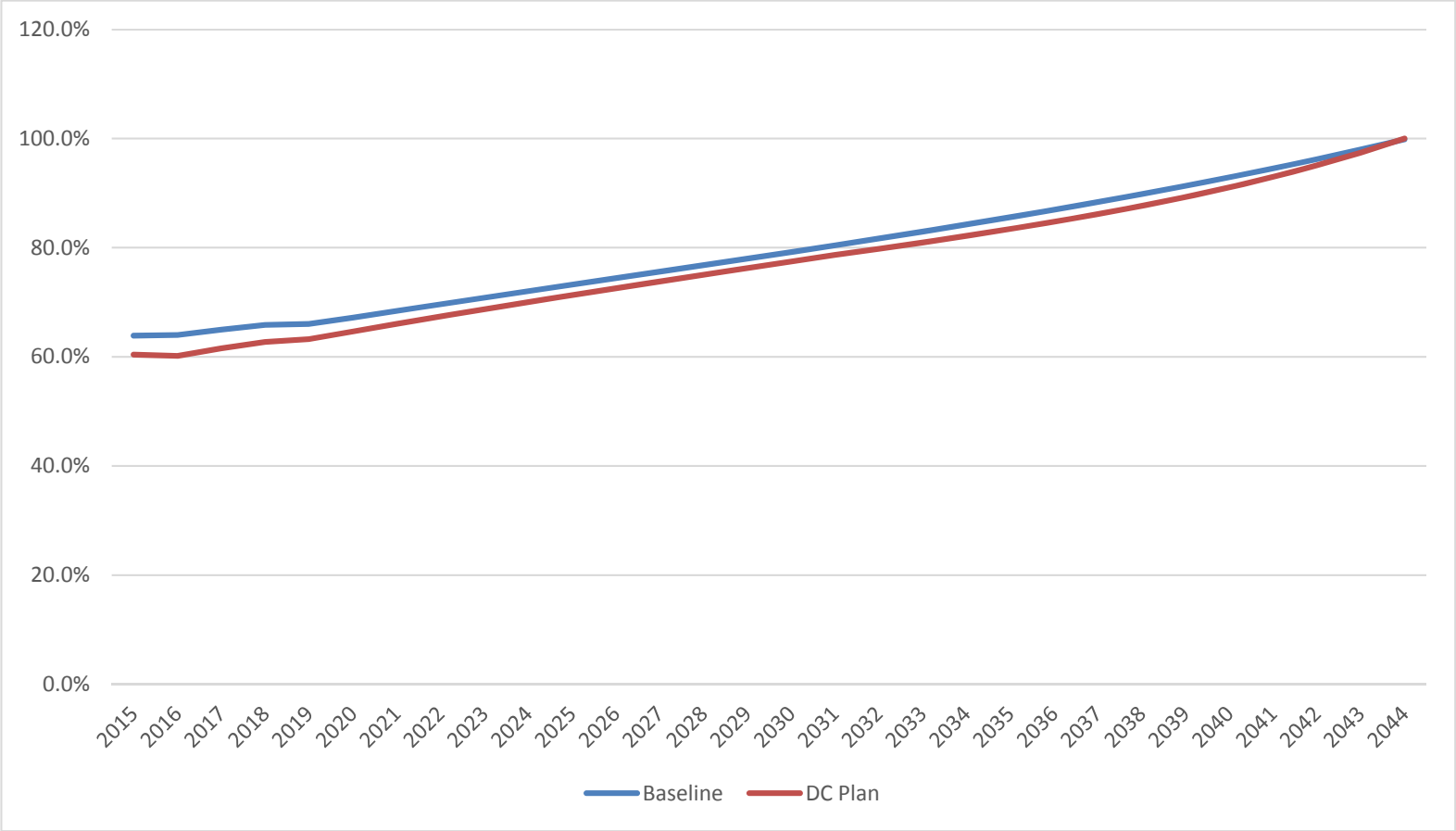
Note: All assumptions are assumed to be met each year in the future.
Actual costs will vary to the extent actual experience differs from that projected.

Baseline: Excludes COLA Pool assets and liabilities; 6.40% Assumed Rate of Return

DC Plan: Excludes COLA Pool asset and liabilities; 6.40% grading to 4.50% Assumed Rate of Return; New members to DC

Funded Ratio

Exhibit 1, page 6



Note: All assumptions are assumed to be met each year in the future.
Actual costs will vary to the extent actual experience differs from that projected.

Baseline: Excludes COLA Pool assets and liabilities; 6.40% Assumed Rate of Return

DC Plan: Excludes COLA Pool asset and liabilities; 6.40% grading to 4.50% Assumed Rate of Return; New members to DC

Exhibit A

Exhibit 2, page 1

City of Lincoln Police and Fire Pension Fund

Baseline (Excludes COLA Pool Assets and Liabilities, 6.40% Assumed Rate of Return)
vs.
Modified Baseline (Includes COLA Pool Assets and Liabilities, 7.50% Assumed Rate of Return)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Valuation	Total	**Actuarial Contribution Rate**		**Employee Contribution Rate**		**City Contribution Rate**		**City Contribution Amount**		
Date	Covered Payroll	Baseline	Modified	Baseline	Modified	Baseline	Modified	Baseline	Modified	Difference
8/31/2015	$ 42,381,058	34.30%	24.30%	6.88%	6.88%	27.42%	17.42%	$ 12,065,465	$ 7,829,103	$ (4,236,362)
8/31/2016	43,539,584	34.80%	24.22%	7.03%	7.03%	27.77%	17.19%	12,551,768	7,943,662	(4,608,106)
8/31/2017	44,832,323	34.98%	24.35%	7.13%	7.13%	27.85%	17.22%	12,960,928	8,194,123	(4,766,805)
8/31/2018	46,064,309	35.24%	24.60%	7.26%	7.26%	27.98%	17.34%	13,373,274	8,470,110	(4,903,164)
8/31/2019	47,405,129	35.76%	25.15%	7.36%	7.36%	28.40%	17.79%	13,962,582	8,933,491	(5,029,091)
8/31/2020	48,764,682	35.91%	25.28%	7.45%	7.45%	28.46%	17.83%	14,390,853	9,207,706	(5,183,147)
8/31/2021	50,070,525	36.05%	25.38%	7.56%	7.56%	28.49%	17.82%	14,797,152	9,455,109	(5,342,043)
8/31/2022	51,425,697	36.17%	25.47%	7.65%	7.65%	28.52%	17.82%	15,211,657	9,708,932	(5,502,724)
8/31/2023	52,796,822	36.27%	25.54%	7.73%	7.73%	28.54%	17.81%	15,630,814	9,962,234	(5,668,580)
8/31/2024	54,235,235	36.35%	25.59%	7.79%	7.79%	28.56%	17.80%	16,069,945	10,233,087	(5,836,858)
8/31/2025	55,717,187	36.43%	25.64%	7.84%	7.84%	28.59%	17.80%	16,531,226	10,514,731	(6,016,495)
8/31/2026	57,204,951	36.52%	25.68%	7.87%	7.87%	28.65%	17.81%	17,009,399	10,808,500	(6,200,899)
8/31/2027	58,663,852	36.63%	25.74%	7.89%	7.89%	28.74%	17.85%	17,492,831	11,105,042	(6,387,790)
8/31/2028	60,176,610	36.73%	25.81%	7.92%	7.92%	28.81%	17.89%	17,993,985	11,418,870	(6,575,115)
8/31/2029	61,730,720	36.84%	25.86%	7.94%	7.94%	28.90%	17.92%	18,514,261	11,739,783	(6,774,479)
8/31/2030	63,347,190	36.93%	25.92%	7.95%	7.95%	28.98%	17.97%	19,049,425	12,073,891	(6,975,534)
8/31/2031	65,030,266	37.03%	25.96%	7.97%	7.97%	29.06%	17.99%	19,613,141	12,416,083	(7,197,058)
8/31/2032	66,802,030	37.11%	26.01%	7.98%	7.98%	29.13%	18.03%	20,197,724	12,782,247	(7,415,477)
8/31/2033	68,676,553	37.19%	26.06%	7.99%	7.99%	29.20%	18.07%	20,810,922	13,167,521	(7,643,402)
8/31/2034	70,595,915	37.27%	26.10%	7.99%	7.99%	29.28%	18.11%	21,448,738	13,561,962	(7,886,776)
8/31/2035	72,491,054	37.38%	26.16%	8.00%	8.00%	29.38%	18.16%	22,106,390	13,970,263	(8,136,127)
8/31/2036	74,478,731	37.49%	26.23%	8.00%	8.00%	29.49%	18.23%	22,796,359	14,407,440	(8,388,919)
8/31/2037	76,514,132	37.61%	26.30%	8.00%	8.00%	29.61%	18.30%	23,505,567	14,854,211	(8,651,355)
8/31/2038	78,569,726	37.75%	26.38%	8.00%	8.00%	29.75%	18.38%	24,253,571	15,321,235	(8,932,335)
8/31/2039	80,713,768	37.90%	26.46%	8.00%	8.00%	29.90%	18.46%	25,037,202	15,806,691	(9,230,511)
8/31/2040	82,975,133	38.06%	26.55%	8.00%	8.00%	30.06%	18.55%	25,875,820	16,324,760	(9,551,060)
8/31/2041	85,407,940	38.25%	26.67%	8.00%	8.00%	30.25%	18.67%	26,798,471	16,900,337	(9,898,134)
8/31/2042	87,938,905	38.57%	26.85%	8.00%	8.00%	30.57%	18.85%	27,873,928	17,561,817	(10,312,110)
8/31/2043	90,612,192	39.32%	27.27%	8.00%	8.00%	31.32%	19.27%	29,395,431	18,479,584	(10,915,847)
8/31/2044	93,394,586	22.99%	18.00%	8.00%	8.00%	14.99%	10.00%	15,047,030	10,386,165	(4,660,865)
								$ 572,365,857	$ 363,538,690	$ (208,827,167)

Note: All assumptions, including the 6.40% (or 7.50%) rate of return, are assumed to be met each year in the future.
Employer Contribution Amount includes Administrative Expenses.

3/30/2016

Exhibit B

Exhibit 2, page 2

City of Lincoln Police and Fire Pension Fund

Baseline (Excludes COLA Pool Assets and Liabilities, 6.40% Assumed Rate of Return)
vs.
Modified Baseline (Includes COLA Pool Assets and Liabilities, 7.50% Assumed Rate of Return)

	Baseline: Excludes COLA Pool Assets and Liabilities, 6.40% Assumed Rate of Return				Modified Baseline: Includes COLA Pool Assets and Liabilities, 7.50% Assumed Rate of Return			
Valuation Date	Actuarial Liability	Actuarial Assets	Unfunded Actuarial Liability	Funded Ratio	Actuarial Liability	Actuarial Assets	Unfunded Actuarial Liability	Funded Ratio
8/31/2015	$ 286,493,673	$ 183,011,274	$ 103,482,399	63.9%	$ 261,733,723	$ 210,163,760	$ 51,569,963	80.3%
8/31/2016	299,576,557	191,719,383	107,857,174	64.0%	273,665,275	222,278,506	51,386,769	81.2%
8/31/2017	313,226,395	203,591,927	109,634,468	65.0%	286,140,544	233,498,988	52,641,556	81.6%
8/31/2018	327,174,839	215,457,799	111,717,040	65.9%	298,901,024	244,375,642	54,525,382	81.8%
8/31/2019	341,622,516	225,607,146	116,015,370	66.0%	312,138,906	253,397,595	58,741,311	81.2%
8/31/2020	356,498,943	239,503,888	116,995,055	67.2%	325,788,475	266,025,139	59,763,336	81.7%
8/31/2021	371,722,844	254,223,693	117,499,151	68.4%	339,773,080	279,391,235	60,381,845	82.2%
8/31/2022	387,266,996	269,556,687	117,710,309	69.6%	354,061,147	293,257,766	60,803,381	82.8%
8/31/2023	403,009,405	285,395,960	117,613,445	70.8%	368,533,797	307,508,566	61,025,231	83.4%
8/31/2024	419,005,248	301,790,611	117,214,637	72.0%	383,243,048	322,186,415	61,056,633	84.1%
8/31/2025	435,291,191	318,743,096	116,548,095	73.2%	398,225,190	337,277,298	60,947,892	84.7%
8/31/2026	451,841,273	336,266,783	115,574,490	74.4%	413,457,487	352,785,910	60,671,577	85.3%
8/31/2027	468,519,409	354,271,848	114,247,561	75.6%	428,804,213	368,600,638	60,203,575	86.0%
8/31/2028	485,365,949	372,804,794	112,561,155	76.8%	444,302,753	384,756,470	59,546,283	86.6%
8/31/2029	502,369,431	391,888,630	110,480,801	78.0%	459,941,912	401,264,735	58,677,177	87.2%
8/31/2030	519,577,605	411,590,448	107,987,157	79.2%	475,764,945	418,182,709	57,582,236	87.9%
8/31/2031	536,970,866	431,939,361	105,031,505	80.4%	491,751,223	435,517,531	56,233,692	88.6%
8/31/2032	554,594,933	453,004,913	101,590,020	81.7%	507,941,658	453,326,816	54,614,842	89.2%
8/31/2033	572,547,079	474,927,348	97,619,731	82.9%	524,430,724	471,720,937	52,709,787	89.9%
8/31/2034	590,818,362	497,748,154	93,070,208	84.2%	541,207,487	490,732,034	50,475,453	90.7%
8/31/2035	609,276,603	521,409,370	87,867,233	85.6%	558,138,655	510,276,787	47,861,868	91.4%
8/31/2036	627,985,119	546,016,046	81,969,073	86.9%	575,284,019	530,432,571	44,851,448	92.2%
8/31/2037	646,964,521	571,647,058	75,317,463	88.4%	592,662,144	551,257,188	41,404,956	93.0%
8/31/2038	666,119,200	598,293,236	67,825,964	89.8%	610,175,575	572,720,327	37,455,248	93.9%
8/31/2039	685,471,423	626,015,230	59,456,193	91.3%	627,840,057	594,857,225	32,982,832	94.7%
8/31/2040	705,131,391	655,012,545	50,118,846	92.9%	645,762,568	617,832,242	27,930,326	95.7%
8/31/2041	725,295,635	685,546,256	39,749,379	94.5%	664,133,263	641,873,569	22,259,694	96.6%
8/31/2042	746,044,519	717,817,622	28,226,897	96.2%	683,028,528	667,139,038	15,889,490	97.7%
8/31/2043	767,453,081	752,028,968	15,424,113	98.0%	702,514,783	693,782,706	8,732,077	98.8%
8/31/2044	789,589,444	788,485,310	1,104,134	99.9%	722,659,486	722,020,870	638,616	99.9%

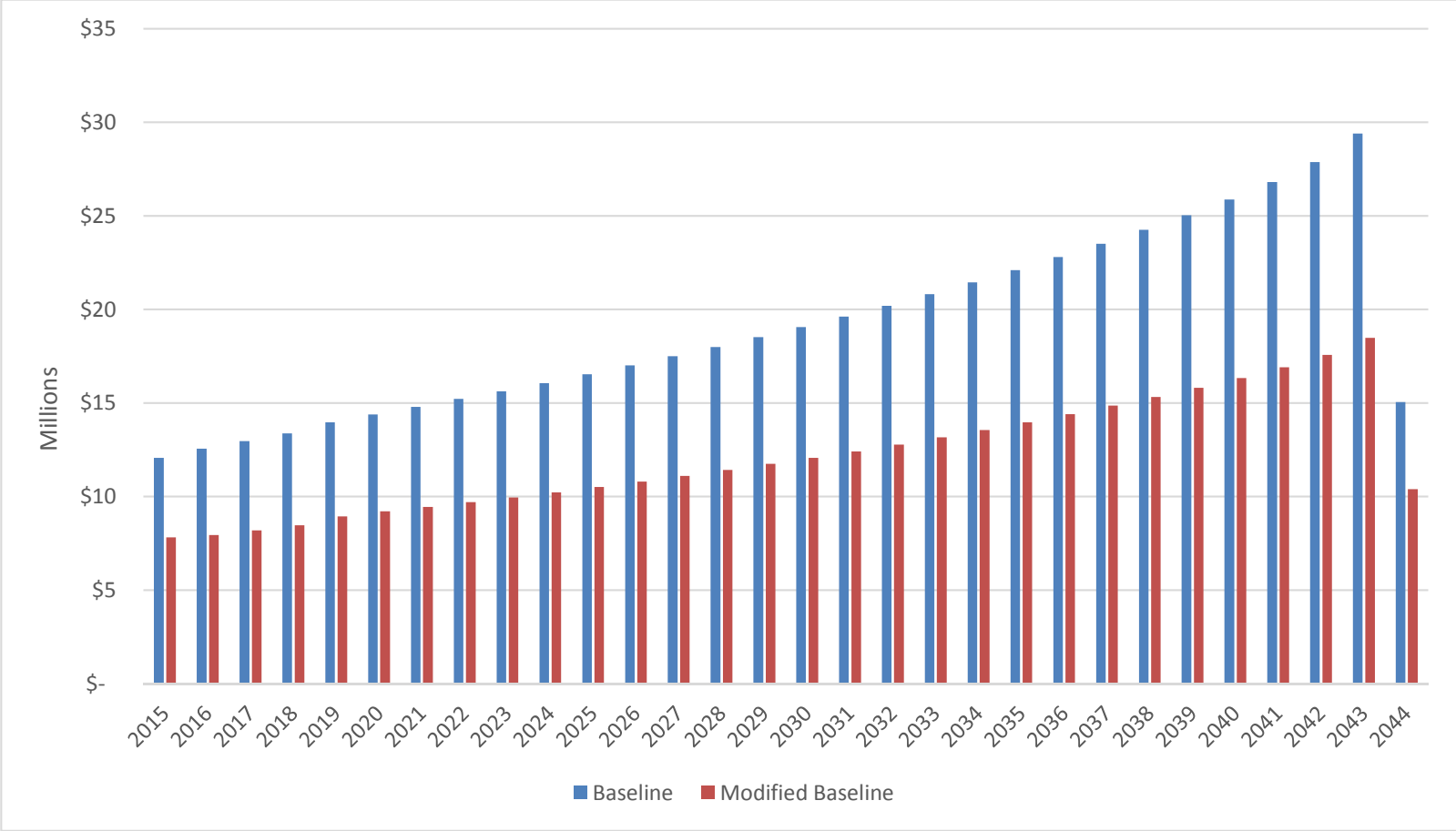
Note: All assumptions, including the 6.40% (or 7.50%) rate of return, are assumed to be met each year in the future.

3/30/2016

Prepared by Cavanaugh Macdonald Consulting LLC

City Contribution Amounts

Exhibit 2, page 3



Note: All assumptions are assumed to be met each year in the future.
Actual costs will vary to the extent actual experience differs from that projected.

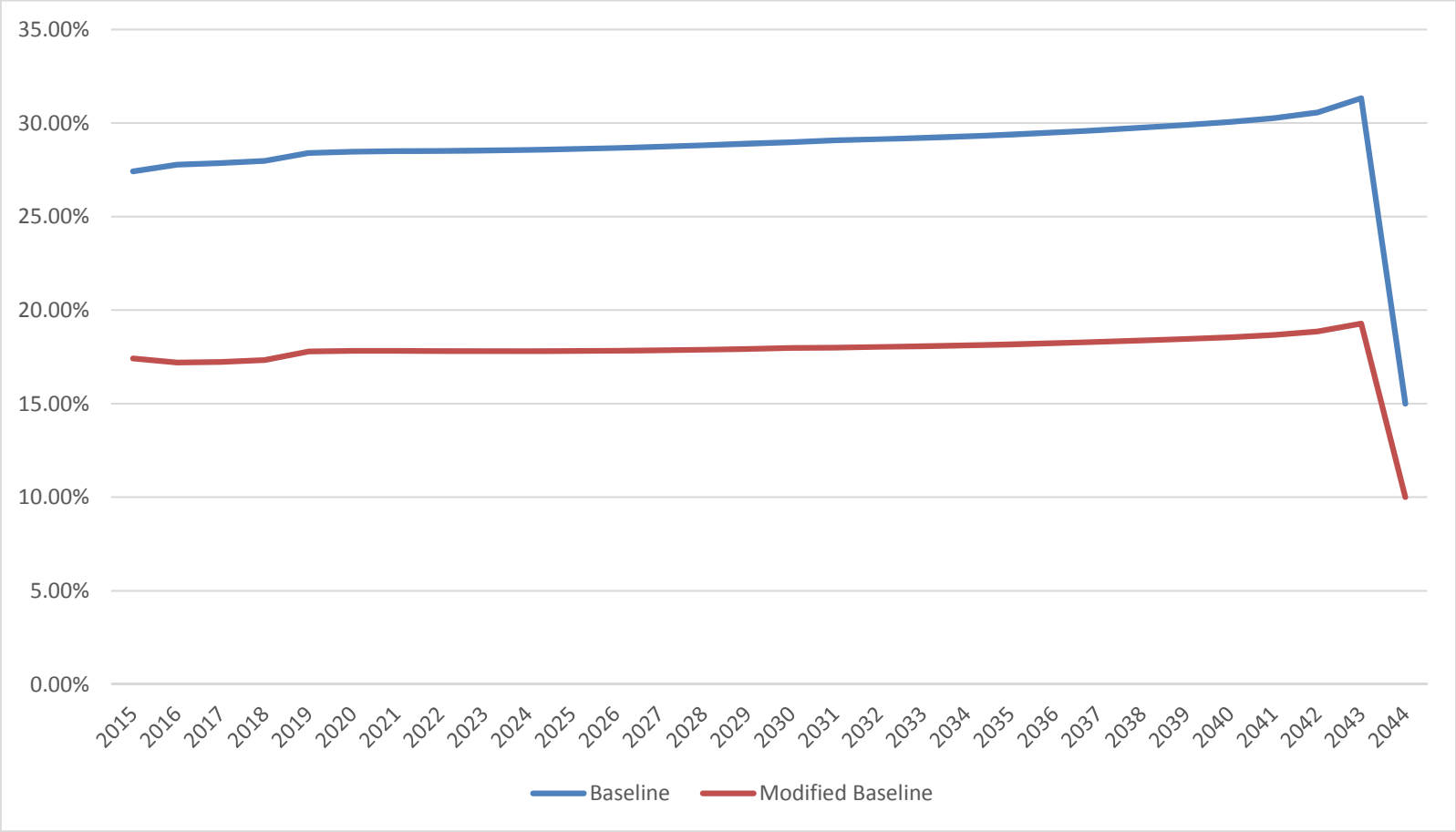
Baseline: Excludes COLA Pool assets and liabilities; 6.40% Assumed Rate of Return

Modified Baseline: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return

Prepared by Cavanaugh Macdonald Consulting LLC

City Contribution Rates

Exhibit 2, page 4



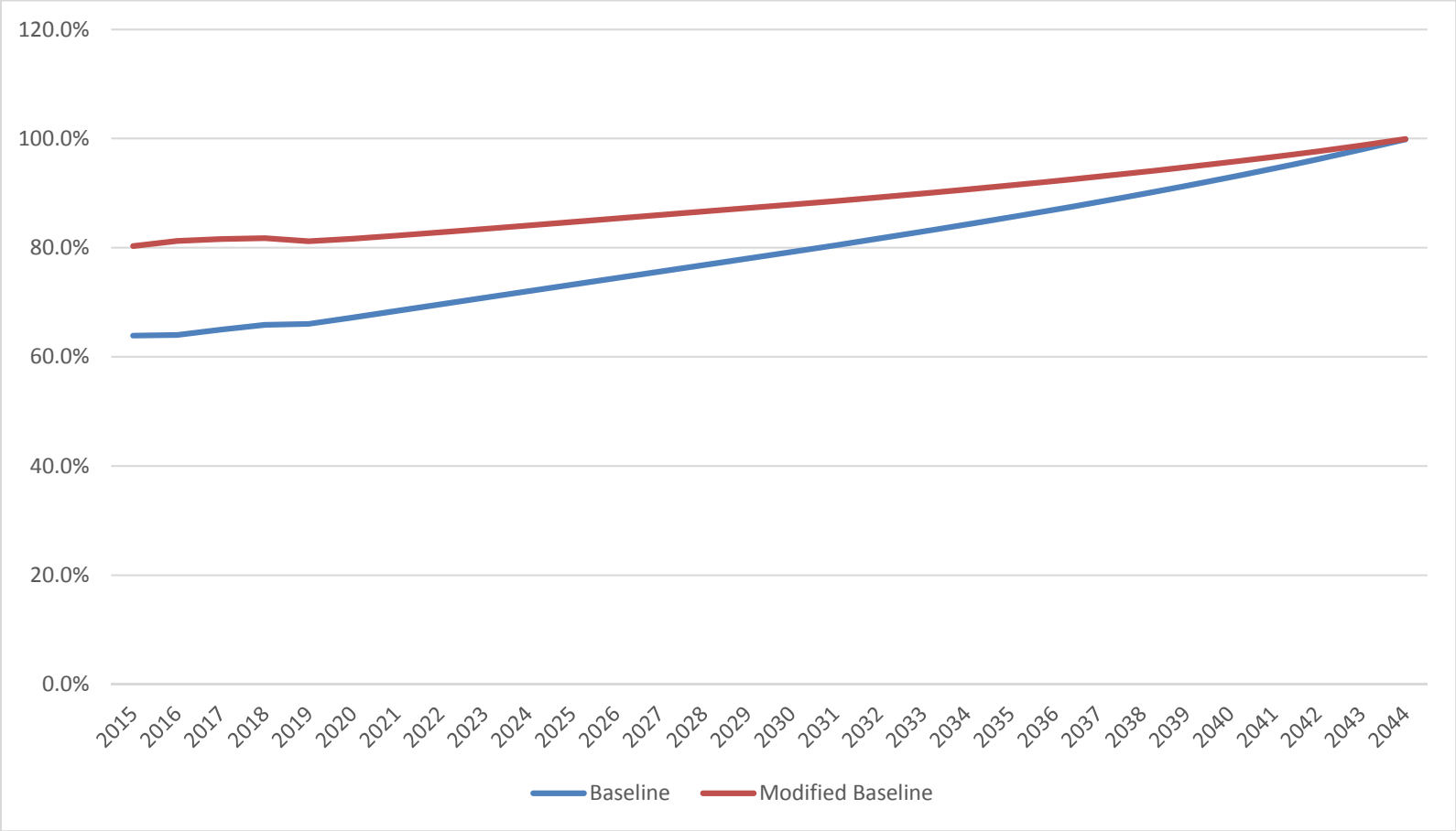
Note: All assumptions are assumed to be met each year in the future.
Actual costs will vary to the extent actual experience differs from that projected.

Baseline: Excludes COLA Pool assets and liabilities; 6.40% Assumed Rate of Return

Modified Baseline: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return

Funded Ratio

Exhibit 2, page 5



Note: All assumptions are assumed to be met each year in the future.
Actual costs will vary to the extent actual experience differs from that projected.

Baseline: Excludes COLA Pool assets and liabilities; 6.40% Assumed Rate of Return

Modified Baseline: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return

Exhibit A

Exhibit 3, page 1

City of Lincoln Police and Fire Pension Fund

Modified Baseline
vs.
Formula Change to (2.5% * YOS<=15 + 2.0% * YOS>15) * Final Average Salary, Maximum Benefit 67.5%)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Valuation	Total	**Actuarial Contribution Rate**		**Employee Contribution Rate**		**City Contribution Rate**		**City Contribution Amount**		
Date	Covered Payroll	Modified Baseline	Formula Change	Modified Baseline	Formula Change	Modified Baseline	Formula Change	Modified Baseline	Formula Change	Difference
8/31/2015	$ 42,381,058	24.30%	23.34%	6.88%	6.88%	17.42%	16.46%	$ 7,829,103	$ 7,422,010	$ (407,093)
8/31/2016	43,539,584	24.22%	23.16%	7.03%	7.03%	17.19%	16.13%	7,943,662	7,482,570	(461,093)
8/31/2017	44,832,323	24.35%	23.24%	7.13%	7.13%	17.22%	16.11%	8,194,123	7,698,503	(495,620)
8/31/2018	46,064,309	24.60%	23.44%	7.26%	7.26%	17.34%	16.18%	8,470,110	7,940,432	(529,677)
8/31/2019	47,405,129	25.15%	23.97%	7.36%	7.36%	17.79%	16.61%	8,933,491	8,378,308	(555,183)
8/31/2020	48,764,682	25.28%	24.06%	7.45%	7.45%	17.83%	16.61%	9,207,706	8,617,736	(589,970)
8/31/2021	50,070,525	25.38%	24.13%	7.56%	7.56%	17.82%	16.57%	9,455,109	8,840,430	(614,679)
8/31/2022	51,425,697	25.47%	24.17%	7.65%	7.65%	17.82%	16.52%	9,708,932	9,059,331	(649,602)
8/31/2023	52,796,822	25.54%	24.20%	7.73%	7.73%	17.81%	16.47%	9,962,234	9,278,304	(683,930)
8/31/2024	54,235,235	25.59%	24.21%	7.79%	7.79%	17.80%	16.42%	10,233,087	9,510,719	(722,368)
8/31/2025	55,717,187	25.64%	24.23%	7.84%	7.84%	17.80%	16.39%	10,514,731	9,764,150	(750,581)
8/31/2026	57,204,951	25.68%	24.25%	7.87%	7.87%	17.81%	16.38%	10,808,500	10,032,272	(776,229)
8/31/2027	58,663,852	25.74%	24.27%	7.89%	7.89%	17.85%	16.38%	11,105,042	10,306,550	(798,492)
8/31/2028	60,176,610	25.81%	24.30%	7.92%	7.92%	17.89%	16.38%	11,418,870	10,587,764	(831,106)
8/31/2029	61,730,720	25.86%	24.33%	7.94%	7.94%	17.92%	16.39%	11,739,783	10,895,830	(843,952)
8/31/2030	63,347,190	25.92%	24.36%	7.95%	7.95%	17.97%	16.41%	12,073,891	11,212,991	(860,900)
8/31/2031	65,030,266	25.96%	24.39%	7.97%	7.97%	17.99%	16.42%	12,416,083	11,532,162	(883,920)
8/31/2032	66,802,030	26.01%	24.42%	7.98%	7.98%	18.03%	16.44%	12,782,247	11,860,132	(922,115)
8/31/2033	68,676,553	26.06%	24.45%	7.99%	7.99%	18.07%	16.46%	13,167,521	12,221,053	(946,468)
8/31/2034	70,595,915	26.10%	24.48%	7.99%	7.99%	18.11%	16.49%	13,561,962	12,592,532	(969,430)
8/31/2035	72,491,054	26.16%	24.52%	8.00%	8.00%	18.16%	16.52%	13,970,263	12,993,267	(976,996)
8/31/2036	74,478,731	26.23%	24.58%	8.00%	8.00%	18.23%	16.58%	14,407,440	13,414,089	(993,352)
8/31/2037	76,514,132	26.30%	24.65%	8.00%	8.00%	18.30%	16.65%	14,854,211	13,829,627	(1,024,584)
8/31/2038	78,569,726	26.38%	24.71%	8.00%	8.00%	18.38%	16.71%	15,321,235	14,259,463	(1,061,772)
8/31/2039	80,713,768	26.46%	24.82%	8.00%	8.00%	18.46%	16.82%	15,806,691	14,716,425	(1,090,266)
8/31/2040	82,975,133	26.55%	24.94%	8.00%	8.00%	18.55%	16.94%	16,324,760	15,175,471	(1,149,290)
8/31/2041	85,407,940	26.67%	25.06%	8.00%	8.00%	18.67%	17.06%	16,900,337	15,690,023	(1,210,314)
8/31/2042	87,938,905	26.85%	25.24%	8.00%	8.00%	18.85%	17.24%	17,561,817	16,296,164	(1,265,654)
8/31/2043	90,612,192	27.27%	25.66%	8.00%	8.00%	19.27%	17.66%	18,479,584	17,152,648	(1,326,936)
8/31/2044	93,394,586	18.00%	16.81%	8.00%	8.00%	10.00%	8.81%	10,386,165	9,330,186	(1,055,979)
								$ 363,538,690	$ 338,091,139	$ (25,447,551)

Note: All assumptions, including the 7.50% rate of return, are assumed to be met each year in the future. Both projections include the COLA Pool assets and liabilities and a 7.50% assumed rate of return. City Contribution Amount includes Administrative Expenses. Retirement rates were adjusted under the proposed change to anticipate a change in retirement behavior, but actual experience may vary significantly from that assumed. If that occurs, actual cost savings may also vary.

Benefit Formula Changes: Members with 15 or more years of service are grandfathered under the current provisions;
Normal Retirement Age for all other members moves from age 50 to age 55;
Benefit multiplier of 2.50% for the first 15 years, then 2.00% thereafter, with a maximum benefit of 67.5%;
Members can elect Early Retirement at age 50 with a 6% per year reduction in their benefit for each year before age 55.

4/14/2016

Exhibit B

Exhibit 3, page 2

City of Lincoln Police and Fire Pension Fund

Modified Baseline
vs.
Formula Change to (2.5% * YOS<=15 + 2.0% * YOS>15) * Final Average Salary, Maximum Benefit 67.5%)

	Modified Baseline: Includes COLA Pool Assets and Liabilities, 7.50% Assumed Rate of Return				Formula Change: Includes COLA Pool Assets and Liabilities, 7.50% Assumed Rate of Return, Benefit Formula Change			
Valuation Date	Actuarial Liability	Actuarial Assets	Unfunded Actuarial Liability	Funded Ratio	Actuarial Liability	Actuarial Assets	Unfunded Actuarial Liability	Funded Ratio
8/31/2015	$ 261,733,723	$ 210,163,760	$ 51,569,963	80.3%	$ 259,648,091	$ 210,163,760	$ 49,484,331	80.9%
8/31/2016	273,665,275	222,278,506	51,386,769	81.2%	271,142,703	222,281,088	48,861,615	82.0%
8/31/2017	286,140,544	233,498,988	52,641,556	81.6%	283,129,079	233,086,296	50,042,783	82.3%
8/31/2018	298,901,024	244,375,642	54,525,382	81.8%	295,336,775	243,458,399	51,878,376	82.4%
8/31/2019	312,138,906	253,397,595	58,741,311	81.2%	307,957,588	251,902,898	56,054,690	81.8%
8/31/2020	325,788,475	266,025,139	59,763,336	81.7%	320,936,786	263,887,967	57,048,819	82.2%
8/31/2021	339,773,080	279,391,235	60,381,845	82.2%	334,207,517	276,566,005	57,641,512	82.8%
8/31/2022	354,061,147	293,257,766	60,803,381	82.8%	347,756,548	289,704,720	58,051,828	83.3%
8/31/2023	368,533,797	307,508,566	61,025,231	83.4%	361,439,519	303,182,951	58,256,568	83.9%
8/31/2024	383,243,048	322,186,415	61,056,633	84.1%	375,313,804	317,030,320	58,283,484	84.5%
8/31/2025	398,225,190	337,277,298	60,947,892	84.7%	389,439,553	331,256,879	58,182,674	85.1%
8/31/2026	413,457,487	352,785,910	60,671,577	85.3%	403,816,791	345,879,098	57,937,693	85.7%
8/31/2027	428,804,213	368,600,638	60,203,575	86.0%	418,369,179	360,848,408	57,520,771	86.3%
8/31/2028	444,302,753	384,756,470	59,546,283	86.6%	433,136,865	376,216,340	56,920,525	86.9%
8/31/2029	459,941,912	401,264,735	58,677,177	87.2%	448,182,393	392,049,365	56,133,028	87.5%
8/31/2030	475,764,945	418,182,709	57,582,236	87.9%	463,647,271	408,495,393	55,151,878	88.1%
8/31/2031	491,751,223	435,517,531	56,233,692	88.6%	479,429,605	425,525,503	53,904,102	88.8%
8/31/2032	507,941,658	453,326,816	54,614,842	89.2%	495,431,203	443,054,581	52,376,622	89.4%
8/31/2033	524,430,724	471,720,937	52,709,787	89.9%	511,790,980	461,210,041	50,580,939	90.1%
8/31/2034	541,207,487	490,732,034	50,475,453	90.7%	528,596,018	480,111,753	48,484,265	90.8%
8/31/2035	558,138,655	510,276,787	47,861,868	91.4%	545,853,769	499,807,235	46,046,534	91.6%
8/31/2036	575,284,019	530,432,571	44,851,448	92.2%	563,628,328	520,405,834	43,222,494	92.3%
8/31/2037	592,662,144	551,257,188	41,404,956	93.0%	581,750,818	541,807,009	39,943,809	93.1%
8/31/2038	610,175,575	572,720,327	37,455,248	93.9%	600,059,141	563,892,524	36,166,617	94.0%
8/31/2039	627,840,057	594,857,225	32,982,832	94.7%	618,478,388	586,615,590	31,862,798	94.8%
8/31/2040	645,762,568	617,832,242	27,930,326	95.7%	636,805,251	609,846,975	26,958,276	95.8%
8/31/2041	664,133,263	641,873,569	22,259,694	96.6%	655,194,543	633,734,895	21,459,648	96.7%
8/31/2042	683,028,528	667,139,038	15,889,490	97.7%	673,865,356	658,557,499	15,307,857	97.7%
8/31/2043	702,514,783	693,782,706	8,732,077	98.8%	692,874,669	684,467,893	8,406,776	98.8%
8/31/2044	722,659,486	722,020,870	638,616	99.9%	712,251,158	711,636,356	614,802	99.9%

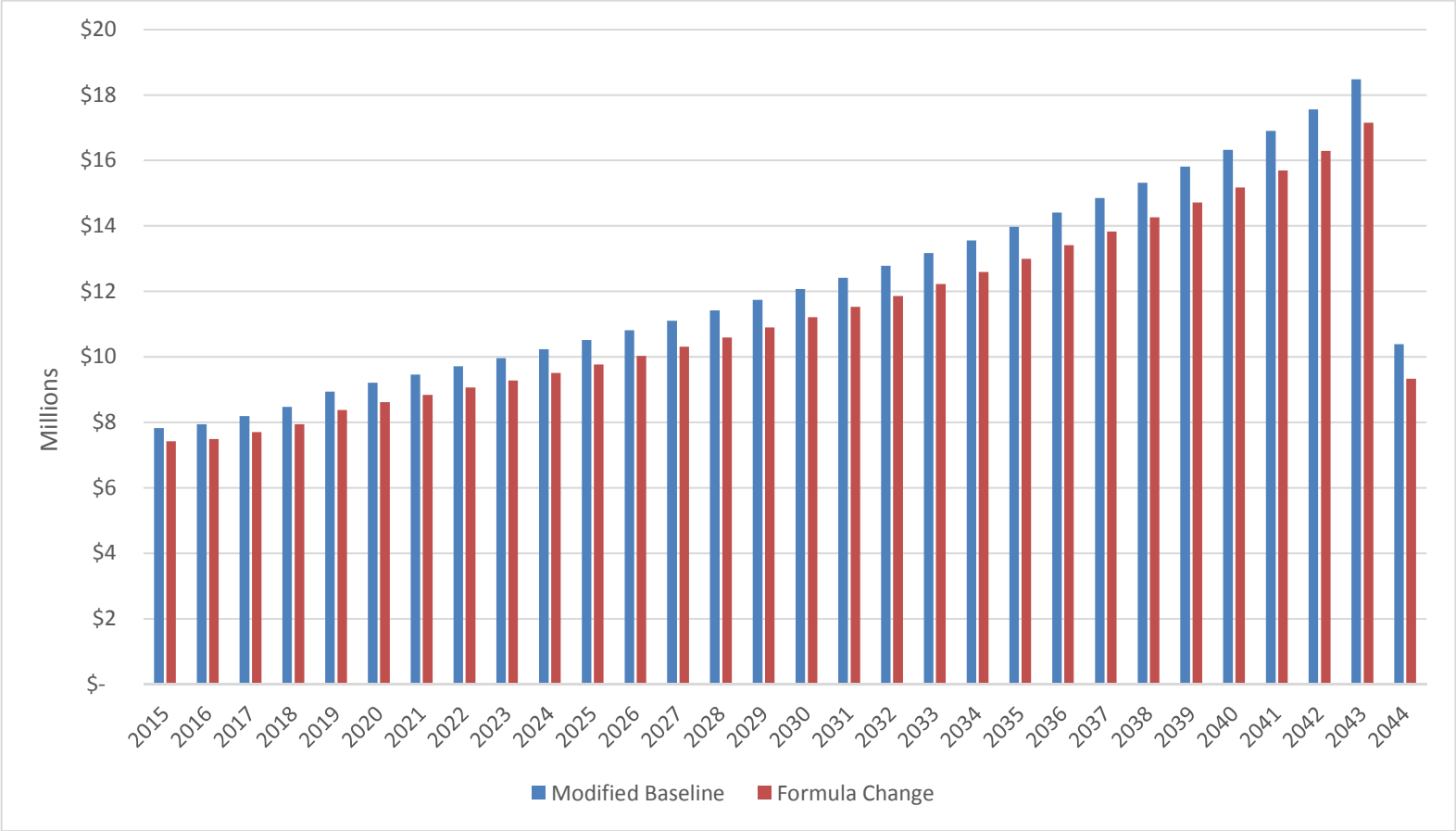
Note: All assumptions, including the 7.50% rate of return, are assumed to be met each year in the future. Both projections include the COLA Pool assets and liabilities and a 7.50% assumed rate of return. City Contribution Amount includes Administrative Expenses. Retirement rates were adjusted under the proposed change to anticipate a change in retirement behavior, but actual experience may vary significantly from that assumed. If that occurs, actual cost savings may also vary.

Benefit Formula Changes: Members with 15 or more years of service are grandfathered under the current provisions;
Normal Retirement Age for all other members moves from age 50 to age 55;
Benefit multiplier of 2.50% for the first 15 years, then 2.00% thereafter, with a maximum benefit of 67.5%;
Members can elect Early Retirement at age 50 with a 6% per year reduction in their benefit for each year before age 55.

4/14/2016

City Contribution Amounts

Exhibit 3, page 3



Note: All assumptions are assumed to be met each year in the future.
Actual costs will vary to the extent actual experience differs from that projected.

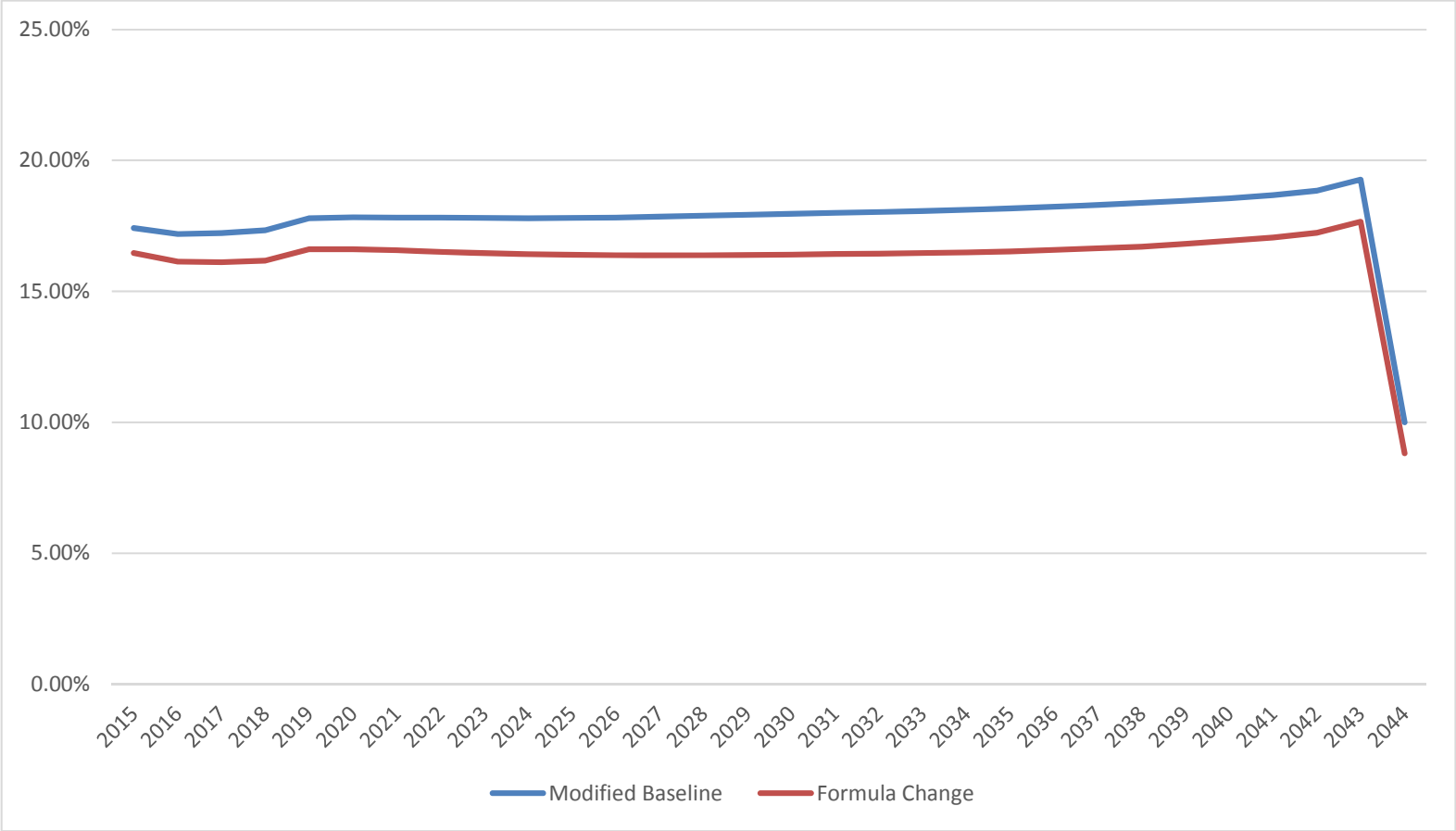
Modified Baseline: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return

Formula Change: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return, Benefit Formula Change

Prepared by Cavanaugh Macdonald Consulting LLC

City Contribution Rates

Exhibit 3, page 4



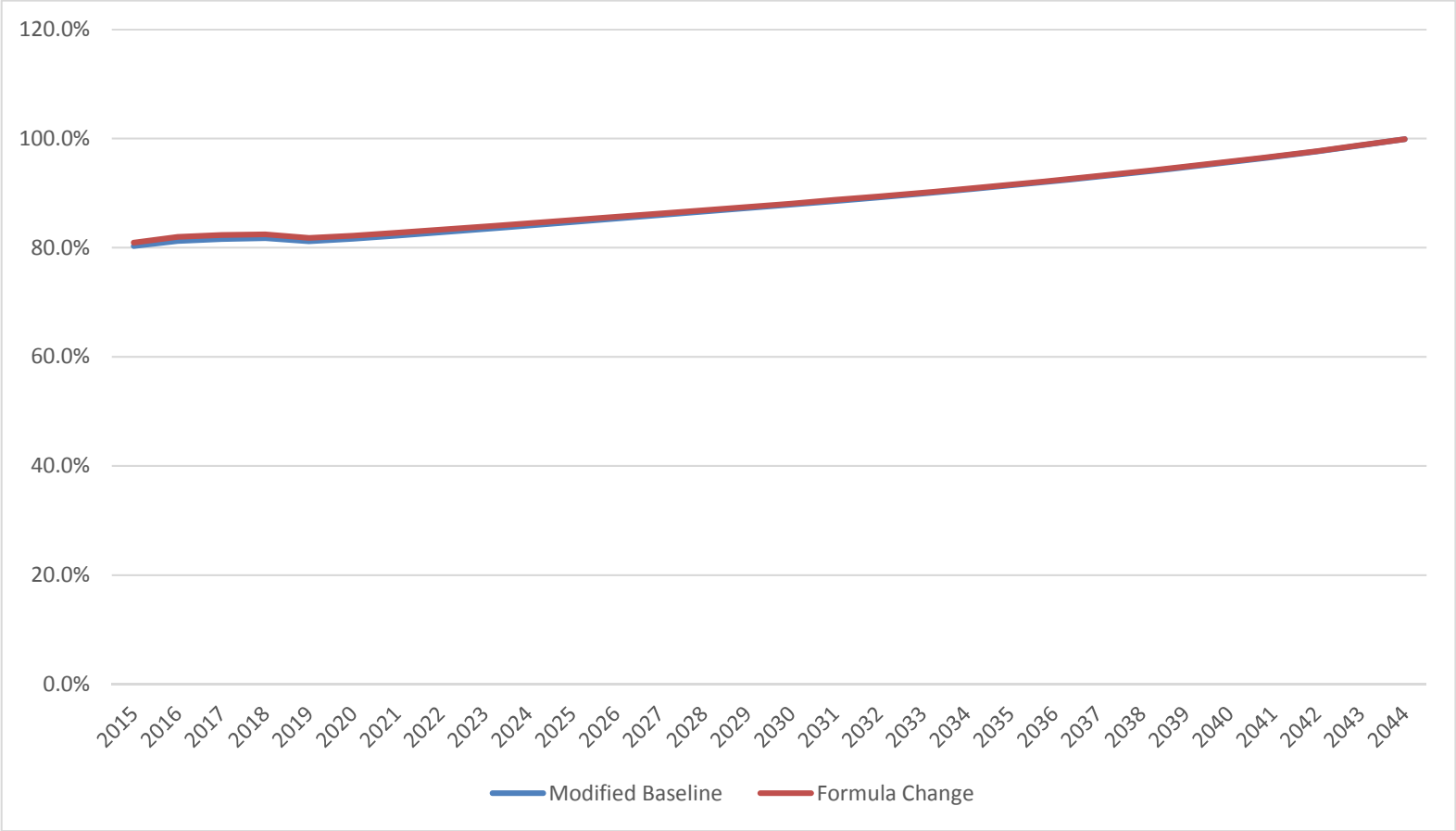
Note: All assumptions are assumed to be met each year in the future.
Actual costs will vary to the extent actual experience differs from that projected.

Modified Baseline: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return

Formula Change: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return, Benefit Formula Change

Exhibit 3, page 5

Funded Ratio



Note: All assumptions are assumed to be met each year in the future.
Actual costs will vary to the extent actual experience differs from that projected.

Modified Baseline: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return

Formula Change: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return, Benefit Formula Change

Exhibit A

Exhibit 4, page1

City of Lincoln Police and Fire Pension Fund

Modified Baseline
vs.
3-year Final Average Salary with phase-in

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Valuation	Total	**Actuarial Contribution Rate**		**Employee Contribution Rate**		**City Contribution Rate**		**City Contribution Amount**		
Date	Covered Payroll	Modified Baseline	3 Yr FAS	Modified Baseline	3 Yr FAS	Modified Baseline	3 Yr FAS	Modified Baseline	3 Yr FAS	Difference
8/31/2015	$ 42,381,058	24.30%	23.63%	6.88%	6.88%	17.42%	16.75%	$ 7,829,103	$ 7,543,719	$ (285,384)
8/31/2016	43,539,584	24.22%	23.48%	7.03%	7.03%	17.19%	16.45%	7,943,662	7,623,286	(320,376)
8/31/2017	44,832,323	24.35%	23.60%	7.13%	7.13%	17.22%	16.47%	8,194,123	7,857,804	(336,319)
8/31/2018	46,064,309	24.60%	23.82%	7.26%	7.26%	17.34%	16.56%	8,470,110	8,114,244	(355,866)
8/31/2019	47,405,129	25.15%	24.38%	7.36%	7.36%	17.79%	17.02%	8,933,491	8,566,345	(367,146)
8/31/2020	48,764,682	25.28%	24.49%	7.45%	7.45%	17.83%	17.04%	9,207,706	8,824,351	(383,355)
8/31/2021	50,070,525	25.38%	24.57%	7.56%	7.56%	17.82%	17.01%	9,455,109	9,049,985	(405,124)
8/31/2022	51,425,697	25.47%	24.64%	7.65%	7.65%	17.82%	16.99%	9,708,932	9,286,102	(422,830)
8/31/2023	52,796,822	25.54%	24.70%	7.73%	7.73%	17.81%	16.97%	9,962,234	9,521,441	(440,793)
8/31/2024	54,235,235	25.59%	24.74%	7.79%	7.79%	17.80%	16.95%	10,233,087	9,773,492	(459,595)
8/31/2025	55,717,187	25.64%	24.78%	7.84%	7.84%	17.80%	16.94%	10,514,731	10,035,569	(479,162)
8/31/2026	57,204,951	25.68%	24.81%	7.87%	7.87%	17.81%	16.94%	10,808,500	10,309,240	(499,260)
8/31/2027	58,663,852	25.74%	24.87%	7.89%	7.89%	17.85%	16.98%	11,105,042	10,591,241	(513,800)
8/31/2028	60,176,610	25.81%	24.91%	7.92%	7.92%	17.89%	16.99%	11,418,870	10,878,040	(540,830)
8/31/2029	61,730,720	25.86%	24.96%	7.94%	7.94%	17.92%	17.02%	11,739,783	11,182,730	(557,053)
8/31/2030	63,347,190	25.92%	25.00%	7.95%	7.95%	17.97%	17.05%	12,073,891	11,494,356	(579,535)
8/31/2031	65,030,266	25.96%	25.04%	7.97%	7.97%	17.99%	17.07%	12,416,083	11,819,291	(596,792)
8/31/2032	66,802,030	26.01%	25.09%	7.98%	7.98%	18.03%	17.11%	12,782,247	12,167,689	(614,557)
8/31/2033	68,676,553	26.06%	25.12%	7.99%	7.99%	18.07%	17.13%	13,167,521	12,527,154	(640,367)
8/31/2034	70,595,915	26.10%	25.17%	7.99%	7.99%	18.11%	17.18%	13,561,962	12,908,557	(653,405)
8/31/2035	72,491,054	26.16%	25.22%	8.00%	8.00%	18.16%	17.22%	13,970,263	13,290,107	(680,155)
8/31/2036	74,478,731	26.23%	25.29%	8.00%	8.00%	18.23%	17.29%	14,407,440	13,705,447	(701,993)
8/31/2037	76,514,132	26.30%	25.35%	8.00%	8.00%	18.30%	17.35%	14,854,211	14,130,173	(724,038)
8/31/2038	78,569,726	26.38%	25.42%	8.00%	8.00%	18.38%	17.42%	15,321,235	14,566,384	(754,851)
8/31/2039	80,713,768	26.46%	25.51%	8.00%	8.00%	18.46%	17.51%	15,806,691	15,034,944	(771,747)
8/31/2040	82,975,133	26.55%	25.58%	8.00%	8.00%	18.55%	17.58%	16,324,760	15,519,566	(805,194)
8/31/2041	85,407,940	26.67%	25.69%	8.00%	8.00%	18.67%	17.69%	16,900,337	16,064,020	(836,317)
8/31/2042	87,938,905	26.85%	25.86%	8.00%	8.00%	18.85%	17.86%	17,561,817	16,690,966	(870,851)
8/31/2043	90,612,192	27.27%	26.27%	8.00%	8.00%	19.27%	18.27%	18,479,584	17,568,383	(911,201)
8/31/2044	93,394,586	18.00%	17.39%	8.00%	8.00%	10.00%	9.39%	10,386,165	9,814,657	(571,509)
								$ 363,538,690	$ 346,459,283	$ (17,079,407)

Note: All assumptions, including the 7.50% rate of return, are assumed to be met each year in the future. Both projections include the COLA Pool assets and liabilities and 7.5% assumed rate of return.
Employer Contribution Amount includes Administrative Expenses.

Phase-in: Members currently eligible for Normal Retirement (age 50 with 25 YOS) keep the High 1-year average.
Members eligible for Normal Retirement within the next 10 years (age 40 with 15 or more YOS) move to a High 2-year average.
Members not within 10 years of Normal Retirement move to a High 3-year average.
Current Final Average Salary is grandfathered, meaning a members' FAS at retirement will not be less than FAS prior to change.

4/13/2016

Exhibit 4, page 2

Exhibit B

City of Lincoln Police and Fire Pension Fund

Modified Baseline
vs.
3-year Final Average Salary with phase-in

	Baseline: Includes COLA Pool Assets and Liabilities, 7.50% Assumed Rate of Return				3-year FAS: Includes COLA Pool Assets and Liabilities, 7.50% Assumed Rate of Return, 3-year FAS phased in			
Valuation Date	Actuarial Liability	Actuarial Assets	Unfunded Actuarial Liability	Funded Ratio	Actuarial Liability	Actuarial Assets	Unfunded Actuarial Liability	Funded Ratio
8/31/2015	$ 261,733,723	$ 210,163,760	$ 51,569,963	80.3%	$ 259,767,285	$ 210,163,760	$ 49,603,525	80.9%
8/31/2016	273,665,275	222,278,506	51,386,769	81.2%	271,386,122	222,280,857	49,105,265	81.9%
8/31/2017	286,140,544	233,498,988	52,641,556	81.6%	283,519,141	233,213,136	50,306,005	82.3%
8/31/2018	298,901,024	244,375,642	54,525,382	81.8%	295,907,681	243,750,658	52,157,023	82.4%
8/31/2019	312,138,906	253,397,595	58,741,311	81.2%	308,742,952	252,400,685	56,342,267	81.8%
8/31/2020	325,788,475	266,025,139	59,763,336	81.7%	321,959,947	264,619,945	57,340,002	82.2%
8/31/2021	339,773,080	279,391,235	60,381,845	82.2%	335,483,421	277,550,590	57,932,831	82.7%
8/31/2022	354,061,147	293,257,766	60,803,381	82.8%	349,281,151	290,949,865	58,331,286	83.3%
8/31/2023	368,533,797	307,508,566	61,025,231	83.4%	363,235,644	304,696,677	58,538,967	83.9%
8/31/2024	383,243,048	322,186,415	61,056,633	84.1%	377,398,005	318,836,810	58,561,195	84.5%
8/31/2025	398,225,190	337,277,298	60,947,892	84.7%	391,804,139	333,355,436	58,448,703	85.1%
8/31/2026	413,457,487	352,785,910	60,671,577	85.3%	406,431,732	348,256,241	58,175,491	85.7%
8/31/2027	428,804,213	368,600,638	60,203,575	86.0%	421,147,768	363,428,966	57,718,802	86.3%
8/31/2028	444,302,753	384,756,470	59,546,283	86.6%	435,988,651	378,906,946	57,081,705	86.9%
8/31/2029	459,941,912	401,264,735	58,677,177	87.2%	450,944,473	394,707,654	56,236,819	87.5%
8/31/2030	475,764,945	418,182,709	57,582,236	87.9%	466,061,122	410,877,677	55,183,445	88.2%
8/31/2031	491,751,223	435,517,531	56,233,692	88.6%	481,319,724	427,435,563	53,884,161	88.8%
8/31/2032	507,941,658	453,326,816	54,614,842	89.2%	496,762,520	444,433,327	52,329,193	89.5%
8/31/2033	524,430,724	471,720,937	52,709,787	89.9%	512,484,088	461,985,670	50,498,418	90.1%
8/31/2034	541,207,487	490,732,034	50,475,453	90.7%	528,476,389	480,126,384	48,350,005	90.9%
8/31/2035	558,138,655	510,276,787	47,861,868	91.4%	544,612,875	498,769,261	45,843,614	91.6%
8/31/2036	575,284,019	530,432,571	44,851,448	92.2%	560,950,867	518,001,291	42,949,576	92.3%
8/31/2037	592,662,144	551,257,188	41,404,956	93.0%	577,509,222	537,865,895	39,643,327	93.1%
8/31/2038	610,175,575	572,720,327	37,455,248	93.9%	594,194,051	558,339,555	35,854,496	94.0%
8/31/2039	627,840,057	594,857,225	32,982,832	94.7%	611,020,795	579,456,145	31,564,650	94.8%
8/31/2040	645,762,568	617,832,242	27,930,326	95.7%	628,096,201	601,369,372	26,726,829	95.7%
8/31/2041	664,133,263	641,873,569	22,259,694	96.6%	645,605,806	624,315,621	21,290,185	96.7%
8/31/2042	683,028,528	667,139,038	15,889,490	97.7%	663,624,842	648,433,363	15,191,479	97.7%
8/31/2043	702,514,783	693,782,706	8,732,077	98.8%	682,217,925	673,875,281	8,342,644	98.8%
8/31/2044	722,659,486	722,020,870	638,616	99.9%	701,450,871	700,850,024	600,847	99.9%

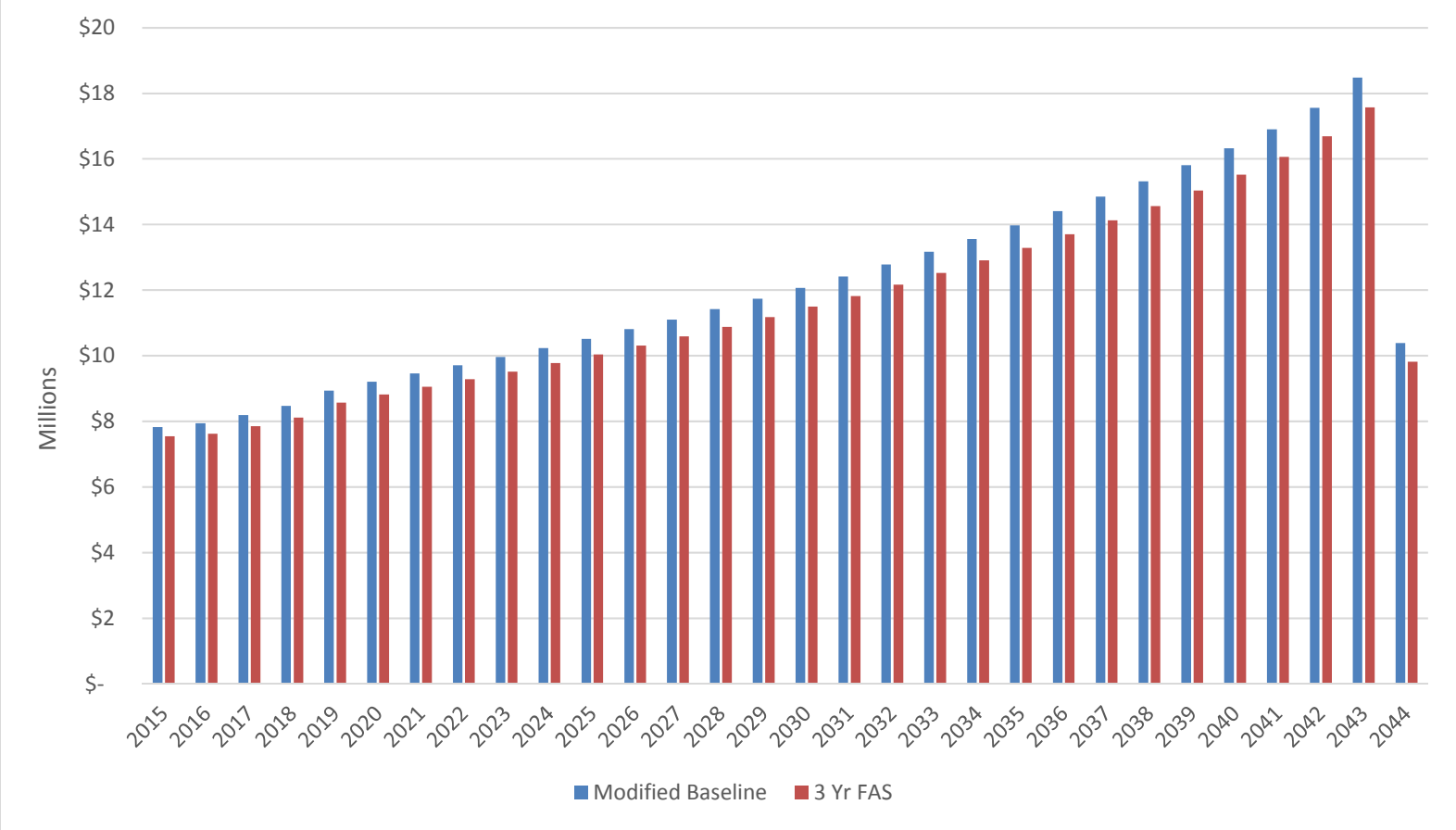
Note: All assumptions, including the 7.50% rate of return, are assumed to be met each year in the future. Both projections include the COLA Pool assets and liabilities and 7.5% assumed rate of return.

Phase-in: Members currently eligible for Normal Retirement (age 50 with 25 YOS) keep the High 1-year average.
Members eligible for Normal Retirement within the next 10 years (age 40 with 15 or more YOS) move to a High 2-year average.
Members not within 10 years of Normal Retirement move to a High 3-year average.
Current Final Average Salary is grandfathered, meaning a members' FAS at retirement will not be less than FAS prior to change.

4/13/2016

City Contribution Amounts

Exhibit 4, page 3



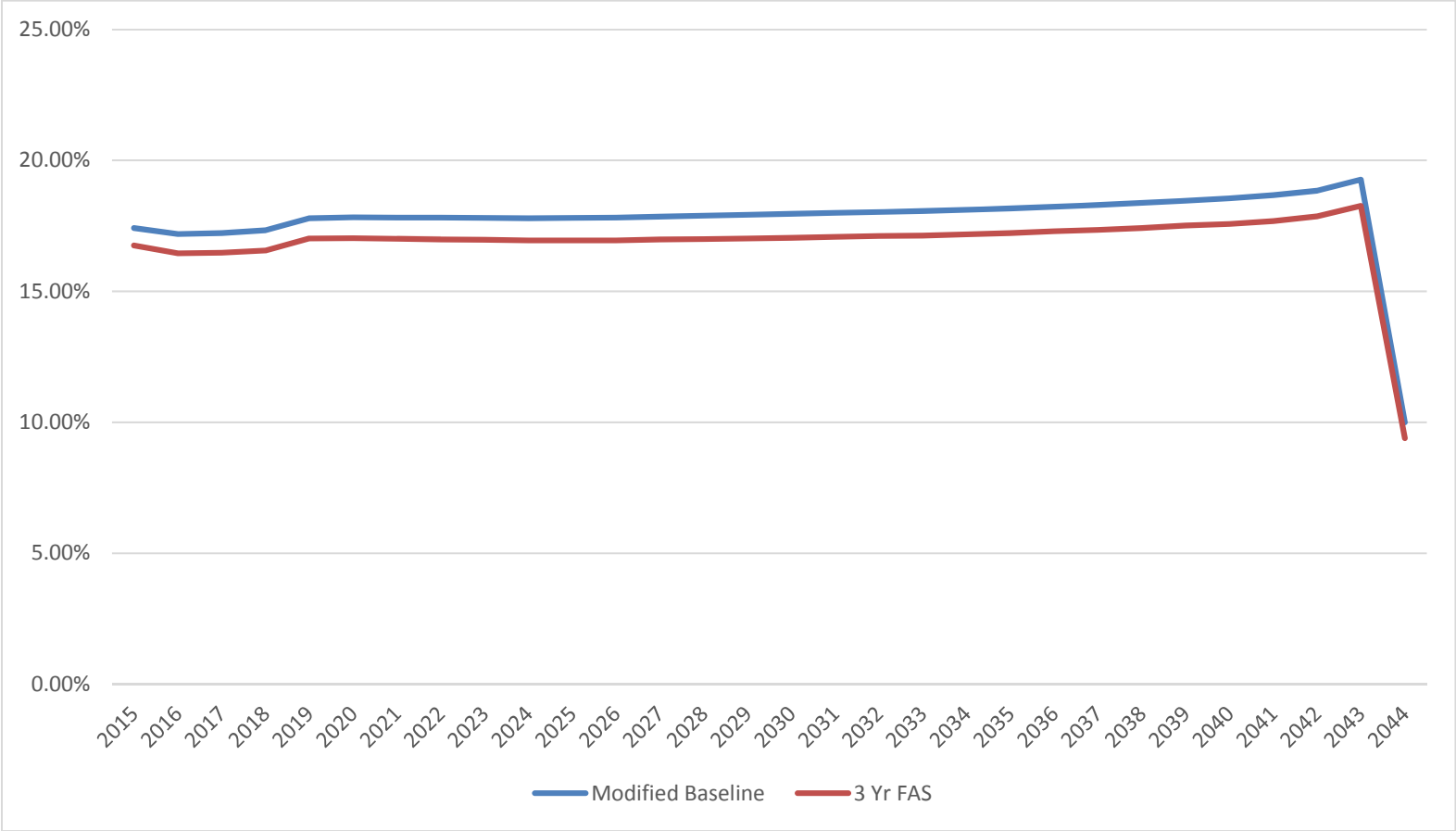
Note: All assumptions are assumed to be met each year in the future.
Actual costs will vary to the extent actual experience differs from that projected.

Modified Baseline: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return

3 Yr FAS: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return, 3-year FAS phase in

City Contribution Rates

Exhibit 4, page 4



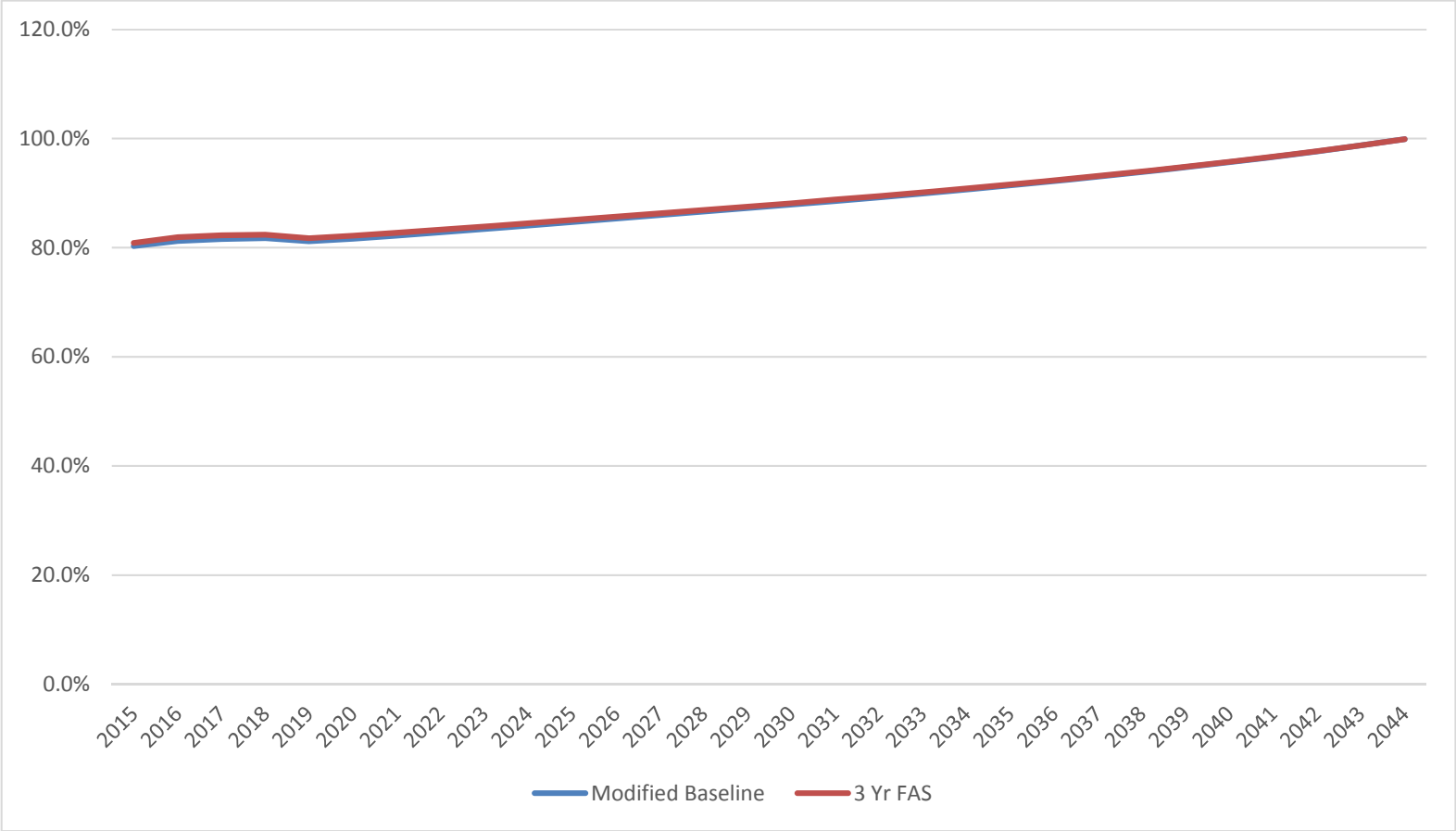
Note: All assumptions are assumed to be met each year in the future.
Actual costs will vary to the extent actual experience differs from that projected.

Modified Baseline: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return

3 Yr FAS: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return, 3-year FAS phase in

Exhibit 4, page 5

Funded Ratio



Note: All assumptions are assumed to be met each year in the future.
Actual costs will vary to the extent actual experience differs from that projected.

Modified Baseline: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return

3 Yr FAS: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return, 3-year FAS phase in

Exhibit 5, page 1

Exhibit A

City of Lincoln Police and Fire Pension Fund

Modified Baseline
vs.
Eliminate DROP Program for Current and Future Actives

(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Total Covered Payroll		**Actuarial Contribution Rate**		**Employee Contribution Rate**		**City Contribution Rate**		**City Contribution Amount**		
Valuation Date	Modified Baseline	Eliminate DROP	Modified Baseline	Eliminate DROP	Modified Baseline	Eliminate DROP	Modified Baseline	Eliminate DROP	Modified Baseline	Eliminate DROP	Difference
8/31/2015	$ 42,381,058	$ 42,381,058	24.30%	23.42%	6.88%	6.88%	17.42%	16.54%	$ 7,829,103	$ 7,457,522	$ (371,581)
8/31/2016	43,539,584	44,458,656	24.22%	23.14%	7.03%	7.03%	17.19%	16.11%	7,943,662	7,618,093	(325,569)
8/31/2017	44,832,323	46,222,024	24.35%	23.20%	7.13%	7.13%	17.22%	16.07%	8,194,123	7,898,063	(296,059)
8/31/2018	46,064,309	48,302,867	24.60%	23.32%	7.26%	7.28%	17.34%	16.04%	8,470,110	8,237,087	(233,023)
8/31/2019	47,405,129	50,440,271	25.15%	23.76%	7.36%	7.38%	17.79%	16.38%	8,933,491	8,761,138	(172,352)
8/31/2020	48,764,682	52,015,899	25.28%	23.87%	7.45%	7.47%	17.83%	16.40%	9,207,706	9,047,124	(160,582)
8/31/2021	50,070,525	53,511,110	25.38%	23.94%	7.56%	7.56%	17.82%	16.38%	9,455,109	9,295,326	(159,783)
8/31/2022	51,425,697	55,036,649	25.47%	24.01%	7.65%	7.65%	17.82%	16.36%	9,708,932	9,549,558	(159,375)
8/31/2023	52,796,822	56,591,248	25.54%	24.05%	7.73%	7.74%	17.81%	16.31%	9,962,234	9,794,656	(167,578)
8/31/2024	54,235,235	58,226,653	25.59%	24.09%	7.79%	7.80%	17.80%	16.29%	10,233,087	10,064,491	(168,596)
8/31/2025	55,717,187	59,957,305	25.64%	24.11%	7.84%	7.85%	17.80%	16.26%	10,514,731	10,344,771	(169,960)
8/31/2026	57,204,951	61,698,479	25.68%	24.14%	7.87%	7.88%	17.81%	16.26%	10,808,500	10,647,023	(161,478)
8/31/2027	58,663,852	63,437,282	25.74%	24.16%	7.89%	7.90%	17.85%	16.26%	11,105,042	10,948,859	(156,183)
8/31/2028	60,176,610	65,170,047	25.81%	24.20%	7.92%	7.92%	17.89%	16.28%	11,418,870	11,261,029	(157,841)
8/31/2029	61,730,720	66,960,544	25.86%	24.24%	7.94%	7.94%	17.92%	16.30%	11,739,783	11,588,026	(151,757)
8/31/2030	63,347,190	68,742,155	25.92%	24.29%	7.95%	7.96%	17.97%	16.33%	12,073,891	11,919,645	(154,246)
8/31/2031	65,030,266	70,606,712	25.96%	24.33%	7.97%	7.97%	17.99%	16.36%	12,416,083	12,267,163	(148,920)
8/31/2032	66,802,030	72,540,899	26.01%	24.37%	7.98%	7.98%	18.03%	16.39%	12,782,247	12,622,144	(160,103)
8/31/2033	68,676,553	74,635,333	26.06%	24.39%	7.99%	7.99%	18.07%	16.40%	13,167,521	12,999,613	(167,908)
8/31/2034	70,595,915	76,786,466	26.10%	24.42%	7.99%	7.99%	18.11%	16.43%	13,561,962	13,394,411	(167,551)
8/31/2035	72,491,054	78,958,524	26.16%	24.47%	8.00%	8.00%	18.16%	16.47%	13,970,263	13,809,016	(161,246)
8/31/2036	74,478,731	81,204,087	26.23%	24.52%	8.00%	8.00%	18.23%	16.52%	14,407,440	14,242,246	(165,194)
8/31/2037	76,514,132	83,462,427	26.30%	24.56%	8.00%	8.00%	18.30%	16.56%	14,854,211	14,677,914	(176,297)
8/31/2038	78,569,726	85,739,920	26.38%	24.63%	8.00%	8.00%	18.38%	16.63%	15,321,235	15,132,189	(189,047)
8/31/2039	80,713,768	88,058,527	26.46%	24.69%	8.00%	8.00%	18.46%	16.69%	15,806,691	15,605,194	(201,498)
8/31/2040	82,975,133	90,461,348	26.55%	24.77%	8.00%	8.00%	18.55%	16.77%	16,324,760	16,102,297	(222,464)
8/31/2041	85,407,940	93,074,403	26.67%	24.85%	8.00%	8.00%	18.67%	16.85%	16,900,337	16,644,439	(255,898)
8/31/2042	87,938,905	95,786,887	26.85%	25.00%	8.00%	8.00%	18.85%	17.00%	17,561,817	17,268,984	(292,833)
8/31/2043	90,612,192	98,629,439	27.27%	25.33%	8.00%	8.00%	19.27%	17.33%	18,479,584	18,110,920	(368,664)
8/31/2044	93,394,586	101,573,096	18.00%	17.25%	8.00%	8.00%	10.00%	9.25%	10,386,165	10,439,065	52,900
									$ 363,538,690	$ 357,748,007	$ (5,790,683)

Note: All assumptions, including the 7.50% rate of return, are assumed to be met each year in the future. Both projections include the COLA Pool assets and liabilities and use a 7.50% assumed rate of return. City Contribution Amount includes Administrative Expenses. Retirement rates were adjusted under the proposed change to anticipate a change in retirement behavior, but actual experience may vary significantly from that assumed. If that occurs, actual cost savings may also vary or even become a cost increase.

4/15/2016

Exhibit B

Exhibit 5, page 2

City of Lincoln Police and Fire Pension Fund

Modified Baseline
vs.
Eliminate DROP Program for Current and Future Actives

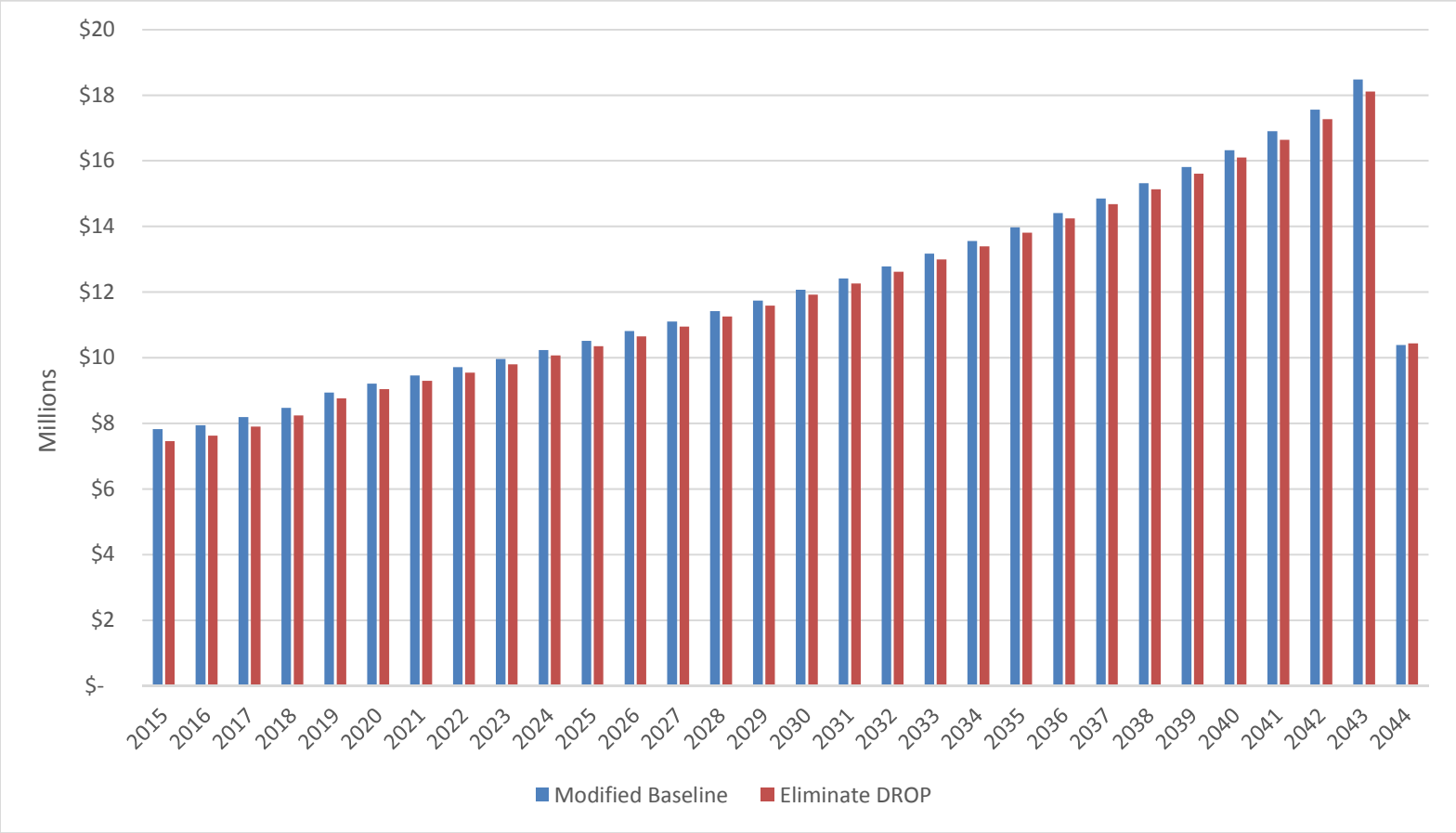
	Modified Baseline: Includes COLA Pool Assets and Liabilities, 7.50% Assumed Rate of Return				Eliminate DROP for current and Future Actives: Includes COLA Pool Assets and Liabilities, 7.50% Assumed Rate of Return			
Valuation Date	Actuarial Liability	Actuarial Assets	Unfunded Actuarial Liability	Funded Ratio	Actuarial Liability	Actuarial Assets	Unfunded Actuarial Liability	Funded Ratio
8/31/2015	$ 261,733,723	$ 210,163,760	$ 51,569,963	80.3%	$ 258,841,691	$ 210,163,760	$ 48,677,931	81.2%
8/31/2016	273,665,275	222,278,506	51,386,769	81.2%	270,427,668	222,333,816	48,093,852	82.2%
8/31/2017	286,140,544	233,498,988	52,641,556	81.6%	282,749,838	233,380,492	49,369,346	82.5%
8/31/2018	298,901,024	244,375,642	54,525,382	81.8%	295,485,346	244,222,194	51,263,152	82.7%
8/31/2019	312,138,906	253,397,595	58,741,311	81.2%	308,894,355	253,373,581	55,520,774	82.0%
8/31/2020	325,788,475	266,025,139	59,763,336	81.7%	322,923,545	266,335,358	56,588,187	82.5%
8/31/2021	339,773,080	279,391,235	60,381,845	82.2%	337,390,201	280,190,217	57,199,984	83.0%
8/31/2022	354,061,147	293,257,766	60,803,381	82.8%	352,229,809	294,621,268	57,608,541	83.6%
8/31/2023	368,533,797	307,508,566	61,025,231	83.4%	367,321,037	309,496,857	57,824,180	84.3%
8/31/2024	383,243,048	322,186,415	61,056,633	84.1%	382,729,197	324,876,277	57,852,920	84.9%
8/31/2025	398,225,190	337,277,298	60,947,892	84.7%	398,531,972	340,769,793	57,762,179	85.5%
8/31/2026	413,457,487	352,785,910	60,671,577	85.3%	414,758,440	357,242,176	57,516,264	86.1%
8/31/2027	428,804,213	368,600,638	60,203,575	86.0%	431,292,087	374,193,361	57,098,726	86.8%
8/31/2028	444,302,753	384,756,470	59,546,283	86.6%	448,142,843	391,653,211	56,489,632	87.4%
8/31/2029	459,941,912	401,264,735	58,677,177	87.2%	465,274,170	409,595,101	55,679,069	88.0%
8/31/2030	475,764,945	418,182,709	57,582,236	87.9%	482,689,422	428,038,951	54,650,471	88.7%
8/31/2031	491,751,223	435,517,531	56,233,692	88.6%	500,325,964	446,955,219	53,370,745	89.3%
8/31/2032	507,941,658	453,326,816	54,614,842	89.2%	518,216,394	466,385,538	51,830,856	90.0%
8/31/2033	524,430,724	471,720,937	52,709,787	89.9%	536,492,997	486,475,466	50,017,531	90.7%
8/31/2034	541,207,487	490,732,034	50,475,453	90.7%	555,195,380	507,292,697	47,902,683	91.4%
8/31/2035	558,138,655	510,276,787	47,861,868	91.4%	574,234,297	528,794,695	45,439,602	92.1%
8/31/2036	575,284,019	530,432,571	44,851,448	92.2%	593,683,952	551,088,012	42,595,940	92.8%
8/31/2037	592,662,144	551,257,188	41,404,956	93.0%	613,517,657	574,195,826	39,321,831	93.6%
8/31/2038	610,175,575	572,720,327	37,455,248	93.9%	633,604,635	598,041,236	35,563,399	94.4%
8/31/2039	627,840,057	594,857,225	32,982,832	94.7%	653,897,198	622,595,049	31,302,149	95.2%
8/31/2040	645,762,568	617,832,242	27,930,326	95.7%	674,427,550	647,946,398	26,481,152	96.1%
8/31/2041	664,133,263	641,873,569	22,259,694	96.6%	695,390,904	674,315,030	21,075,874	97.0%
8/31/2042	683,028,528	667,139,038	15,889,490	97.7%	716,878,593	701,868,345	15,010,248	97.9%
8/31/2043	702,514,783	693,782,706	8,732,077	98.8%	738,900,460	730,689,797	8,210,663	98.9%
8/31/2044	722,659,486	722,020,870	638,616	99.9%	761,490,057	760,955,222	534,835	99.9%

Note: All assumptions, including the 7.50% rate of return, are assumed to be met each year in the future. Both projections include the COLA Pool assets and liabilities and use a 7.50% assumed rate of return. City Contribution Amount includes Administrative Expenses. Retirement rates were adjusted under the proposed change to anticipate a change in retirement behavior, but actual experience may vary significantly from that assumed. If that occurs, actual cost savings may also vary or even become a cost increase.

4/15/2016

City Contribution Amounts

Exhibit 5, page 3



Note: All assumptions are assumed to be met each year in the future.
Actual costs will vary to the extent actual experience differs from that projected.

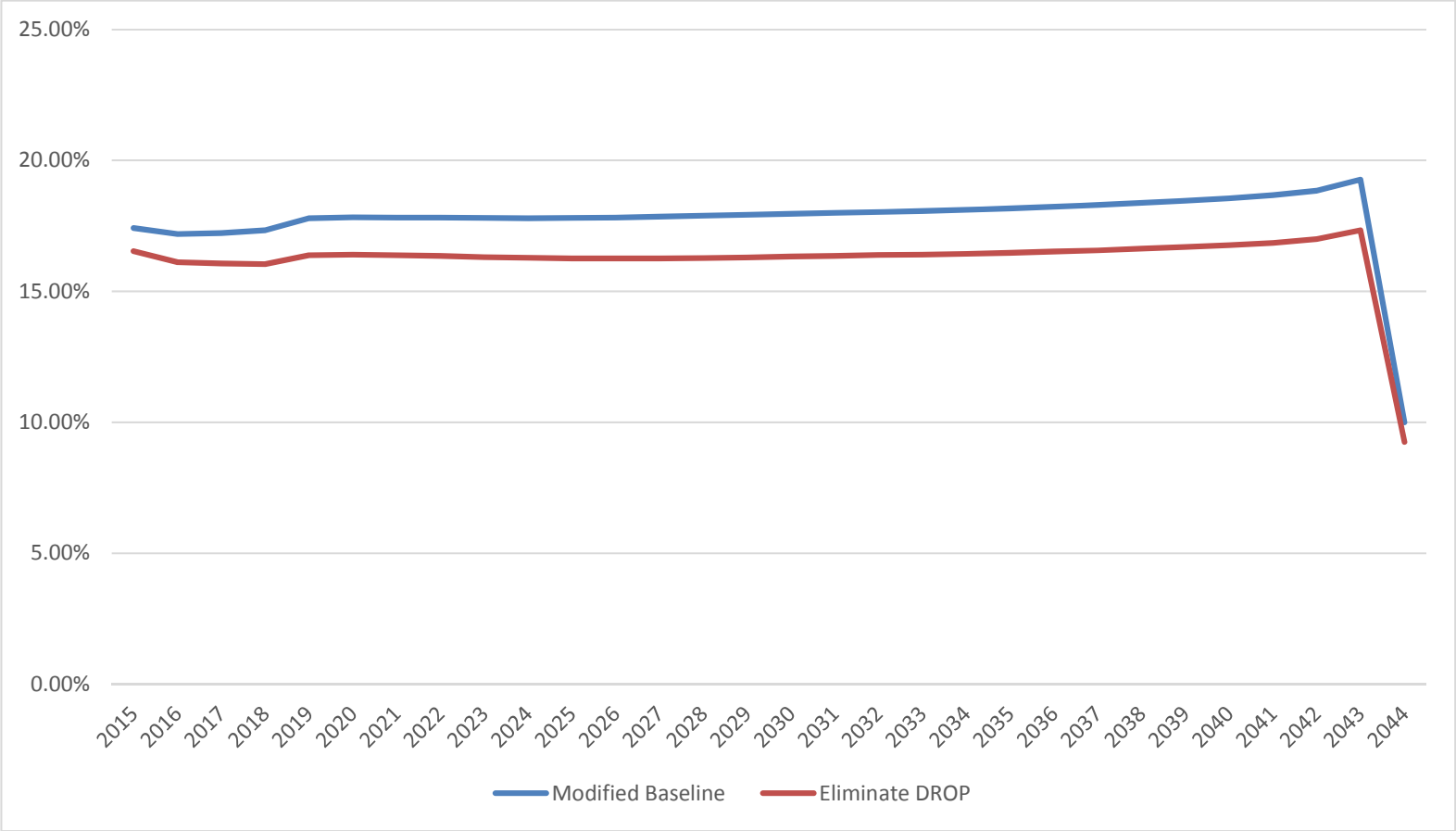
Modified Baseline: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return

Eliminate DROP: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return, Eliminate DROP Program

Prepared by Cavanaugh Macdonald Consulting LLC

Exhibit 5, page 4

City Contribution Rates



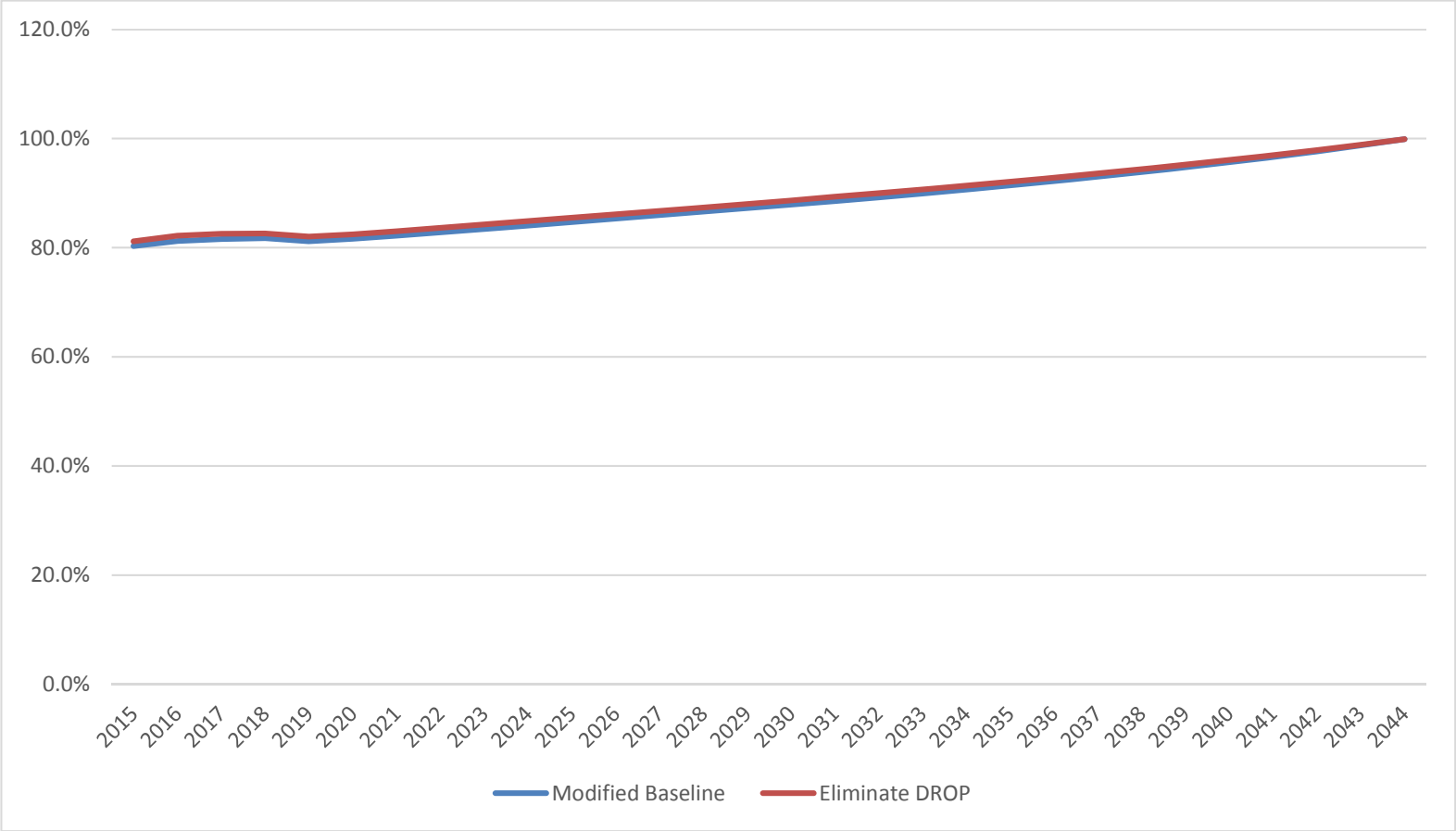
Note: All assumptions are assumed to be met each year in the future.
Actual costs will vary to the extent actual experience differs from that projected.

Modified Baseline: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return

Eliminate DROP: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return, Eliminate DROP Program

Funded Ratio

Exhibit 5, page 5



Note: All assumptions are assumed to be met each year in the future.
Actual costs will vary to the extent actual experience differs from that projected.

Modified Baseline: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return

Eliminate DROP: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return, Eliminate DROP Program

Exhibit 6, page 1

Exhibit A

City of Lincoln Police and Fire Pension Fund

Modified Baseline
vs.
1% Compound COLA for Actives Only, Commencing 5 years after Retirement/End of DROP

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Valuation	Total	**Actuarial Contribution Rate**		**Employee Contribution Rate**		**City Contribution Rate**		**City Contribution Amount**		
Date	Covered Payroll	Modified Baseline	1% COLA	Modified Baseline	1% COLA	Modified Baseline	1% COLA	Modified Baseline	1% COLA	Difference
8/31/2015	$ 42,381,058	24.30%	25.09%	6.88%	6.88%	17.42%	18.21%	$ 7,829,103	$ 8,161,307	$ 332,204
8/31/2016	43,539,584	24.22%	25.06%	7.03%	7.03%	17.19%	18.03%	7,943,662	8,312,317	368,655
8/31/2017	44,832,323	24.35%	25.21%	7.13%	7.13%	17.22%	18.08%	8,194,123	8,582,172	388,049
8/31/2018	46,064,309	24.60%	25.46%	7.26%	7.26%	17.34%	18.20%	8,470,110	8,872,190	402,080
8/31/2019	47,405,129	25.15%	26.04%	7.36%	7.36%	17.79%	18.68%	8,933,491	9,360,148	426,657
8/31/2020	48,764,682	25.28%	26.19%	7.45%	7.45%	17.83%	18.74%	9,207,706	9,655,669	447,964
8/31/2021	50,070,525	25.38%	26.31%	7.56%	7.56%	17.82%	18.75%	9,455,109	9,924,987	469,879
8/31/2022	51,425,697	25.47%	26.42%	7.65%	7.65%	17.82%	18.77%	9,708,932	10,207,318	498,386
8/31/2023	52,796,822	25.54%	26.51%	7.73%	7.73%	17.81%	18.78%	9,962,234	10,485,444	523,210
8/31/2024	54,235,235	25.59%	26.58%	7.79%	7.79%	17.80%	18.79%	10,233,087	10,782,160	549,073
8/31/2025	55,717,187	25.64%	26.65%	7.84%	7.84%	17.80%	18.81%	10,514,731	11,091,138	576,407
8/31/2026	57,204,951	25.68%	26.72%	7.87%	7.87%	17.81%	18.85%	10,808,500	11,413,827	605,327
8/31/2027	58,663,852	25.74%	26.80%	7.89%	7.89%	17.85%	18.91%	11,105,042	11,740,853	635,811
8/31/2028	60,176,610	25.81%	26.89%	7.92%	7.92%	17.89%	18.97%	11,418,870	12,087,148	668,278
8/31/2029	61,730,720	25.86%	26.97%	7.94%	7.94%	17.92%	19.03%	11,739,783	12,442,320	702,537
8/31/2030	63,347,190	25.92%	27.05%	7.95%	7.95%	17.97%	19.10%	12,073,891	12,813,077	739,186
8/31/2031	65,030,266	25.96%	27.11%	7.97%	7.97%	17.99%	19.14%	12,416,083	13,194,330	778,247
8/31/2032	66,802,030	26.01%	27.19%	7.98%	7.98%	18.03%	19.21%	12,782,247	13,601,778	819,531
8/31/2033	68,676,553	26.06%	27.25%	7.99%	7.99%	18.07%	19.26%	13,167,521	14,023,845	856,324
8/31/2034	70,595,915	26.10%	27.33%	7.99%	7.99%	18.11%	19.34%	13,561,962	14,471,407	909,445
8/31/2035	72,491,054	26.16%	27.42%	8.00%	8.00%	18.16%	19.42%	13,970,263	14,922,153	951,891
8/31/2036	74,478,731	26.23%	27.51%	8.00%	8.00%	18.23%	19.51%	14,407,440	15,403,319	995,879
8/31/2037	76,514,132	26.30%	27.61%	8.00%	8.00%	18.30%	19.61%	14,854,211	15,897,511	1,043,300
8/31/2038	78,569,726	26.38%	27.72%	8.00%	8.00%	18.38%	19.72%	15,321,235	16,416,591	1,095,356
8/31/2039	80,713,768	26.46%	27.85%	8.00%	8.00%	18.46%	19.85%	15,806,691	16,970,094	1,163,403
8/31/2040	82,975,133	26.55%	27.99%	8.00%	8.00%	18.55%	19.99%	16,324,760	17,558,987	1,234,227
8/31/2041	85,407,940	26.67%	28.16%	8.00%	8.00%	18.67%	20.16%	16,900,337	18,220,370	1,320,033
8/31/2042	87,938,905	26.85%	28.42%	8.00%	8.00%	18.85%	20.42%	17,561,817	18,993,311	1,431,493
8/31/2043	90,612,192	27.27%	29.08%	8.00%	8.00%	19.27%	21.08%	18,479,584	20,163,335	1,683,751
8/31/2044	93,394,586	18.00%	18.97%	8.00%	8.00%	10.00%	10.97%	10,386,165	11,324,545	938,380
								$ 363,538,690	$ 387,093,652	$ 23,554,962

Note: All assumptions, including the 7.50% rate of return, are assumed to be met each year in the future. Modified baseline includes COLA assets and liabilities and 7.5% assumed rate of return.
Employer Contribution Amount includes Administrative Expenses.

DROP Assumptions: 80% of members elect DROP.
Members electing to enter DROP remain in DROP for 3.5 years.

4/13/2016

Exhibit B

Exhibit 6, page 2

City of Lincoln Police and Fire Pension Fund

Modified Baseline
vs.
1% Compound COLA for Actives Only, Commencing 5 years after Retirement/End of DROP

	Modified Baseline: Includes COLA Pool Assets and Liabilities, 7.50% Assumed Rate of Return				1% COLA: Includes COLA Pool Assets and Liabilities, 7.50% Assumed Rate of Return, 5-year delayed 1% compound COLA for Actives only			
Valuation Date	Actuarial Liability	Actuarial Assets	Unfunded Actuarial Liability	Funded Ratio	Actuarial Liability	Actuarial Assets	Unfunded Actuarial Liability	Funded Ratio
8/31/2015	$ 261,733,723	$ 210,163,760	$ 51,569,963	80.3%	$ 264,327,980	$ 210,163,760	$ 54,164,220	79.5%
8/31/2016	273,665,275	222,278,506	51,386,769	81.2%	276,658,463	222,289,366	54,369,097	80.3%
8/31/2017	286,140,544	233,498,988	52,641,556	81.6%	289,594,672	233,883,338	55,711,334	80.8%
8/31/2018	298,901,024	244,375,642	54,525,382	81.8%	302,883,994	245,221,933	57,662,061	81.0%
8/31/2019	312,138,906	253,397,595	58,741,311	81.2%	316,728,098	254,783,347	61,944,751	80.4%
8/31/2020	325,788,475	266,025,139	59,763,336	81.7%	331,069,708	268,030,837	63,038,871	81.0%
8/31/2021	339,773,080	279,391,235	60,381,845	82.2%	345,842,539	282,116,787	63,725,752	81.6%
8/31/2022	354,061,147	293,257,766	60,803,381	82.8%	361,023,762	296,807,711	64,216,051	82.2%
8/31/2023	368,533,797	307,508,566	61,025,231	83.4%	376,504,388	311,998,007	64,506,381	82.9%
8/31/2024	383,243,048	322,186,415	61,056,633	84.1%	392,337,644	327,739,525	64,598,119	83.5%
8/31/2025	398,225,190	337,277,298	60,947,892	84.7%	408,564,692	344,018,580	64,546,112	84.2%
8/31/2026	413,457,487	352,785,910	60,671,577	85.3%	425,161,799	360,838,710	64,323,089	84.9%
8/31/2027	428,804,213	368,600,638	60,203,575	86.0%	441,998,669	378,094,447	63,904,222	85.5%
8/31/2028	444,302,753	384,756,470	59,546,283	86.6%	459,110,230	395,821,494	63,288,736	86.2%
8/31/2029	459,941,912	401,264,735	58,677,177	87.2%	476,483,179	414,032,460	62,450,719	86.9%
8/31/2030	475,764,945	418,182,709	57,582,236	87.9%	494,162,694	432,786,886	61,375,808	87.6%
8/31/2031	491,751,223	435,517,531	56,233,692	88.6%	512,124,487	452,092,412	60,032,075	88.3%
8/31/2032	507,941,658	453,326,816	54,614,842	89.2%	530,402,665	472,003,785	58,398,880	89.0%
8/31/2033	524,430,724	471,720,937	52,709,787	89.9%	549,082,103	492,626,608	56,455,495	89.7%
8/31/2034	541,207,487	490,732,034	50,475,453	90.7%	568,148,660	513,990,533	54,158,127	90.5%
8/31/2035	558,138,655	510,276,787	47,861,868	91.4%	587,461,475	535,999,818	51,461,657	91.2%
8/31/2036	575,284,019	530,432,571	44,851,448	92.2%	607,055,456	558,732,456	48,323,000	92.0%
8/31/2037	592,662,144	551,257,188	41,404,956	93.0%	626,928,164	582,216,547	44,711,617	92.9%
8/31/2038	610,175,575	572,720,327	37,455,248	93.9%	646,960,081	606,404,640	40,555,441	93.7%
8/31/2039	627,840,057	594,857,225	32,982,832	94.7%	667,158,530	631,330,381	35,828,149	94.6%
8/31/2040	645,762,568	617,832,242	27,930,326	95.7%	687,614,580	657,154,339	30,460,241	95.6%
8/31/2041	664,133,263	641,873,569	22,259,694	96.6%	708,502,673	684,109,526	24,393,147	96.6%
8/31/2042	683,028,528	667,139,038	15,889,490	97.7%	729,887,969	712,348,937	17,539,032	97.6%
8/31/2043	702,514,783	693,782,706	8,732,077	98.8%	751,859,201	742,067,434	9,791,767	98.7%
8/31/2044	722,659,486	722,020,870	638,616	99.9%	774,499,220	773,530,280	968,940	99.9%

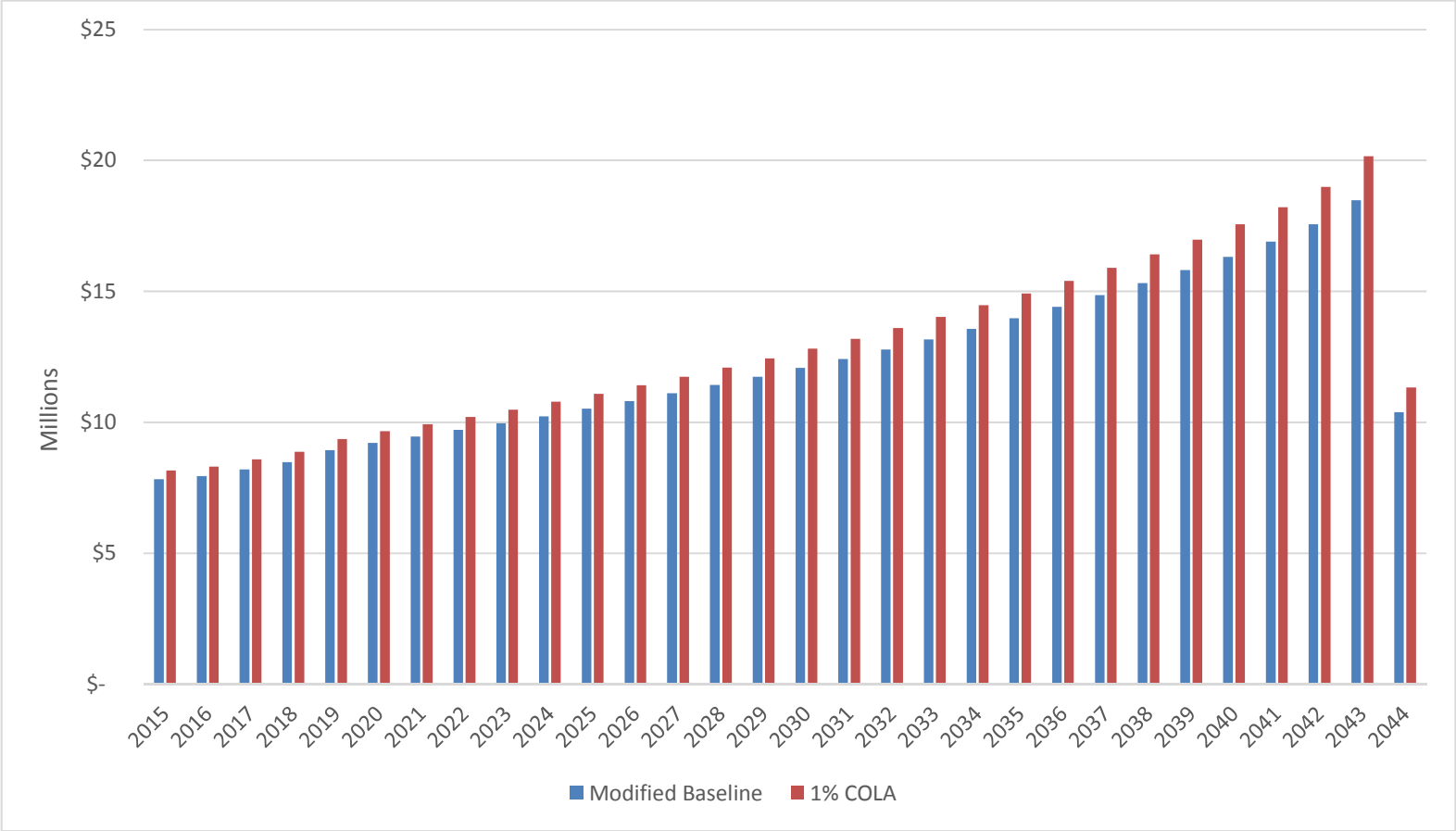
Note: All assumptions, including the 7.50% rate of return, are assumed to be met each year in the future. Modified baseline includes COLA assets and liabilities and 7.5% assumed rate of return.

DROP Assumptions: 80% of members elect DROP.
Members electing to enter DROP remain in DROP for 3.5 years.

4/13/2016

City Contribution Amounts

Exhibit 6, page 3



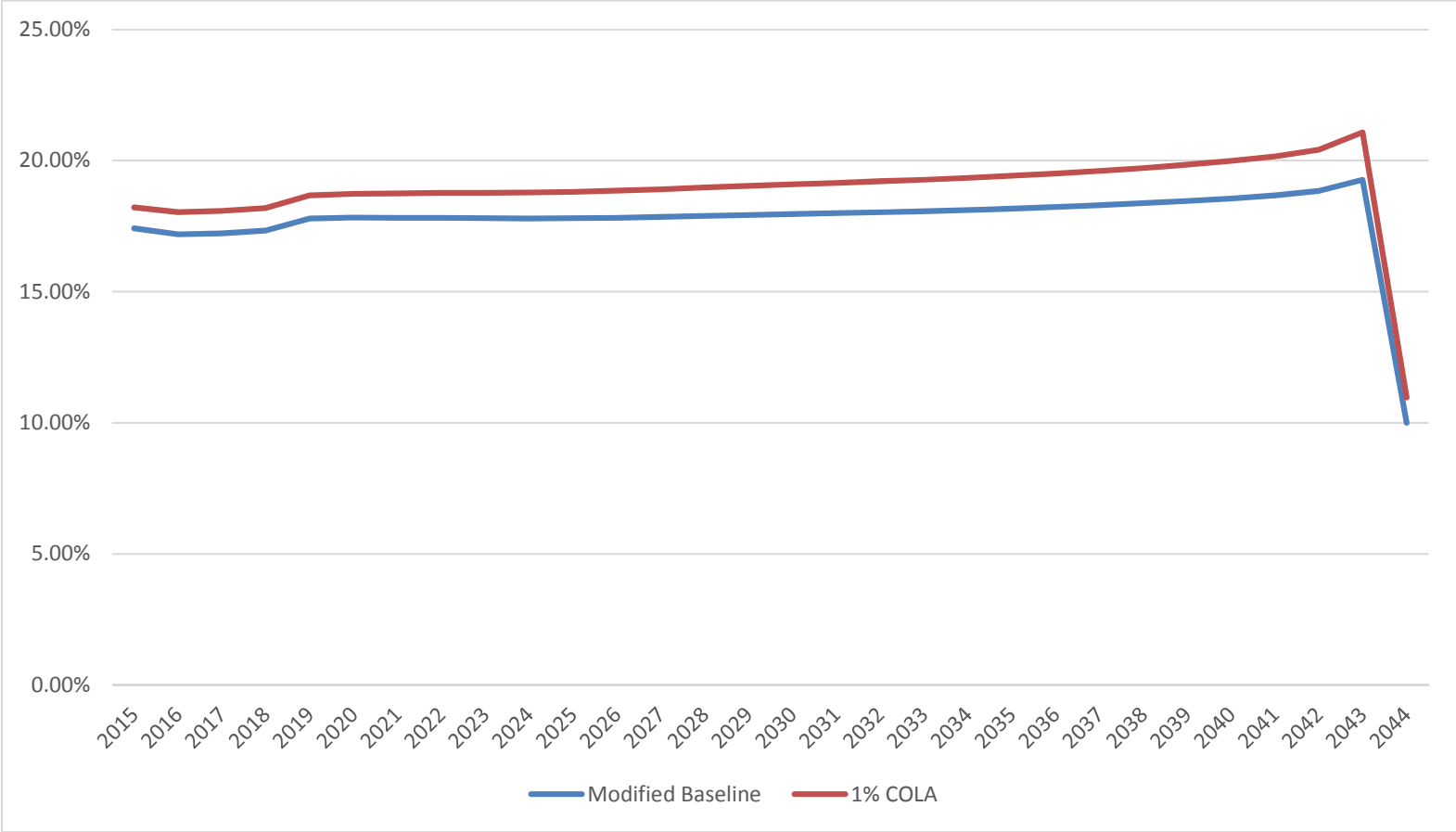
Note: All assumptions are assumed to be met each year in the future.
Actual costs will vary to the extent actual experience differs from that projected.

Modified Baseline: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return

1% COLA: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return, 5-year delayed compound COLA

City Contribution Rates

Exhibit 6, page 4



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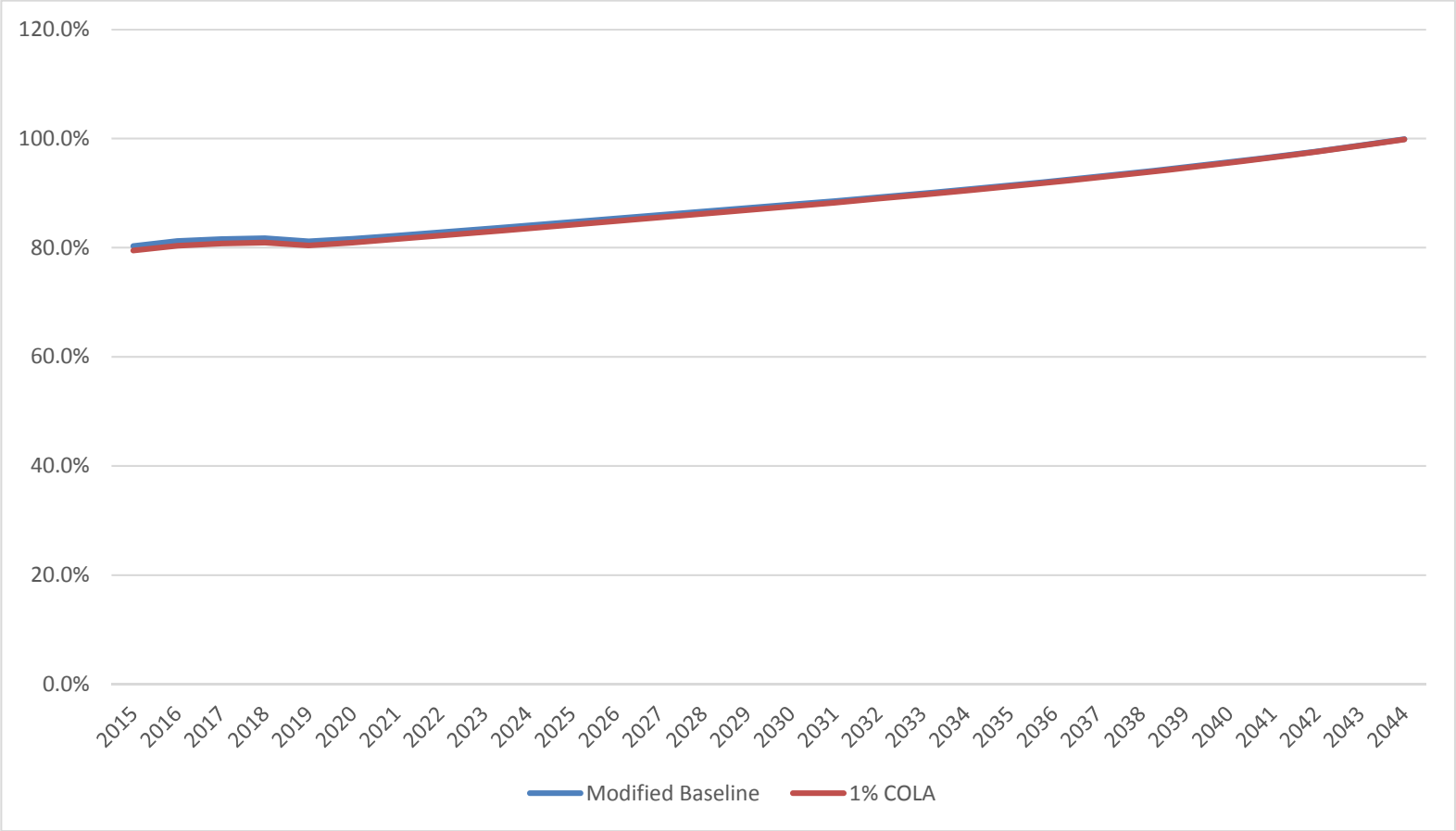
Modified Baseline: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return

1% COLA: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return, 5-year delayed compound COLA

Funded Ratio

Exhibit 6, page 5



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1% COLA: Includes COLA Pool asset and liabilities; 7.50% Assumed Rate of Return, 5-year delayed compound COLA

Exhibit 7, page 1

Lincoln Police and Fire Pension Fund

Benefit Structure Benchmark Study

	Contribution Rates		NC Rate	UAAL Rate	Funded Status	Assumed Rate of Return	
	Employee	Employer					Comments
Iowa 411 System	9.40%	25.92%	18.79%	16.53%	77.81%	7.50%	Actuarially determined contribution
Wichita P&F	7.00%	18.80%	22.50%	3.30%	95.09%	7.75%	Actuarially determined contribution
Kansas P&F	7.15%	19.03%	15.07%	11.11%	74.07%	8.00%	Actuarially determined contribution
Kansas City Police	11.55%	27.71%	26.20%	13.06%	77.48%	7.50%	Actuarially determined contribution
Tier I							
Tier II							
Kansas City Firefighters	10.55%	27.91%	24.14%	14.32%	77.57%	7.50%	Actuarially determined contribution
Tier I							
Tier II							
Omaha P&F							
Police:	14.35%	33.67%	22.19%	27.84%	49.64%	8.00%	Contract
Legacy >20YOS							
Legacy < 20YOS							
Hired > 1/1/2010							
Fire:	17.15%	32.97%	22.19%	27.84%	49.64%	8.00%	Contract
Legacy >15YOS							
Legacy < 15YOS							
New hires > 1/1/2013							
South Dakota Ret System	8.00%	8.00%	10.81%	0.00%	100.00%	7.25%/7.50% at 2017+	Statute
Minnesota PERA P&F	10.80%	16.20%	22.04%	10.25%	83.64%	8.00%	Statute
Colorado FPPA	8.50%	8.00%	15.16%	0.00%	100.86%	7.50%	Statute. Member rate increasing by .5% to 12% in 2022
Wisconsin Ret System	6.60%	13.20%	19.80%	0.20%	~100%	5.5% in total; 5.0% inactive/7.2% active	Actuarially determined contribution
Range	6.6 to 17.15%	8 to 33.67%	10.8 to 26.2%	0 to 27.84%	49.6 to 100.9%	5.50 to 8.00%	
Average	10.10%	18.50%	20.40%	12.50%	80.50%	7.50%	
Lincoln P&F							
Plan A	8.00%	27.42%	21.11%	13.19%	63.88%	7.50%/6.40% after COLA	Actuarially determined contribution

Exhibit 7, page 2

Lincoln Police and Fire Pension Fund

Benefit Structure Benchmark Study

	Final Average Salary		Benefit Formula				
	Highest	Of Last	Base Multiplier	Period	Maximum Benefit	YOS for Max	Benefit at 25 YOS
Iowa 411 System	3		3.0%	22			72.0%
			2.0%	8	82%	30	
Wichita	3	10	2.5%		75%	30	62.5%
KP&F	3	5	2.5%		90%	36	62.5%
Kansas City Police							
Tier I	2		2.5%		80%	32	62.5%
Tier II	3		2.5%		80%	32	62.5%
Kansas City Fire							
Tier I	2	10	2.50%		80%	32	62.5%
Tier II	2	10	2.50%		80%	32	62.5%
Omaha P&F							
Police:							
Legacy >20YOS	3 COTA	5	Non-level		75%	25	75.0%
Legacy < 20YOS	3 COTA	5	Non-level		75%	25	70.0%
Hired > 1/1/2010	3 No OT	5	Non-level		75%	30	65.0%
Fire:							
Legacy >15YOS	3 COTA	5	Non-level		75%	25	75.0%
Legacy < 15YOS	3 COTA	5	Non-level		75%	25	70.0%
Hired > 1/1/2013	3 No OT	5	Non-level		65%	30	55.0%
			2.4%	YOS<7/1/2008			
South Dakota Ret System	3	10	2.0%	YOS>7/1/2008			50.0%
Minnesota PERA P&F	5		3.0%		100%	33.3	75.0%
Colorado FPPA	3		2.0%	YOS<=10			
			2.5%	YOS>10	100%	42	57.5%
Wisconsin Ret System	3		2.7%	YOS<1/1/00	85%	34	62.5%
			2.5%	YOS>1/1/00			
Most Common	3		2.5%	all YOS	83%		62.5%
Lincoln P&F							
Plan A	1		2.56%		64%	25	64%

Prepared by Cavanaugh Macdonald Consulting, LLC

Lincoln Police and Fire Pension Fund

Benefit Structure Benchmark Study

	Form of Payment	Postret Benefit Adjustment (COLA)			
		Guar	Amount	Type	Other
Iowa 411 System	J&50%S	Yes	1.50%	Compound	Additional $15-35/month depending on yrs retired
Wichita	J&66%S	Yes	2.00%	Simple	Commencement delayed 3 years
KP&F	MCR	No			
Kansas City Police					
Tier I	J&80%S	No	max 3%	Simple	Ad hoc by Board-depends on funded status. Supp ben = $420/mo
Tier II	J&50%S	No	max 3%	Simple	Starts at date of 32 YOS. Ad hoc by Board-depends on funded status. Supp ben=$200/mo
Kansas City Fire					
Tier I	J&50%S	Yes	max 3%	Simple	
Tier II	J&50%S	Yes	max 2.5%	Simple	Only if funded ratio >= 80%.
Omaha P&F					
Police:					
Legacy >20YOS	J&75%S	Yes	$50/mo		
Legacy < 20YOS	J&75%S		$50/mo		
Hired > 1/1/2010	J&50%S		$50/mo		
Fire:					
Legacy >15YOS	J&90%S	Yes	$65/mo		
Legacy < 15YOS	J&90%S		$65/mo		
New hires > 1/1/2013	J&50%S		$65/mo		
South Dakota Ret System	J&60%S	Yes	2.1-3.1%	Compound	Depends on funded status
Minnesota PERA P&F	MCR	Yes	1.00%	Compound	Delayed 31-42 months after ret. COLA is 2.5% once System is 90% funded
Colorado FPPA	MCR	No	0-3%	Compound	Granted by Board
Wisconsin Ret System	MCR	No		Variable	Adjusts both up and down depending on investment return
Most common	J&50%S	Yes	1.50%	Compound	COLAs vary significantly from plan to plan
Lincoln P&F					
Plan A	MCR	No	Flat $ amt	Inc with CPI	13th check payable only if monies available

Lincoln Police and Fire Pension Fund

Benefit Structure Benchmark Study

	Normal Retirement			DROP Provision				
	Age	YOS	Rule of	Available	Ee Contr	Er Contr	Funding?	Other
Iowa 411 System	55	4		Yes	Yes	Yes	Yes	Must delay start 2 yrs to get full benefit into DROP. Forfeit 25% of DROP acct if leave early
Wichita	50	20		Yes	Yes	Yes	Yes	BackDROP
	55	10						
	0	30						
KP&F	50	25		No				
	55	20						
	60	15						
Kansas City Police								
Tier I	0	25		No				
	60	10						
Tier II	0	27		No				
	60	15						
Kansas City Fire								
Tier I	0	25		No				
Tier II	0	27		No				
Omaha P&F								
Police:				Yes	Yes	Yes	Yes	Designed to be actuarially neutral
Legacy >20YOS	45 (55)	20 (10)						
Legacy < 20YOS	45 (55)	20 (10)						
Hired > 1/1/2010	55	10						
	50	30						
Fire:				Yes	Yes	Yes	Yes	Designed to be actuarially neutral
Legacy >15YOS	45 (55)	25 (10)						
Legacy < 15YOS	45 (55)	25 (10)						
New hires > 1/1/2013	55	10						
	50	30						
South Dakota Ret System	55	3	75	No				
Minnesota PERA P&F	55	3		No				
Colorado FPPA	55	25		Yes	Yes		No	
Wisconsin Ret System	53	25		No				
	54	<25						
Most common	55	25		Very close	Yes	Yes	Yes	
Lincoln P&F								
Plan A	50	25		Yes	No	No		Designed to be actuarially neutral. Employee self-directs investments of DROP account.

Prepared by Cavanaugh Macdonald Consulting, LLC

Segal Consulting

Public Sector Letter

Benefits, Compensation and HR Consulting OCTOBER 2014

Actuarial Funding Policy Guidance: Comparison of Recommendations Reveals Considerable Consensus — and a Few Notable Differences

As readers of Segal Consulting's *Public Sector Letters* are well aware, the funding of U.S. public sector pension plans has become a high-profile topic in recent years. This has been due to many factors, including historically high volatility of investment returns, budgeting pressures experienced by the sponsoring entities, and increased scrutiny of plans that have not properly funded their pension obligations. Another important influence is that the Governmental Accounting Standards Board (GASB) has clarified that financial reporting standards do not constitute funding policy guidance, leaving something of a regulatory vacuum when it comes to public pension funding policies.

This is leading many public pension plans to review their existing funding policies and, for the first time in many cases, to record them in a comprehensive statement of funding policy used for setting an "actuarially determined contribution" (ADC). Organizations within the public pension industry (including three of the major professional actuarial groups) have responded to these developments by issuing guidance for establishing and maintaining actuarially responsible funding policies for these plans. While this effort is ongoing, we have seen the following guidance to date:

> "GASB has clarified that financial reporting standards do not constitute funding policy guidance."

- An October 2014 "White Paper" by the Conference of Consulting Actuaries Public Plans "Community" (the CCA PPC White Paper),[1]
- A February 2014 Issue Brief published by the American Academy of Actuaries (the AAA Issue Brief),[2]
- A report published in February 2014 by an independent "Blue Ribbon Panel" commissioned by the Society of Actuaries (the BRP/SOA Report),[3] and
- A March 2013 "Best Practice" published by the Government Finance Officers Association (GFOA) (the GFOA Best Practice).[4]

This *Public Sector Letter* discusses the similarities among these policy papers and points out notable differences.

IN THIS ISSUE:

- Considerable Consensus
- Notable Differences
- Conclusion

Considerable Consensus

There is considerable consensus on the recommendations outlined in each of the reports and, for the most part, the suggested guidelines are in line with current actuarial practice in the public sector.[5]

[1] CCA PPC White Paper, "Actuarial Funding Policies and Practices for Public Pension Plans," is available from the CCA website: http://www.ccactuaries.org/publications/news/cca-ppc-white-paper.cfm. Note that the significant change from the CCA PPC's earlier "Discussion Draft" was to limit the scope of the guidance to pension plans rather than to also include OPEB plans.

[2] The AAA Issue Brief, "Objectives and Principles for Funding Public Sector Pension Plans," is available from the AAA website: http://www.actuary.org/files/Public-Plans_IB-Funding-Policy_02-18-2014.pdf

[3] The "Report of the Blue Ribbon Panel on Public Pension Plan Funding" is accessible from the SOA website: http://www.soa.org/blueribbonpanel

[4] This GFOA Best Practice, "Core Elements of a Funding Policy," is available on the GFOA website: http://www.gfoa.org/core-elements-funding-policy. There are other relevant Best Practices (Guidelines for Funding Defined Benefit Pensions, Sustainable Funding Practices of Defined Benefit Pension Plans & Reviewing, Understanding and Using the Actuarial Valuation Report and Its Role in Plan Funding).

[5] Segal's November 2011 *Public Sector Letter*, "Planning a Successful Pension Funding Policy" (http://www.segalco.com/publications/publicsectorletters/nov2011.pdf), also addresses funding policy issues; the subsequent guidance is fully consistent with the policies developed and discussed in that publication.

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In comparing these reports, it is helpful to consider *Funding Policy Objectives* separately from *Specific Funding Policy Elements*.

Funding Policy Objectives

The greatest area of consensus among these reports is in the objectives of an actuarial funding policy. The most important policy objectives common to all the documents are that a public sector plan should be funded in accordance with an actuarially determined funding policy and that a plan's funding policy should target to fund 100 percent of the plan's actuarial liabilities over a reasonable period. There is also agreement among the recommendations that funding policy should be structured so that the annual contributions reasonably match the cost of benefits to the years in which the benefits are earned, and that the contributions should be stable and predictable for budgeting purposes.

Table 1 highlights several of the key policy objectives common to two or more of the reports. Each report uses its own terms to describe these objectives, and the descriptions in Table 1 reflect a composite of those descriptions.

Table 1: Considerable Consensus on Funding Policy Objectives: How the Three Actuarial Organizations Compare to One Another and to the GFOA Best Practice

Objective	CCA PPC White Paper	AAA Issue Brief	BRP/SOA Report	GFOA Best Practice
Fund the expected cost of all promised benefits (*i.e.*, fund normal cost plus 100% of any unfunded actuarial liabilities).	✓	✓	✓	✓
Match annual contributions to fund the cost of benefits to years of service (*i.e.*, target demographic matching or generational equity).	✓	✓	✓	✓
Have costs emerge stably and predictably (*i.e.*, manage contribution volatility).	✓	✓	✓	✓
Balance competing funding-policy objectives.	✓[1]	✓	✓	✓
Identify risks[2] that could make it difficult to achieve funding objectives.	✓	✓	✓	
Communicate how the funding-policy objectives will be achieved by the contribution allocation procedure (accountability and transparency).	✓	✓		✓
Establish an enforcement mechanism for making contributions on a consistent, actuarially determined basis: actually fund the "actuarially determined contribution" (ADC).	✓[3]	✓	✓	✓

[1] The CCA PPC White Paper talks specifically about a balance between targeting generational equity and managing contribution volatility.

[2] The CCA PPC White Paper focuses on agency risk, which refers to the possibility that interested parties (agents) may try to "influence cost calculations in directions viewed as consistent with their particular interests." The AAA Issue Brief also cites agency risk, but adds investment, demographic and "other" risks. The BRP/SOA Report focuses primarily on investment risk and related disclosures.

[3] Although the CCA PPC White Paper does not mention an explicit enforcement mechanism, all of its guidance is developed under the presumption that the plan will be funded in accordance with its actuarial funding policy.

"The greatest area of consensus among these reports is in the objectives of an actuarial funding policy."

Specific Funding Policy Elements

In addition to the general policy objectives discussed above, there is also significant agreement as to the specific funding policy elements of the actuarial cost method, asset smoothing and unfunded liability amortization. The Entry Age (sometimes called Entry Age Normal) actuarial cost method is recommended by the three reports that discuss specific funding policies: the CCA PPC White Paper, the BRP/SOA Report, and GFOA Best Practice.[6] In addition, all three reports approve of asset smoothing for periods of five years. The reports are also consistent on approving the use of a level percent of pay method for amortization of unfunded liabilities.

Some areas where the documents differ are in the structure and length of amortization periods by source of unfunded liability, and the application of "market value corridors" (*i.e.*, a corridor that constrains the difference between the smoothed value of assets and the market value) that should be included in the asset smoothing methodology. For asset smoothing, the CCA White Paper specifies the maximum corridors that should be used for various smoothing periods. The GFOA Best Practice specifies that a market corridor should be used if the asset smoothing period is longer than five years. The BRP/SOA report does not discuss market value corridors at all, and recommends that asset smoothing — if used — should be limited to five years.

"Areas where the documents differ are in the structure and length of amortization periods by source of unfunded liability, and the application of 'market value corridors.'"

As to amortization of the unfunded actuarial accrued liability (UAAL), all three reports agree that 15 to 20 years is the preferred range for UAAL amortization periods. Both the GFOA Best Practice and the CCA PPC White Paper prefer fixed period "layered" amortization (*i.e.*, amortize each portion of the UAAL over a separate fixed period as it emerges), while the BRP/SOA report provides limited guidance on the structure of the UAAL amortization payments.

"All three reports agree that 15 to 20 years is the preferred range for UAAL amortization periods."

As discussed in the next section, the BRP/SOA Report also recommends a "Standardized Contribution Benchmark" that employs a rolling 15-year UAAL amortization period.

Tables 2–4 highlight the specific actuarial funding policy elements recommended in the reports (except for the AAA Issue Brief, which does not include detailed policy recommendations). Table 2 on the next page compares recommendations for the actuarial cost method. Table summarizes the recommendations for asset smoothing. Table 4 on page 5 focuses on recommendations for UAAL amortization.

Notable Differences

Some differences among the recommendations can be attributed to differences in intended scope. As noted earlier, the AAA Issue Brief is more general and does not address specific policy details but is consistent in principle with the other documents. The CCA White Paper has by far the most comprehensive and detailed discussion of specific policy alternatives, with recommendations that are generally consistent with the GFOA Best Practice.

One notable difference is that the BRP/SOA Report recommends that public pension plans disclose to outside entities a variety of standardized 30-year projections under alternative actuarial assumptions, investment returns and even contribution amounts relative to the actuarially determined contribution. Perhaps the most controversial recommendation would be to disclose current and projected results using a "standardized contribution benchmark" based on a

"The CCA White Paper has by far the most comprehensive and detailed discussion of specific policy alternatives, with recommendations that are generally consistent with the GFOA Best Practice."

Continued on page 5.

[6] The AAA Issue Brief, in contrast, discusses only policy objectives, and not specific policy elements. Also note that, rather than recommending only certain policy practices, the CCA PPC White Paper uses categories including Model, Acceptable, Acceptable with Conditions, Non-recommended and Unacceptable. This discussion focuses primarily on its Model practices.

Exhibit 8, page 4

Table 2: Specific Actuarial Funding Policy Recommendations for Actuarial Cost Method: How Two of the Actuarial Organizations Compare to Each Other and to the GFOA Best Practice

	Actuarial Cost Method
CCA PPC White Paper	Entry Age cost method with level percentage of pay Normal Cost.* For multiple tiers, Normal Cost is based on each participant's benefit (not "Ultimate Entry Age"). For benefit formula changes within a tier (generally after a fixed date), Normal Cost is based on current benefit structure ("Replacement Life" Entry Age). Entry Age Normal Cost averaged over career is also "acceptable." Aggregate, Frozen Initial Liability and Projected Unit Credit are "acceptable with conditions."
BRP/SOA Report	Individual Entry Age method used for "Standardized Contribution Benchmark."
GFOA Best Practice	Entry Age cost method with level percentage of pay Normal Cost is "especially well suited" to achieving the policy objectives.

* Normal Costs are level even if benefit accrual or eligibility changes with age or service. All types and incidences of benefits are funded over a single measure of expected future service. The Normal Cost for a tier of benefits is the sum of the individually determined Normal Costs for all participants in that tier. For plans with benefits unrelated to compensation, the Entry Age method with level dollar Normal Cost may be more appropriate.

Table 3: Specific Actuarial Funding Policy Recommendations for Asset Smoothing: How Two of the Actuarial Organizations Compare to Each Other and to the GFOA Best Practice

	Asset Smoothing
CCA PPC White Paper	Deferrals based on total return gain/loss relative to assumed earnings rate and recognized over fixed smoothing periods not less than three years. Maximum market value corridors for various smoothing periods: 5 years: 50%/150% corridor 7 years: 60%/140% corridor 10 years with 70%/130% corridor is "acceptable." Combine smoothing amounts only to manage "tail volatility."*
BRP/SOA Report	Asset smoothing periods should be limited to five years or less. No discussion of market value corridors. Five-year smoothing with no corridor used for "Standardized Contribution Benchmark." Encourages the consideration of "direct rate smoothing" and other asset and liability cash flow modeling techniques.
GFOA Best Practice	Fixed period asset smoothing with periods of ideally 5 years or less but never longer than 10 years. Smoothing periods longer than 5 years should include a market value corridor.

* Appropriate when the net deferral amount is relatively small (*i.e.*, the smoothed and market values are very close together). The net deferral amount and the period over which the net deferral amount is fully recognized are unchanged as of the date of the adjustment. Avoid using frequent restart of smoothing to achieve *de facto* rolling smoothing. Avoid restarting smoothing only to accelerate recognition of deferred gains (*i.e.*, only when the market value is greater than the smoothed value).

Exhibit 8, page 5

Table 4: Specific Actuarial Funding Policy Recommendations for UAAL Amortization: How Two of the Actuarial Organizations Compare to Each Other and to the GFOA Best Practice

	UAAL Amortization
CCA PPC White Paper	Layered fixed period amortization by source of UAAL; level percent of pay. Model amortization periods: 15 to 20 years for gains and losses 15 to 25 for assumption or method changes Demographic* for plan changes; or 15 for actives, 10 for retirees Combine gain/loss (and other) layers** or restart amortization only to avoid "tail volatility."
BRP/SOA Report	Amortization of gains/losses should be completed over a period of no more than 15 to 20 years. 15-year rolling, level percent of pay amortization used for "Standardized Contribution Benchmark."
GFOA Best Practice	Layered fixed period amortization by source of UAAL; level percent of pay or level dollar. Ideally use a 15 to 20 year range, but never exceed 25 years. Special considerations (*e.g.*, longer periods) for amortizing a surplus.

* Use average future service for actives or average life expectancy for retirees. The amortization period should also be short enough to avoid negative cash flow, where the additional amortization payments are less than the additional benefit payments.

** Combining layers should result in substantially the same current amortization payment. Avoid using restart of amortization to achieve *de facto* rolling amortization. Restart amortization layers when moving from surplus to UAAL condition.

discount rate specified in the BRP/SOA Report. The specified rate would be substantially lower than even the more conservative public pension plan investment return assumptions currently in use.[7]

While some additional sensitivity and risk related disclosures may be appropriate, Segal does not support the disclosure by all public pension plans of the uniformly standardized contribution benchmark proposed by the BRP/SOA Report. Standardized financial reporting is already required by the GASB, based on a discount rate that is adjusted to reflect the projected funding of future benefits.

Conclusion

Actuarial funding policy is a crucial part of pension fund governance, and policymakers and administrators of public pension systems should be prepared to respond to inquiries regarding this recent funding policy guidance.

"Policymakers and administrators of public pension systems should be prepared to respond to inquiries regarding this recent funding policy guidance."

Many plans will find that many of the recommendations are already in place. Sponsors of plans that are not following all of the recommendations may benefit from considering the guidance summarized in this *Public Sector Letter*, including consideration of any justifiable policy differences. Knowing how their plans compare

[7] The BRP/SOA Report states incorrectly that "the primary difference between [the BRP/SOA's] long-term rate of return and the rate used by many plans is that many plans use a historical average return for their discount rate. Other plans assume forward-looking rates, but based on historical average nominal returns, which factor in many different interest rate and inflation environments." In fact, it would be unusual for a public pension plan to set a long-term assumed rate of return in either of these ways. The main reason that the BRP/SOA discount rate is comparatively low is that it uses a particular model for estimating long-term investment returns, one based heavily on current U.S. Treasury security market prices and yield curves.

with the recommendations will help sponsors respond to any questions that may arise, as well as to identify possible policy changes.

Segal Consulting can help plan sponsors that have not recently reviewed their funding policy to analyze their policies to ensure that they meet the risk profiles and policy objectives of the plan stakeholders. For more information about funding policy reviews, contact your Segal consultant or one of the following experts:

"Knowing how their plans compare with the recommendations will help sponsors respond to any questions that may arise, as well as to identify possible policy changes."

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