

Commission to Strengthen Chicago's Pension Funds

Final Report



Vol. 1: Report & Recommendations

Co-Chairs

Dana R. Levenson

Gene R. Saffold

April 30, 2010

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LETTER OF TRANSMITTAL TO MAYOR RICHARD M. DALEY

April 30, 2010

Hon. Richard M. Daley, Mayor
City of Chicago
121 North LaSalle Street, Room 507
Chicago, IL 60602-1208

Dear Mayor Daley:

The Commission to Strengthen Chicago's Pension Funds, which you assembled a little over two years ago for the purpose of examining the four pension funds directly associated with the City of Chicago and recommending ways that the City could improve and sustain their funded ratios, is pleased to transmit its report to you along with this letter.

An executive summary follows this letter, and the entire report is divided into two volumes, the first of which is the substance of the report with the second volume being a compendium of resource and reference materials that were used to formulate the report. As its substantive chapters, though, the first volume covers the following:

- Background
The "3-legged stool" that is the construct of our Pension Funds.
- The Nature and Causes of the Problem
How it has come about that the Pension Funds are in the situation described herein, and what to expect if no ameliorating action is taken.
- Looking for Answers – The Work of the Commission
Describes the Commission's work program: how we defined the problem and the way we analyzed it.
- Recommendations and Options
Steps that can be taken by the City in an effort to increase the funded ratio to an acceptable level.

As you are well aware, the Commission was composed of a broad cross-section of City officials, union leaders, pension fund executives, and business and civic professionals. They are all to be commended for their commitment and contributions to this effort. Fortunately, throughout the deliberations by the various members of the Commission there has been and continues to be a clear willingness on the part of all to contribute to providing solutions to the issues discussed herein.

We note that at its last scheduled meeting, on March 24, the Commission endorsed this Report with three dissents. Commissioners Lester Crown, R. Eden Martin, and Laurence Msall were of the opinion that, while making very clear the origins and the present state of the City's pension problem, the Report, while making very clear the origins and the present state of the City's pension problem, was not aggressive enough in its recommendations.

We hope that the extent and body of our work is helpful to you and the City Council in considering the steps that must be taken to complete the task of strengthening Chicago's Pension Funds.

Sincerely yours,

Dana R. Levenson
Co-Chair

Gene R. Saffold
Co-Chair

EXECUTIVE SUMMARY

The four pension plans serving employees of the City of Chicago face a financial crisis.

They are significantly underfunded, which means they lack the financial assets to guarantee all the pensions that their members, the City's employees and retirees, have been promised. The problem worsens with each passing year, as the deficit grows and becomes more expensive to fix. It is important to address this problem effectively and quickly. If we fail to act, the pension funds will begin to run out of assets in a decade or less.

This is an enormous problem. Fixing it will cost approximately \$710 million per year, growing with inflation for 50 years, in addition to the pension contributions required under current law. All parties will have to sacrifice. There is no conceivable way to adequately fund these pension plans except by increasing contributions and reducing expenses. And the timing, during a severe economic downturn, could not be worse.

Nonetheless, every year we don't act makes the ultimate cost even greater.

P.A. 96-0889

On April 14, 2010, after the Commission approved its findings and recommendations, Gov. Quinn signed Senate Bill 1946 into law as P.A. 96-0889. This amended the Illinois Pension Code to reduce the defined benefits applicable to pension plans under several articles of the Code, including LABF and MEABF. The Commission's technical team projects that, all other things being equal, this would reduce the projected 2012 contribution increase (to attain 90 percent funded in 50 years) from \$710 million to approximately \$660 million. However, under current law the City's contributions are a multiple of payroll and bear no relation to actuarial liability, so P.A. 96-0889 has no effect on the City's pension contributions until and unless the relevant statutes are amended.

Background

On January 11, 2008, Mayor Richard M. Daley announced the formation of the Commission to Strengthen Chicago's Pension Funds (CSCP). At that time, the most recent available annual actuarial reports of the four City pension funds were as of the end of 2006, and indicated funded ratios (based on market value of assets) as follows: Fire, 44%; Police, 52%; Laborers, 96%; and Municipal Employees, 71%, for an aggregate weighted funded ratio of 62%. Their combined unfunded actuarial liability approached \$8.6 billion.

Mayor Daley stated the purpose of the Commission as follows: "When our City's pension funds are healthy, we're protecting our taxpayers and our city's future. It's clearly in the best interests of all stakeholders - annuitants, present and future city employees, the City of Chicago and our City's taxpayers - that the pensions are funded to a level much higher than where they are today. The goal of this commission will be to address the pension challenge now, rather than push the problem off on future generations."

The Commission was chaired by the City's Chief Financial Officer Paul A. Volpe, later replaced by Gene R. Saffold, and Dana Levenson, former City CFO and presently a Managing Director of The Royal Bank of Scotland.

City of Chicago employees are members of four Pension Funds, each created under the Pension Code of the State of Illinois (40 ILCS 5/):

- Article 5 - Policemen's Annuity and Benefit Fund--Cities Over 500,000 (PABF)
- Article 6 - Firemen's Annuity and Benefit Fund--Cities Over 500,000 (FABF)

- Article 8 - Municipal Employees', Officers', And Officials' Annuity And Benefit Fund--Cities Over 500,000 Inhabitants (MEABF)
- Article 11 - Laborers' and Retirement Board Employees' Annuity And Benefit Fund--Cities Over 500,000 Inhabitants (LABF)

In addition to City employees, non-instructional employees of the Chicago Public Schools (District 299) are also members of MEABF; they constitute approximately one half of MEABF's membership. Hereinafter, unless the context clearly indicates otherwise, references to "members" of MEABF include the Public Schools members, and references to "City employees" include the Public Schools members of MEABF.

All provisions of the four Funds are defined in State law, and any changes require action by the Illinois General Assembly and the Governor.

City employees are NOT in the Social Security system, nor does the City sponsor a contributory defined contribution plan such as a private sector §401(k) or a public sector §403(b) plan. Therefore, retirement annuities from these Funds are often the employee's sole retirement resource other than their own savings.

All City Funds are "Defined Benefit" ("DB") structures, where a percentage of a member's salary is credited from each paycheck, and at a later date an employer contribution to the Fund is calculated as a multiple of all employee contributions, and credited and paid. Members accrue creditable years of service which, in combination with their late-career salaries, entitle them to specified annuities. The annuity to which a member is entitled is NOT affected by the Fund's ability to pay. Thus, the benefit is "defined," based on the criteria mentioned.

Defined benefit plans accumulate financial reserves to invest and use to pay the benefits its members are accruing. Actuarial liabilities are calculated based on many factors: the number and timing of future retirements; the salary levels and years of pensionable service those retirees will have, which is the basis for calculating their annuities; provisions for increasing annuities to adjust for inflation; and the selection of an appropriate discount rate and a rate of return on invested assets. Ideally, at any time the assets in hand plus expected investment earnings and future contributions, should approximately equal the anticipated stream of future benefits, discounted to the present. The assets divided by the present value of the actuarially accrued liability is the "funded ratio," expressed as a percentage. A funded ratio of 100% is deemed "fully funded."

In general, a DB plan balances on three financial considerations, sometimes referred to as a "3-legged stool:" contribution income, assets and investment returns, and benefit expenses. The optimal financial condition has these three factors in both short- and long-term balance and a funded ratio close to 100%.

Table SA-1 in the Statistical Resources section of Volume 2 shows the contribution policies and major benefit provisions of the Plans. Below is a simplified table of benefit provisions:

PROVISION	Fire	Police	Laborers	Municipal Employees
Unreduced Pension (Age & Service)	50 & 20; 63 & 10		50 & 30; 55 & 25; 60 & 10	
Reduced Pension (Age & Service)	50 & 10		55 & 20	
Final Average Pay (FAP) Formula	High 4 consecutive years in final 10 years			
Benefit Formula	Yrs of Service X 2.50% X FAP		Yrs of Service X 2.40% X FAP	
Maximum Retirement Annuity	75% of FAP		80% of FAP	
COLA Annual Increase	Born 1/1/55 or later: 1.5%			
	Born before 1/1/55: 3.0%		3.0%, compounded	
	not compounded			

Contributions to the four City Plans are a statutory fixed multiple of payroll, and do not respond to the funded status of the Plans. Depending on the Plan, each employee contributes between 8.500% and 9.125% of each paycheck. The City's contribution is calculated by multiplying the total of all employee contributions to each Plan, two years prior, by a factor unique to each Plan. The following table presents this:

PROVISION	Fire	Police	Laborers	Municipal Employees
Employee contribution as % of Pay	9.1250%	9.0000%		8.5000%
City Multiple *	2.26	2.00	1.00	1.25
City as % of Payroll 2 yrs prior *	20.6225%	18.0000%	8.5000%	10.6250%
Approx. Total as % of Payroll *	29.7475%	27.0000%	17.0000%	19.1250%
Member Contribution Share	30.67%	33.33%	50.00%	44.44%

* No City contribution is made when the funded ratio is 100% or greater.

Contributions are not affected by a change in benefits, or assets and investments, only a change in current payroll. Contributions do not rise if the financial health of the Fund deteriorates. There is no mechanism by which funding can self-correct. This funding structure allowed the funded ratios to decline without contributions increasing to help restore balance. Employees and the City have made all contributions required by law. The shortfall has been due to deviations from the assumptions on which contribution rates were set: enhanced benefits, lower investment returns, or other actuarial assumptions not being met.

The single most significant statistic in describing the financial health of a defined benefit Plan is the "Funded Ratio." The funded ratio is the level of assets divided by the present value of actuarial accrued liabilities. Among other assumptions, it must be based on an assumed rate of investment return on the assets. By convention, that same rate is used to discount future liabilities. For a plan where assets are approximately sufficient to pay those future liabilities (a "fully funded" Plan), it is deemed appropriate to equate the rate of investment return and the discount rate because by doing so the projected earnings offset the discounting of future liabilities. The situation becomes more complicated when assets are far less than liabilities, but a detailed discussion of this matter is beyond the scope of this report.

Put another way, a Plan that is 100% funded could be closed with no more benefits accruing or contributions received, and its current assets plus the investment returns they will earn should be sufficient to pay all the benefits its members have earned - assuming the actuarial assumptions are fulfilled. A Plan that is less-well funded would run out of money (assets) while still owing payments to its members. A Plan with a funded ratio over 100% could pay all its members what they are owed, and have assets remaining.

It is tempting to compare private sector and public sector practices in the broad area of retirement finance, such as the use of DB versus DC plans, and specifically in the structure and particulars of defined benefit pension plans. This can be interesting, and no doubt has political salience at a time when many people's 401(k) accounts are struggling to recover after

the 2007-2009 market decline, but the public and private sectors face profoundly different legal requirements and financial circumstances and such analogies are often not appropriate. Private sector funds typically are funded solely by the employer with no employee contribution, are strongly influenced and defined by Internal Revenue Service rules that do not apply to non-taxed state and local government, and unlike public sector plans have benefits partially guaranteed by the federal Pension Benefit Guaranty Corporation, in return for which they must maintain strict standards of "insurability," and so on.

Findings

At the end of 2009, the four pension funds covering employees of the City of Chicago, and non-teaching employees of the Chicago Public Schools, had a combined actuarial liability of \$25.45 billion, assets with a market value of \$10.88 billion, resulting in an unfunded actuarial liability of \$14.57 billion and a funded ratio (market value) of 43 percent.

As recently as 2000, the aggregate funded ratio was 83 percent, a level deemed satisfactory for public defined benefit pension funds. However, the dot-com bust of 2000-2002 caused assets to decline as liabilities continued their structural increase. By the end of 2002 the funded ratio was 62 percent. The ratio fluctuated between 61 percent and 66 percent during the 2003-2007 investment boom, as strong investment returns were largely offset by increasing liabilities. The market decline from mid-2007 to early 2009 drove the funded ratio as low as 36 percent; it has since recovered to 43 percent at the end of 2009.

In general, the Funds have suffered from inadequate contributions and the effects of benefit increases, most notably early retirement programs. The early retirement programs are non-recurring, but the inadequate contributions affect the Funds every month.

With a funded ratio this low, it is almost impossible for investment returns to be large enough to restore the funds to a sound financial condition. Liabilities increase by approximately four percent annually due to structural reasons. With assets only 40 percent of liabilities, the Funds would have to earn ten percent and not use any assets for current benefits, just in order to stay even. However, due to the inadequate contributions the Funds often have to use assets to pay benefits, so they do not get the full benefit of compounded returns. And, ten percent is not a sustainable rate of return. Therefore, if nothing changes, the Funds are likely to repeat the pattern of the last decade: funded ratios will decline during weak investment markets, and be approximately level during strong investment periods. They will not significantly recover, and the "ratchet" effect will work in a downward direction.

The Commission looked at how Chicago's retirement benefits compare to other large cities, and to the private sector. In general, Chicago's benefits are comparable to those of other cities, with the public safety Funds at the low end and public service Funds near the average of surveyed DB plans. Chicago's Funds have features that reduce the potential for abuse, such as final average pay being averaged over a longer period than elsewhere, and overtime pay and end-of-career payments for accrued vacation or sick time not counting toward pension calculations. In comparison to the private sector, Chicago employees receive better retirement benefits than private sector employees who are not in defined benefit pension plans, but no account was taken of whether the private sector employees benefited from the pension contributions not made, as by higher pay. Comparing to private sector employees in defined benefit plans, City employees did somewhat better in the case of retiring at an early age, but retirement at or near 65 years of age favored the private sector. This is due to the option of "unreduced early retirement," common in the public sector but rare in the private sector. Private sector employees did relatively better at lower incomes due to the redistributive aspects of the Social Security benefit formula.

The Commission also found that current benefits are not, in themselves, unaffordable. Across all four Plans, the annual cost of newly accrued benefits is approximately the level of combined employer and employee contributions, excluding disability costs. From that perspective, the problem facing the Funds is paying the interest and amortization on the \$14.57 billion unfunded liability. Savings in benefit costs would help address the overall problem, as a dollar not needed for new accrued benefits is available to reduce the accumulated deficit, but were it not for the deficit we would not face a crisis.

The Commission considered whether other methods of funding employee retirement would be beneficial, but concluded that continuing the current Plans in their defined benefit structure was superior to any alternatives, for both the employees and the City.

Resolving an unfunded actuarial liability of \$14.57 billion will require sacrifice by all parties. Under current actuarial assumptions, raising the funded ratio to 90 percent by 2062 would require contributions to increase by approximately \$710 million in 2012, and increase proportionate to payroll every year until the goal is met. Attaining the same goal by 2042 would require an increase of \$866 million in 2012, growing with payroll until the goal is met. Under current law, contributions in 2012 will be approximately \$793 million, \$480 million by the City and \$313 million by employees. So, the 50-year goal requires an increase of 90 percent; the 30-year goal, 109 percent. These gaps can be filled by a mix of higher contributions and expense (benefit) reductions.

The City and its taxpayers will have to increase the amount they contribute. Employees will have to contribute a larger portion of their pay, and benefits may have to be reduced for employees hired in the future. In a worst-case situation, if even these measures fail to close the gap, attention may turn to reducing FUTURE benefit accruals for some current employees. However, there is doubt whether such a step would be allowed by the Illinois Constitution, and it could be viewed as a breach of faith with affected employees. Because of these issues of uncertain legality and fairness, this choice is not recommended at this time.

This report presents a menu of options for saving money by reducing benefit costs for future employees (i.e., new hires). One such option stands out as worthy of consideration: reforming provisions for unreduced early retirement. This was the major change in benefits in the 2008 reform of the Chicago Transit Authority's pension plan, which both labor and City Commissioners have mentioned as a good model from which to start. It can significantly reduce the required future contributions. It is the single largest difference between City and private sector retirement benefits.

However, even stringent reductions in benefits cannot come close to filling the gap in required funding. Employees, who now contribute between 8.5% and 9.125% of their gross pay, will have to contribute more, even though those contribution rates are higher than at many comparable cities. The City of Chicago will also have to contribute more, which implies a mix of enhanced revenues and/or offsetting budget savings.

It is beyond the Commission's ability to specify the precise mix of benefit and contribution changes, or how the City can finance its share, but this report lays out the policy choices and provides analysis that will be useful in that effort.

Recommendations

The Commission's specific recommendations are summarized below:

1. The Defined Benefit ("DB") structure should remain the primary vehicle to help employees save for their retirement.

2. New employees should continue to become members of the current Plans. Closing the old Plans either entirely or to new members is not financially viable.
3. The Plans should have an actuarially-based funding policy. It would be less expensive to fund the deficit as quickly as possible, but it may take 50 years to reach a satisfactory, sustainable funding ratio of at least 80%.
4. Plan changes for new employees, though undesirable, will probably be necessary. Provisions for unreduced early retirement should get special attention. The Report presents illustrative options to be considered; in addition to provisions regarding unreduced early retirement, such options include changing the way Final Average Pay is calculated, changing the COLA adjustment, and others.
5. Contributions will have to be increased, and revenues identified. Any new funding policy and increased contributions should be implemented through statute in such a way as to guarantee that all contributions will be made in a complete and timely fashion, and the necessary revenues will be forthcoming.
6. Employee contributions should not exceed the value of benefits on a career basis.
7. Review any provisions in current law for refunds or for alternative benefit calculations, to ensure that the anticipated financial results of a reform program are actually obtained.
8. In general, no Plan changes should be made unless financially neutral or advantageous to the Fund, now or in the future.
9. A variety of other reforms should be considered, including reforming potential abuses, establishing sound reciprocity with other Illinois public pensions, new structures to manage investments, and improved administration of disability claims and benefits.
10. Any reform legislation must comprehensively and simultaneously address all aspects of the pension funding problem.

POBs and contribution ramps are options that can be considered, but each entails risks and costs that must be carefully evaluated. Both have been misused in other jurisdictions, and if adopted in Chicago must not be used inappropriately.

This problem must be addressed as soon as possible. The actuarial deficit accumulates actuarial interest each year, and current total contributions plus investment returns continue to be inadequate to sustain the Funds, so the problem compounds itself. In a mediocre investment environment, the less well-funded Funds may run out of money by the end of this decade. The City and its employees must soon find realistic solutions to this enormous and vexing problem.

1. INTRODUCTION

On January 11, 2008, Mayor Richard M. Daley announced the formation of the Commission to Strengthen Chicago's Pension Funds (CSCP). At that time, the most recent available annual actuarial reports of the four City pension funds were as of the end of 2006, and indicated funded ratios (based on market value of assets) as follows: Fire, 44%; Police, 52%; Laborers, 96%; and Municipal Employees, 71%, for an aggregate weighted funded ratio of 62%. Their combined unfunded actuarial liability approached \$8.6 billion.

Mayor Daley stated the purpose of the Commission as follows: "When our City's pension funds are healthy, we're protecting our taxpayers and our city's future. It's clearly in the best interests of all stakeholders - annuitants, present and future city employees, the City of Chicago and our City's taxpayers - that the pensions are funded to a level much higher than where they are today. The goal of this commission will be to address the pension challenge now, rather than push the problem off on future generations."

The Commission would be chaired by the City's Chief Financial Officer Paul A. Volpe, later replaced by Gene R. Saffold, and Dana Levenson, former City CFO and presently a Managing Director of The Royal Bank of Scotland.

This report documents the Commission's activities, findings and options available to the City, pursuant to the Mayor's charge. However, the subsequent market crash starting in the third quarter of 2008 caused further deterioration in the funding of the City's four pension funds. This made the problem far worse, and was only partly offset by the market rebound after the market low in March, 2009.

The report is structured as follows:

1. Introduction
2. Background on the City's four pension funds, including their statutory basis, how they are funded, and the benefits they pay
3. The current financial status and recent history of the pension funds, describing the problem the Mayor asked the Commission to consider.
4. Commission analysis and findings
5. Recommendations and Options
6. Conclusion

Appendices

1. Comparables
2. Comparing Defined Benefit and Define Contribution Plans
3. Illustrative Scenarios
4. "Differing Views," where individual Commissioners may disagree with, clarify or otherwise comment on the content of the Report
5. Glossary

Useful resource materials are also provided in *Volume 2 - Resources*: an Administrative Resources section that includes the Mayor's charge to the Commission, its membership, and its meeting schedule; a Statistical Resources section providing useful information about the four City Pension Funds; and a Technical Resources section that presents important analytic and other work products that the Commission developed and considered.

2. BACKGROUND

A. Legal Basis

City of Chicago employees are members of four Pension Funds, each created under the Pension Code of the State of Illinois (40 ILCS 5/):

- Article 5 - Policemen's Annuity and Benefit Fund--Cities Over 500,000 (PABF)
- Article 6 - Firemen's Annuity and Benefit Fund--Cities Over 500,000 (FABF)
- Article 8 - Municipal Employees', Officers', And Officials' Annuity And Benefit Fund--Cities Over 500,000 Inhabitants (MEABF)
- Article 11 - Laborers' and Retirement Board Employees' Annuity And Benefit Fund--Cities Over 500,000 Inhabitants (LABF)

In addition to City employees, non-instructional employees of the Chicago Public Schools (District 299) are also members of MEABF; they constitute approximately one half of MEABF's membership. Hereinafter, unless the context clearly indicates otherwise, references to "members" of MEABF include the Public Schools members, and references to "City employees" include the Public Schools members of MEABF.

All provisions of the four Funds are defined in State law, and any changes require action by the Illinois General Assembly and the Governor. Article XIII of the Illinois Constitution includes the following:

SECTION 5. PENSION AND RETIREMENT RIGHTS

Membership in any pension or retirement system of the State, any unit of local government or school district, or any agency or instrumentality thereof, shall be an enforceable contractual relationship, the benefits of which shall not be diminished or impaired.

The precise meaning of this provision has not been tested. In its first meetings, the Commission chose to follow a reading that benefits of current members may not be reduced, but that their contributions may be increased. There is controversy around each of those assumptions, and the participation of the Commissioners should not be deemed to signify their agreement with those interpretations for any purpose beyond facilitating the work of the Commission. Benefit reductions affecting future accruals by current members was looked at in one scenario, in order to help frame the financial significance of this issue. This is discussed in more detail in the "Recommendations and Options" section of the Report.

There is a question whether the City of Chicago would be obligated to contribute the full amount needed to pay full benefits to annuitants (when added to employee contributions), if a Fund were to run out of assets. Certainly, there is a strong sentiment among some constituencies that, "a promise made is a promise kept." There is an opposing view, that state law (40 ILCS 5/22-403 and -404) holds that the City's only obligation is to fund its annual contribution under existing statutes, and the City would NOT be responsible for additional funds to pay full benefits. If any of the Funds were to become insolvent, the ensuing litigation would take years to sort out and would leave all parties significantly injured in the immediate as well as long terms. The Commission recognized the disagreement in this area, but as its charge was to recommend steps to strengthen the pension funds and their ability to meet their obligations, put this issue aside as outside its purview.

B. Financial Considerations

Any method of providing for retirement income serves two purposes: retirement security for the employee and his or her survivors, and a tool for the employer to manage its workforce. Pension plans originated in the late 19th Century as a method for employers to encourage workers who were becoming less effective due to age, to voluntarily resign and make way for younger replacements, without the destructive effect on morale of having to fire them. The concept of an employee's right to a secure retirement came later. Now, we tend to view pension arrangements primarily as ways to ensure a dignified retirement, but the other aspect, workforce management, is inextricably part of the arrangement. Any feature of a retirement plan has implications for the decision of the employee whether to retire or keep working, and thus affects the employer's workforce demographics. While the financial health of the City's pension funds is the subject of the Commission's work, it must also be recognized that steps taken to improve the financial health of the pension funds will also have implications for the City's workforce and wage costs.

City employees are NOT in the Social Security system, nor does the City sponsor a contributory defined contribution plan such as a private sector §401(k) or a public sector §403(b) plan. Therefore, retirement annuities from these Funds are often the employee's sole retirement resource other than their own savings. The employee contribution level for each Fund exceeds the employee portion of the Social Security Old Age, Survivors and Disability Insurance (OASDI) tax, and the employer contribution is at least as large as the employee contribution.

The City and Chicago Public Schools offer §457 deferred compensation programs, where the employer does not contribute. In late 2008, over 60% of eligible City employees actively participated in the City's program, deferring at an annualized rate of almost \$150 million or over 7.6% of gross salary.

B1. The City's Pension Plans are "Pre-Funded, Public Sector Defined Benefit" Plans

All City Funds are "Defined Benefit" ("DB") structures, where a percentage of a member's salary is credited from each paycheck, and at a later date an employer contribution to the Fund is calculated as a multiple of all employee contributions, and credited and paid. Members accrue creditable years of service which, in combination with their late-career salaries, entitle them to specified annuities. The annuity to which a member is entitled is NOT affected by the Fund's ability to pay. Thus, the benefit is "defined," based on the criteria mentioned.

Defined benefit plans accumulate financial reserves to invest and use to pay the benefits its members are accruing. Actuarial liabilities are calculated based on many factors: the number and timing of future retirements; the salary levels and years of pensionable service those retirees will have, which is the basis for calculating their annuities; provisions for increasing annuities to adjust for inflation; and the selection of an appropriate discount rate and a rate of return on invested assets. Ideally, at any time the assets in hand plus expected investment earnings and future contributions, should approximately equal the anticipated stream of future benefits, discounted to the present. The assets divided by the present value of the actuarially accrued liability is the "funded ratio," expressed as a percentage. A funded ratio of 100% is deemed "fully funded."

In general, a DB plan balances on three financial considerations, sometimes referred to as a "3-legged stool:" contribution income, assets and investment returns, and benefit expenses. The optimal financial condition has these three factors in both short- and long-term balance and a funded ratio close to 100%.

It is tempting to compare private sector and public sector practices in the broad area of retirement finance, such as the use of DB versus DC plans, and specifically in the structure and particulars of defined benefit pension plans. This can be interesting, and no doubt has political salience at a time when many people's 401(k) accounts are struggling to recover after the 2007-2009 market decline, but the public and private sectors face profoundly different legal requirements and financial circumstances and such analogies are often not appropriate. Private sector funds typically are funded solely by the employer with no employee contribution, are strongly influenced and defined by Internal Revenue Service rules that do not apply to non-taxed state and local government, and unlike public sector plans have benefits partially guaranteed by the federal Pension Benefit Guaranty Corporation, in return for which they must maintain strict standards of "insurability," and so on.

Important differences in the regulatory environment for public sector and private sector DB pensions are summarized in this table:

Differences in Federal Requirements for Public-sector and Private-sector Defined Benefit Pension Plans		
Requirement	Public DB Plans	Private DB Plans
Funding Issues		
Minimum Requirement	None required; 80% funded ratio is desirable	100% funding of accrued benefit in 7 years
Basis	State Laws	ERISA and IRS
Funding Discount Rate	Expected Investment Returns	Bond Yields
Funding Target	Projected Benefit	Accrued Benefit
Plan Design Issues		
Employee Contributions	Yes	Very rare
COLAs	Very common	Very rare
Unreduced Early Retirement	Common	Very rare
Trend	Retain DB structure	Freeze/terminate and move to DC
Vesting	No later than normal retirement (typically much earlier)	100% vesting after 3 YoS, or 20% vesting after 2 YoS with additional 20% each year until 100% vesting after 6 YoS
Participation Requirements	None; but rarely use flexibility	Stringent
Discrimination Requirements		
Minimum Required Distribution		
Definitely Determinable Benefit		
Compensation (FAP) Limits		
Sec. 415 (Benefit) Limits	Yes	Yes
Exclusive Benefit Requirement		
Other Issues		
PBGC Insurance	No	Yes
Required IRS Reporting	No	Yes
Social Security Coverage	Varies	Always

B2. Benefits

An employee earns or accrues benefits toward retirement based on each year or eligible portion thereof of service. Each year earns 2.40% (for LABF and MEABF) or 2.50% (FABF and PABF), up to maxima of 80% and 75%, respectively. After ten years of service, the employee has earned the right to a pension. That pension can actually begin when the employee has also attained a specified combination of age and years of service. When the employee retires and begins collecting the retirement annuity, it is calculated by taking the average annual salary of the highest four consecutive years in the last ten years of service,

(variously referred to as "Final Average Pay" or "Final Average Compensation" or "Final Average Salary") and multiplying that figure by the percentage earned over his or her years of service.

Benefits vary between the Funds whose members are uniformed public safety personnel (FABF and PABF) and the other Funds (LABF and MEABF). Maximum pensions are 75% or 80% of the average of the highest four years of pay, after 29 to 34 years of service. Unlike at some other public sector Plans, compensation in the form of overtime pay or bonuses are NOT included in the calculation. Also, many other public sector plans calculate FAP over a shorter period, some as little as one year. In both those areas, Chicago's pensions are less generous and less prone than many other systems to abusive practices that artificially increase pension based on short-term manipulation of compensation (called "spiking").

The four Plans provide disability and survivor benefits. City employees are not in the Social Security system, which provides those for most private sector employees. With the exception of disability benefits in the FABF and to a lesser degree PABF, these are relatively small expenses. They must be administered in a fair and prudent manner, but they are not significant contributors to the financial condition of the Plans.

Table SA-1 in the Statistical Resources section of Volume 2 shows the contribution policies and major benefit provisions of the Plans. Below is a simplified table of benefit provisions:

PROVISION	Fire	Police	Laborers	Municipal Employees
Unreduced Pension (Age & Service)	50 & 20; 63 & 10		50 & 30; 55 & 25; 60 & 10	
Reduced Pension (Age & Service)	50 & 10		55 & 20	
Final Average Pay (FAP) Formula	High 4 consecutive years in final 10 years			
Benefit Formula	Yrs of Service X 2.50% X FAP		Yrs of Service X 2.40% X FAP	
Maximum Retirement Annuity	75% of FAP		80% of FAP	
COLA Annual Increase	Born 1/1/55 or later: 1.5% Born before 1/1/55: 3.0%		3.0%, compounded	
	not compounded			

B3. Contributions

Contributions to the four City Plans are a statutory fixed multiple of payroll, and do not respond to the funded status of the Plans. Depending on Plan, each employee contributes between 8.500% and 9.125% of each paycheck. The City's contribution is calculated by multiplying the total of all employee contributions to each Plan, two years prior, by a factor unique to each Plan. The following table presents this:

PROVISION	Fire	Police	Laborers	Municipal Employees
Employee contribution as % of Pay	9.1250%	9.0000%	8.5000%	
City Multiple *	2.26	2.00	1.00	1.25
City as % of Payroll 2 yrs prior *	20.6225%	18.0000%	8.5000%	10.6250%
Approx. Total as % of Payroll *	29.7475%	27.0000%	17.0000%	19.1250%
Member Contribution Share	30.67%	33.33%	50.00%	44.44%
* No City contribution is made when the funded ratio is 100% or greater.				

The rates and multiples have changed from time to time; the current rates have been in effect for many years. The most recent changes were in 1998, when the multiplier for MEABF was reduced from 1.69 to 1.25, and for LABF from 1.37 to 1.00.

All private sector defined benefit plans, and many in the public sector, have contributions established to achieve and maintain a target funded ratio within a certain number of years. In the private sector, the goal is 100%, and if a fund falls below that level, it must increase contributions to amortize the shortfall over 7 years. This is a federal requirement, imposed because the federal Pension Benefit Guaranty Corporation (PBGC) insures the payment of those pensions up to a maximum amount, and the federal government therefore imposes requirements as a way to control its risk. Because PBGC does not insure public sector pension plans, the rules do not apply to the City's (or any state or local government) Funds.

Many public sector funds have "actuarial" funding policies, structurally similar to what PBGC requires in the private sector, but more flexible. Because governments are viewed as more permanent than private sector entities, in many cases a funded ratio of less than 100% is acceptable, and a period of time to attain that level may be greater than 7 years. Target funded ratios as low as 80%, and amortization periods 30 years or more are not uncommon. In Illinois, in 1995 the State legislature amended the Pension Code to put its five major pension plans and the Chicago Teachers Pension Fund on a path to reach a 90% funded level within 50 years, and in 2008 the legislature reformed the Plan for Chicago Transit Authority employees to also to reach 90% funded in 50 years.

In a Fund with an actuarial contribution policy, a deviation from actuarial assumptions causes the next year's required contribution to be adjusted accordingly. In years with only small deviations, the adjusted contributions ease the Fund back toward its funded ratio goal. In a year with a large deviation, such as the market downturn in 2008, the result can be a large change in contributions. Many states and cities are struggling to pay the pension contributions required to make up for their investment losses in 2008 and early 2009.

By contrast, contributions to the four City Funds are not related to funded status, only to payroll. Specifically, contributions are not affected by a change in benefits, or assets and investments, only a change in current payroll. Contributions do not rise if the financial health of the Fund deteriorates. There is no mechanism by which funding can self-correct for investment losses or benefit increases. This funding structure allowed the funded ratios to decline without contributions increasing to help restore balance. Employees and the City have made all contributions required by law. The shortfall has been due to deviations from the assumptions on which contribution rates were set: enhanced benefits, lower investment returns, or other actuarial assumptions not being met. Tables SA-5 and SA-5A in Volume 2 shows funded ratios from 1996 through 2009, using market value and smoothed values of assets, respectively. (Smoothing spreads a year's results over several subsequent years and is intended to give a longer-term perspective.)

B4. Assets and Investment Returns

As prefunded public sector defined benefit pension plans, Chicago's four Plans are built on the assumption that employee and employer contributions provide a base of investable assets that is approximately equal to the net present value of the future expenses that the Plans have already incurred, less anticipated future contributions. In order to do this, contributions in any year should be sufficient to pay for the actuarial cost of future benefits earned by employees in that year (called "Normal Cost"), plus the interest and amortization on any current shortfall of assets.

Comparing assets to the present value of future liabilities is a complex actuarial matter that depends on numerous assumptions. Actuarial practice and experience has provided workable definitions and procedures on how to make those assumptions and carry out the calculations. Nonetheless, the reader should be aware that in all discussion of actuarial

estimates, the usefulness of the figures depends on the credibility of the assumptions and appropriateness of the actuarial methods used.

The single most significant statistic in describing the financial health of a defined benefit Plan is the "Funded Ratio." The funded ratio is the level of assets divided by the present value of actuarial accrued liabilities. Among other assumptions, it must be based on an assumed rate of investment return on the assets. By convention, that same rate is used to discount future liabilities. For a plan where assets are approximately sufficient to pay those future liabilities (a "fully funded" Plan), it is deemed appropriate to equate the rate of investment return and the discount rate because by doing so the projected earnings offset the discounting of future liabilities. The situation becomes more complicated when assets are far less than liabilities, but a detailed discussion of this matter is beyond the scope of this report.

Put another way, a Plan that is 100% funded could be closed with no more benefits accruing or contributions received, and its current assets plus the investment returns they will earn should be sufficient to pay all the benefits its members have earned - assuming the actuarial assumptions are fulfilled. A Plan that is less-well funded would run out of money (assets) while still owing payments to its members. A Plan with a funded ratio over 100% could pay all its members what they are owed, and have assets remaining.

If annual contributions plus investment returns are not sufficient to fund the growth in actuarial liabilities as members accrue additional benefits, the unfunded liabilities will grow. As the unfunded liabilities grow, the liabilities themselves become a problem in that their carrying costs and amortization must be added to future benefit expenses, as additional financial obligations. Therefore, a funded ratio significantly below 100% means that the unfunded amount is, itself, a significant part of the problem.

C. Comparables

The Commission was interested to know how the benefits and contributions of Chicago's pension plans compared to both other public sector plans, and private sector practice. Staff prepared an analysis that is presented in detail in Appendix 1.

This analysis does not consider other post-employment benefits, such as retiree health insurance.

In general, staff found:

Among municipal defined benefit pension plans, Chicago's employee contributions are in the middle range, as are the annuity benefits available in LABF and MEABF. Benefits for FABF and PABF are somewhat less generous than was common in public safety plans for the cities surveyed, but not dramatically so.

Comparison to private sector practice is much more complicated. Private sector DB plans are heavily regulated and increasingly uncommon, and it is difficult to compare one employee's DB-based situation with another who depends on Social Security and a 401(k) DC program. A narrow focus on retirement income rather than lifetime earnings might be misleading, but it is difficult to correct for that, and far beyond the time or resources available. So, the analysis and conclusions are necessarily tentative, but nonetheless shed light on this area.

With those understandings, staff looked at the retirement income available to hypothetical employees at different final levels of pensionable earnings, age and years of service. Private sector employees were assumed to be members of Social Security and to have a 401(k) account with typical rates of contribution and employer match. The private sector employees

were modeled with and without a typical private sector DB pension in addition to Social Security and the 401(k). City employees were modeled based on their plan benefits.

In general, City employees fare better than private sector employees when retiring at an earlier age, and at higher income levels. Private sector employees who have both a 401(k) and a DB pension fare better than City employees when retiring at a later age and a lower income level. This is driven by two primary factors:

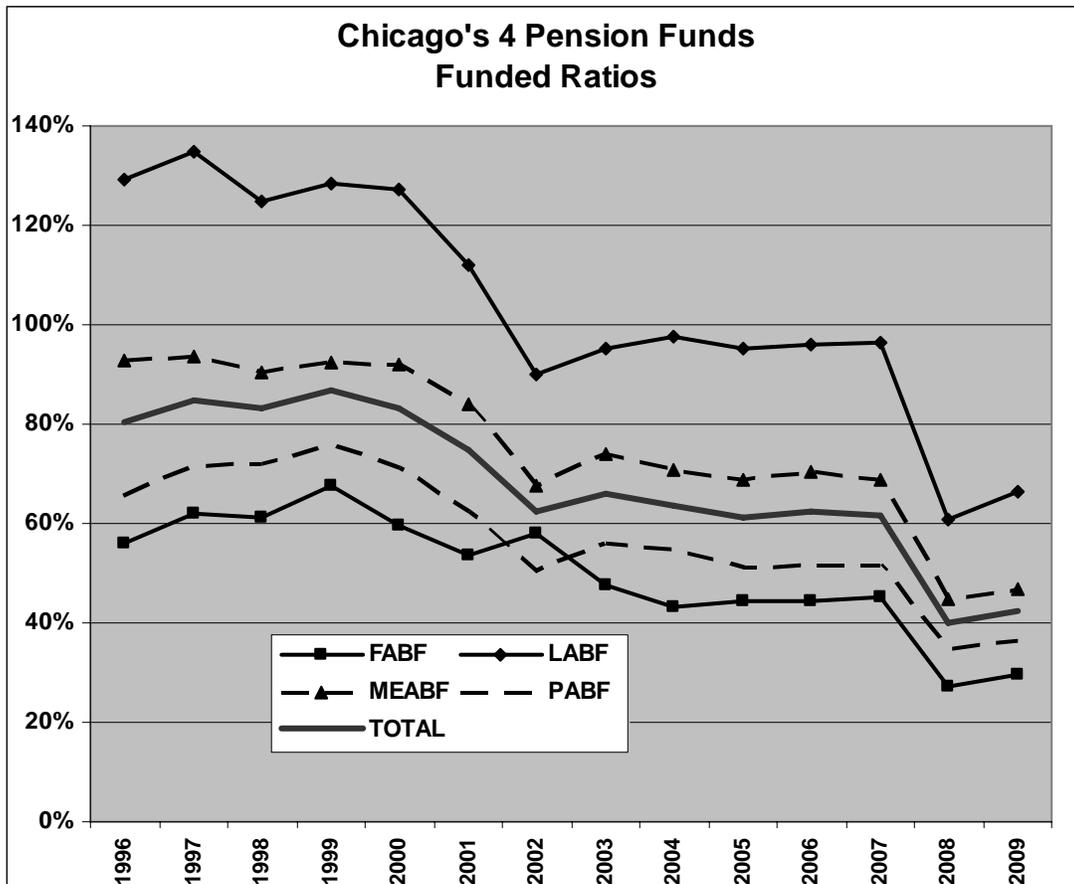
- The Social Security benefit structure is more generous to low earners, whereas the City's DB plans (and the typical private sector DB plan, as well) do not redistribute income in this way.
- The "unreduced early retirement" options available to City employees are rare in the private sector. Social Security retirement age is now approximately 66, depending on year of birth, and edging upward. Most private sector DB plans have normal retirement at 65, and in both cases there are significant reductions for retiring early.

Private sector employees without a DB pension generally fare worst in this limited analysis. This approach does not fully account for whether the employer DB contributions not made inured to their benefit. Private sector employees who have both a DB pension and 401(k) fare approximately as well as City employees, overall, with the above-noted differences by income and retirement age. Given the methodological limitations, one must be cautious in comparing City employees to private sector employees who are not members of a DB plan.

See Appendix 1 for detailed tables and discussion.

3. THE NATURE AND CAUSES OF THE PROBLEM

The funded ratios of the City pension Plans declined for several years preceding Mayor Daley's appointment of the Commission. By the end of 2006, the aggregate unfunded actuarial liability of the four Funds approached \$8.6 billion, and their aggregate funded ratio (using the market value of assets) was approximately 62%. Because the Funds had lost ground in the falling market of the 2000-2002 "dot-com bust" but had not substantially recovered in the subsequent rising market, despite good returns on investment, Mayor Daley and his advisers suspected that the problem was structural, and it would require a comprehensive analysis. This chart illustrates what occurred; the funded ratios are based on market value of assets:



This complex situation is summarized as follows:

The financial health of each of the City's four pension Funds has deteriorated due to increasing liabilities, inadequate contributions, which are based on a fixed percentage of payroll, as opposed to actuarial need, and adverse market conditions leading to fluctuating returns on investment which could not keep pace with the growth in liabilities. Liabilities have increased due to enhanced benefits, especially non-recurring early retirement programs that were not properly funded. Due to inadequate contributions, the Funds have had to use assets to pay current benefits, which in turn puts pressure on the asset base and funded ratio. As the funded ratio shrank, a given percentage increase in liabilities had a magnified effect on the need for additional contributions or higher investment returns, and a "vicious circle" was created.

All four Funds assume they will earn an annualized average return of 8% on their total assets. This rate is reviewed every few years, through an experience study. By actuarial convention, this percentage is also used to discount future benefit payments to estimate current liabilities. Eight percent is consistent with the norm for actuarial assumptions in public pension plans across the United States. Private sector plans typically assume a lower rate, but this is a consequence of their having to comply with requirements of the Pension Benefits Guaranty Corporation, which do not apply to public sector Plans.

The choice of an actuarially assumed rate of return is very important. This rate is used not only to project investment earnings, but is also the discount rate used to calculate the present value of benefits to be paid in the future. A lower assumed rate leads to a higher current actuarial liability as future benefits are discounted less.

Each Fund will consider the rate to use going forward. The boom and bust cycle in equities over the last 15 years must be better understood, especially the effects of volatility. In addition, when a Fund's contributions and assets are too low to pay current benefits without touching principal, assets must be sold, depressing future investment returns in dollar terms. In such a situation, a Fund must also keep more of its portfolio in short-term, more liquid but less rewarding assets, to keep funds available for sale as needed. All of this complicates the task of realizing a target rate of return that applies to the entire amount of assets.

Staff reviewed the actuarial and financial data of the Funds since 1996. The Volume 2 Statistical Resources section includes tables and charts with background data. While each Fund has its own history, they share some patterns:

- Assets at the end of 2009 were approximately 19% more than at the end of 1996. For all four Funds, assets grew from \$9.14 billion to \$10.88 billion (estimated), a compounded annual growth rate of only 1.35%. This reflects inadequate contributions in the cases of FABF and PABF, and benefit increases, especially past early retirement programs, and reduced contributions at LABF and MEABF. Investment performance was good when compared to common benchmarks such as the S&P 500. The Funds began experiencing negative cash flow in the 1990s, and the effect on assets was exacerbated by the market downturns in 2000-02 and 2007 to early 2009.
- On the other hand, over the same period actuarial liabilities approximately doubled from \$11.39 billion in 1996 to an estimated \$25.45 billion in 2009, a compound growth rate of 6.4%. Some of this was due to increased benefits, especially early retirement programs, but much was structural and unavoidable, largely driven by employees moving nearer retirement each year, and scheduled salary increases. Those salary increases are driven by two forces: general increases in the salary structure, which have tended to approximately match inflation, and progression of employees through seniority steps. The combined effect is that payroll grows faster than inflation, but on a seniority-adjusted basis each employee just keeps up with the cost of living, within a particular position.
- With assets growing sluggishly but liabilities doubling, the funded ratios in 2009 were little more than half those of 1996. In the aggregate, over that period the funded ratio fell from 80% to 43%, valuing assets at market. Each Fund experienced approximately the same proportionate decline, but the Funds started at different levels in 1996 and were therefore different in 2009. Using market value of assets, at the end of 2009 the FABF had a funded ratio of 30%; the PABF was at 37%, MEABF was at 47%, and LABF was at 66%.
- The difference between assets and actuarial liabilities, the "Unfunded Actuarial Liability" (UAL) when liabilities exceed assets, grew from a \$2.25 billion deficit at the end of 1996 to \$14.57 billion at the end of 2009. The comparable figure at the end of 2007, 4 months after the equity market top but well before the late-2008 crash, was \$9.10 billion.

- Contributions are set by a formula that does not respond to funded status, so they did not increase as the unfunded liability grew. Over this period, while the unfunded liability grew several-fold, total annual contributions (by both employees and the City) grew from \$514 million (1996) to \$760 million (2009), a compounded growth rate of only 3.05%, approximating the growth in payroll. The City's contribution rate for LABF and MEABF was reduced in 1998, because funding was deemed adequate -- LABF was over 120% funded, MEABF over 90%. Ironically, the City's tight management and restraint in personnel and payroll matters has served to hold down payroll costs and the level of pension contributions.
- In addition, over this same period, expenses of the four Plans grew from \$664 million to \$1.49 billion, and the compounded rate of return on invested assets was approximately 6.4%, varying at each Fund but none higher than 7.0%. Total return by the S&P 500 was 6.7% over the same period, so by that benchmark the Plans did reasonably well with their investments during this chaotic period, but the overall investment trend worked against them.
- The reasons for the decline in funded ratios varied from Plan to Plan. The following actuarial analysis is for the period 1997-2008. Inadequate contributions account for the entire net decline at FABF and PABF; other factors were smaller and mutually offsetting. The largest cause of decline for MEABF and LABF was benefit changes, with investment returns next but less significant. The largest effect of benefit changes on MEABF and LABF was in 1998 when several changes were made: an early retirement incentive program, the COLA was made to compound, vesting was set at 10 years, and minimum annuities were increased. The early retirement program is not a recurring item. (There were also early retirement programs in 1993 and 2003)
- Normal cost, the cost of benefits accrued in a year, grew at a compounded annual rate of over 4% (from \$300 million in 1997 to \$512 million in 2009).
- The combination of inadequate contributions and increasing benefit payments, plus the investment losses in 2008, pushed the Employer's Annual Required Contribution (the amount the City would have to pay in addition to employee contributions, to cover normal cost plus interest and amortization on the unfunded liability) from \$295 million in 1997 to over \$1.154 billion in 2009. (The amortization period changed from 40 years to 30 years and future liabilities for retiree health care were added in 2006, making the trend appear a bit worse than it really was.)

One problem was unique to LABF: for several years it was fully funded and no City contribution was required. Such contribution holidays are seldom a good idea in the absence of a funding policy that also boosts contributions when needed. Under current law, the City does not make its contribution when the Fund in question is over 100% funded. This affected LABF from 2000 to 2006. Had the City made its normal contribution in those years, and those contributions earned the same returns as the rest of LABF's assets, LABF's funded ratio would have been approximately 12% higher at the end of 2009.

While MEABF never had a City contribution holiday, its City contribution multiplier was reduced from 1.69 to 1.25 in 1998, when its funded ratio exceeded 90%. MEABF estimates that its current funded ratio would be approximately 10% higher had it retained the old multiplier.

The trend for normal cost has shown smooth growth except in 1999 and 2003, when more rapid growth at LABF and MEABF was attributable to benefit changes, especially early retirement programs.

The above analysis demonstrated that Mayor Daley and his advisers were correct in thinking that the financial problem is structural, and a solution must therefore be structural.

There are two related but distinct elements to this problem: the structural features that created the current actuarial funding deficits, and the deficits, themselves. Any solution must address both elements. It must resolve the current deficits and thereafter sustain acceptable funding levels.

The market crash of late 2008 to early 2009 meant that the Commission was, unfortunately, trying to address a rapidly worsening problem. The actuarial deficit was dramatically larger in early 2009 than it had been six months before. As of this writing, assets have partially recovered from their nadir. On the other hand, actuarial liabilities continued to grow.

At December 31, 2009, the financial status of the four Plans was (in millions of dollars):

PLAN	Assets (Market Value)	Actuarial Liabilities	Unfunded Actuarial Liabilities	Funded Ratio
Fire	\$1,051	\$3,476	\$(2,425)	30%
Laborers	1,333	2,017	(685)	66%
Municipal Employees	5,166	11,054	(5,888)	47%
Police	3,326	8,901	(5,575)	7%
TOTAL	\$10,876	\$25,449	\$(14,573)	43%

Estimated contributions in 2009 were (millions of dollars):

PLAN	Employee Contributions	Employer Contributions	Total Contributions
Fire	\$42	\$92	\$133
Laborers	17	18	35
Municipal Employees	131	158	289
Police	96	181	276
TOTAL	\$285	\$448	\$733

Another perspective is to look at how long each Plan could continue to pay benefits before depleting its assets; the Commission referred to this as the "Lifelines." A severely under-funded Plan will eventually deplete its assets. The Commission looked at this, on a Fund-by-Fund basis, several times in the course of 2009, and the modeling used several different investment rates of return as a form of stress-testing the robustness of the results.

The results presented to the Commission in the course of 2009 are presented in Volume 2, Table TA-7.

Presented below are "Lifelines" tables for the end of 2008 and the end of 2009.

At December 31, 2008, the Lifelines were (millions of dollars):

FUND	Assets at Market	12-31-2008 Actuarial Liabilities	Unfunded Liability	Funded ratio	Yr Assets Depleted, at Assumed Avg Annual Rate of Return					
					0%	4%	6%	8%	10%	12%
Fire	\$914	(\$3,359)	(\$2,444)	27%	2016	2018	2019	2020	2022	2024
Laborers	\$1,189	(\$1,957)	(\$769)	61%	2019	2022	2024	2027	2033	2059+
Municipal Employees	\$4,740	(\$10,606)	(\$5,866)	45%	2019	2021	2023	2025	2029	2041
Police	\$3,001	(\$8,653)	(\$5,652)	35%	2017	2019	2020	2022	2024	2029
TOTAL	\$9,843	(\$24,575)	(\$14,731)	40%	NA	NA	NA	NA	NA	NA

At December 31, 2009, the Lifelines were, based on available estimates (millions of dollars):

FUND	Assets at Market	12-31-2009 est. Actuarial Liabilities	Unfunded Liability	Funded ratio	Yr Assets Depleted, at Assumed Avg Annual Rate of Return					
					0%	4%	6%	8%	10%	12%
Fire	\$1,051	(\$3,477)	(\$2,425)	30%	2019	2019	2020	2022	2024	2027
Laborers	\$1,333	(\$2,017)	(\$685)	66%	2021	2024	2026	2030	2041	2059+
Municipal Employees	\$5,166	(\$11,054)	(\$5,888)	47%	2020	2023	2024	2027	2032	2051
Police	\$3,326	(\$8,901)	(\$5,575)	37%	2019	2021	2022	2024	2028	2032
TOTAL	\$10,876	(\$25,449)	(\$14,573)	43%	NA	NA	NA	NA	NA	NA

Going forward from the December 31, 2009 Lifelines table, even if each Fund achieves a consistent 8% annualized return going forward, barring any other structural changes in contributions or benefits, they all run out of money by 2030.

The equity markets generally did well in 2009. For example, total return on the S&P 500 was over 26% (that index without counting dividends was up over 23% from its December 31, 2008 close through December 31, 2009). The Funds report 2009 net returns on invested funds of 19% in the aggregate.

The market value of the assets of the four Funds rose from \$9.84 billion to \$10.88 billion, or 10.5%. This discrepancy between rate of return and net asset growth is primarily because inadequate contributions forced the Funds to sell assets and not fully reinvest earnings, in order to pay their expenses, the foremost being benefits.

While assets were growing by 10.5%, actuarial liabilities grew by \$875 million, almost 3.6%, which is structural. These factors combined to limit improvement in the funded ratio to only 2.7%, from 40.06% to 42.74%, an annual rate of change of 6.7%. The unfunded liability shrank from \$14.731 billion to \$14.573 billion, \$158.4 million or 1.1%.

This is a very important point. In 2009, the Funds collectively earned 19% on investments, yet the funded ratio improved by only 6.7%. A 19% return on investments is an exceptional year, far above the long-term average and far above the actuarial assumption. Yet, with assets so low and inadequate contributions forcing the Funds to use assets and earnings to pay benefits, the Funds' assets barely kept up with the growth in liabilities.

This explains the earlier observation that the funded ratio was little-changed during good investment years, and fell sharply during bad ones. The annual growth in liabilities is larger than investment returns, except in outstanding investment years. And, as the funded ratio shrinks, the problem becomes worse.

It is clear that the Funds cannot invest their way out of their deficits. While investment processes and strategies are important, when Funds are only 43% funded, investments can play only a small part in solving the problem.

4. LOOKING FOR ANSWERS: THE WORK OF THE COMMISSION

A. Constrained Choices

As the Commission prepared to develop its analysis and recommendations, the range of possible actions was limited by practical and legal considerations. Renouncing the outstanding obligation would have implications far beyond its effects on pensions and is not within the scope of the Commission. The defined benefit structure offers advantages to both employees and the Funds, and the transition to a different structure is financially impossible until the actuarial deficit is dealt with. Reducing benefits for current members is constitutionally and politically problematic.

Broadly, this left the following as the first areas to explore:

- **Increase contributions from both members (employees) and the City.**
- **Reduce benefits for future members (i.e., new hires).** Such reductions would reduce the actuarial liability and therefore the unfunded liability. This can reduce the benefit costs to the Plans in the long term. However, persons hired today will not collect benefits for many years, and those savings are discounted at 8% per annum to calculate the current unfunded liability, so the effect on the needed contributions may be less than one would expect. Such benefit expense reductions may be a practical necessity to persuade the public to provide the revenues to support higher City contributions.
- **Improve investment performance.** Investment performance is largely beyond our control, and any improvements due to reformed practices would be marginal. While a better return on investments would always be welcome, this will be at best a minor component of the solution. The Plans can consider organizational changes and different strategies, but their returns have been in line with other pension funds around the country, so we should not plan on significant improvement relative to the market.
- **Improve administration of disability claims.** Disability benefits are on the whole reasonable and not excessive. Administrative savings should be sought wherever possible, but will not play a large part in closing a \$14+ billion financial gap.
- **Ensure that administrative functions follow best practices.** All of the Funds operate efficiently on the basis of administrative expense as a fraction of benefit payments. They should continuously review their practices to maintain this. But this category of expense is not large enough to contribute much to closing the financial gap.
- **In general, benefits should be changed only when financially neutral or advantageous.** We should not do anything that unnecessarily widens the gap.
- **Areas where pension benefits can be "abused" should be identified and dealt with.** This is not a big financial issue. The largest financial "abuses" in DB pensions involve artificially creating high-pay years shortly before retirement, through actions such as working a large amount of overtime, getting a promotion for a few months, or counting payment for many years of unused sick or vacation time as pensionable earnings. Chicago's Funds do not count overtime; unused sick time is not paid; payment for unused vacation time is not pensionable, and in any case can only be carried for a short period and so cannot accumulate; and the FAP is calculated over four years to smooth out the effects of any last-year raises. However, other practices which may be viewed as abusive can color public perception, and harm the morale of City employees and annuitants, and should be part of any comprehensive reform.

Notwithstanding the constitutional and practical problems in reducing future benefit accruals by current employees, staff looked into that issue. Should it be necessary to consider such an action, the report's analysis might help decision makers weigh the financial benefits.

B. A Note on Investments and the Assumed Rate of Return

All four Funds assume that their assets will earn an annualized average return of 8%. This rate is consistent with industry norms, and is built into all the Commission's technical work. But, it is still an assumption, not a given. Two factors should give pause when considering the appropriateness of this assumption:

- The volatility of investment markets can significantly affect performance; maintaining a long-run average percentage rate is very difficult in the face of markets that are volatile on the downside.
- Most pension funds prudently invest a significant portion of their assets in short-term and high-quality fixed income instruments, which typically return far less than 8%. This means that the remainder of the investments must consistently return well over 8% in order for the entire asset pool to reach its goal. Pursuing those returns requires a tolerance for risk and volatility (see previous point).

The four City Funds have done well with their investments as compared to benchmark indices, and the Commission expects they will continue to do so.

The larger question is the future direction of the investment markets within which the Funds must compete for returns. The robust returns of the 25 years between the recessions of 1980-82 and 2007-09 may not recur. The Commission used the assumed 8% rate of return for its technical work, but notes that the investment climate and assumptions must be continuously monitored by the Funds.

C. Commission Suggestions for Consideration by Committees

At the June 2008 meeting, the Co-chairs asked Commissioners to suggest ideas to be considered to address the funding problem. Over 240 suggestions were submitted. These are reproduced in Volume 2, Table TA-1, as presented to the Commission at its August 2008 meeting.

It was impractical to consider such a broad range and large number of suggestions in the full Commission, so the Co-chairs recommended that the Commissioners form five Committees, with each Committee assigned a broad topic and charged with considering all suggestions, and other ideas as may arise, within their topical areas. The Commission approved this concept.

Five Committees were formed:

- Annuity Benefits
- Contributions
- Disability Benefits
- Investments, Administrative and Actuarial
- Structure and Funding Policy

For purposes of identifying members of the Committees, each Commissioner was identified with one of four "caucuses," and each caucus asked to name two representatives to each Committee. The Caucuses were:

- City Government
- Labor
- Pension Funds
- Public and Business Community

Each Committee could organize itself based on its members' wishes, but would be expected to report on its work at each future Commission meeting, and in the end, to submit its report at the time and in the format directed by the Commission.

D. In the Annuity Benefits Committee

The next analytic steps were taken in the Annuity Benefits Committee, where in December, 2008, the Tech Team modeled a scenario to reach a funded ratio of 80% in 30 years, beginning in 2009 and based on late-2008 data. This scenario included natural growth in liabilities but only targeted 80% funded, and resulted in an estimate of an additional \$819 million contribution in 2009, assuming contributions as a level percent of pay, and this would grow with payroll thereafter for 30 years.

The Tech Team also looked at some related issues at that time:

In response to a City staff inquiry, they modeled what level of benefits the Plans could afford at current contribution levels and funded ratios. The results ranged from 65% of current benefits for FABF to 74% for LABF. Put another way, at current contribution rates, and assuming 8% investment returns, FABF could indefinitely sustain pension benefits at 65% of current levels. If the funded ratios were to be increased to 80% over 30 years, current contributions would only support 57% of current benefits at FABF and 71% at LABF, with the others falling in between.

The Tech Team also looked at how reducing benefits for new hires would affect required contributions. In general, the results were not promising, because the financial savings would be so far into the future that their discounted present value are correspondingly small. Among the items presented (all assuming a goal of 80% funded in 30 years, with contributions as a level percent of pay) were:

ITEM	Annual Change in Total Contributions in first year
ADDITIONAL Contribution required in first year, to reach 80% funded in 30 years	Add \$819M
Calculate annuity based on 10-yr Final Average Pay, rather than 4 years	save \$20 - 30M
Calculate annuity based on career average pay	save \$90 - 130M
Change unreduced early retirement to 63 YoA* with 10 YoS*	save \$40 - 60M
Change unreduced early retirement to the earlier of 63/10 OR 55/30	save \$10 - 20M
Change automatic increases (COLA) to 1.5%	save \$10 - 15M
20% reduction in benefit accrual rate	save \$45 - 65M
* YoA = Years of Age; YoS = Years of Service	

Because changes would interact with each other and could affect member decisions, the savings cannot simply be added. Some are even mutually exclusive. The actuarial uncertainties led the Tech Team to frame the results in broad ranges and to caution that the results were "directionally correct" but of limited accuracy. Even so, they demonstrated that only large benefit changes would meaningfully affect the necessary levels of contributions.

The Tech Team also looked at the "Replacement Ratio." The replacement ratio is the percentage of final pay that a person needs in retirement, to maintain the same lifestyle. Post-retirement expenses are typically less due to savings in some work-related expenses, such as commuting costs and clothing, and favorable tax treatment accorded to pension and Social Security income. Aon annually prepares a report on replacement ratios, and their then-current report said that a ratio of 78% was appropriate for people with earnings typical of City retirees.

The Tech Team calculated that for City employees who "max out" on their pension accrual, Police and Firefighters typically receive annuities equivalent to 72% of final pay; for City employees in MEABF and LABF the figure is 77%. Thus, City employees who attain that level (which requires 29 years for police and firefighters, and over 33 years for others) receive pensions that, alone, almost meet the target replacement ratio. The Committee discussed whether the pension paying almost the full replacement ratio, leaving only a small savings burden on the employee, is attainable under present circumstances, but did not reach a conclusion. The Tech Team also determined that earlier retirement sees significant reduction in annuities. Retiring at 25 years of service with an unreduced pension gives a policeman or firefighter 60% of their final salary, and other City employees 57%; at 20 years of service, only 48% or 46%, respectively. (To retire at 25 years of service with an unreduced pension, a policeman or firefighter must be at least 50 years of age; other City employees must be 55 years of age. At 20 years of service, the ages are 50 and 55, respectively.)

The Tech Team also examined common levels of employee "contribution" in the private sector, and what level of replacement ratio that could provide. They assumed participation in the Social Security System's Old Age, Survivors and Disability Insurance program, and 401(k) contributions at the national average rate, with those "contribution rates" run through the current City pension plan formulae. This yielded replacement ratios in the range of 63% to 66%, which could be equated to changing the accrual rate (the rate of benefit accrual per year of service) from 2.50% to 2.30% for FABF and 2.28% for PABF, and from 2.40% to 2.20% for LABF and MEABF. This suggested that the City's pension benefits might be slightly more generous than in the private sector, but it excludes consideration of the level of employer matching contributions (which are part of the employer's compensation costs) and how to treat that, and other areas where public and private sector practice differs.

The analysis results are in Volume 2, Tables TA-2 and TA-3.

E. Committee Reports: Further Defining the Range of Consideration

All Committee reports were submitted for staff to compile and present at the April 20, 2009 meeting of the Commission. That report is reproduced full in Volume 2, table TA-4. The main points were:

Structure and Funding Policy Committee

- DB pension plans should remain the primary source of retirement income for City employees.
- Contributions should be made on an actuarial basis, with a goal of not less than 80% funded to be reached in not more than 50 years. The Committee suggested 90% in 50 years, which had been used by the State of Illinois and CTA.
- No changes should be made that would impair the financial health of a Fund (i.e., benefit increase or contribution reduction without balancing actions), until the funding goal is reached, and the Fund actuaries certify the proposed change is actuarially sound.
- Solutions must be tailored to the unique requirements of each Fund.

Annuity Benefits Committee

- Any statutory reduction in benefits should apply to new hires, only.
- Consider benefit changes for new hires, in the areas such as later unreduced early retirement, calculation of Final Average Pay, COLA, etc.
- Review and remove any provisions that benefit a small, narrowly-defined number of members, or that may be subject to abuse.

Contributions Committee

- Contributions must be increased and be based on an actuarial funding policy.
- City contributions must be increased.
- Employee contributions may be increased; this may be a necessary step to gain support for increased City contributions.
- The ratio of Employer-to-Employee contributions should be in the range between 2:1 as with the CTA Pension Plan, and 3:2 as at the CTA when Social Security contributions are taken into account.
- Potential sources and issues surrounding an increased City contribution:
 - Consider an \$80M increase in real property taxes every 3-5 years.
 - Consider asking for authority for a City income tax, as long as this would not impair the City's distributional share of State income taxes, under current law.
 - Consider a surcharge or special fee, as on homeowners insurance, to fund public safety pensions.
 - Consider other potential revenues from current or new City-imposed fees and charges
- Consider a Pension Obligation Bond
- Consider using proceeds from asset sales

Disability Benefits Committee

- Consolidate administration of disability programs under a central agency.
- Develop more flexibility regarding return to work options.
- Reinstate a limited offset of Plan disability benefits against outside earned income.
- Do NOT reduce benefits for new hires.
- Consider having Plan pay only the difference between Plan benefits and other benefits received or available to the disabled member.
- Seek greater subrogation power.
- Review Police and Fire Department restrictions on light duty.

Investments, Administrative and Actuarial Committee

Investments:

- Consider consolidating investment functions in a new Investment Board with appropriate staff and powers.
 - Under such an Investment Board, have at least two asset pools, one for FABF/PABF, the other for LABF/MEABF.
- If such an Investment Board is not implemented, add 2 external investment experts to each Plan Board, expanding the Boards if necessary, or each Plan should hire two investment professionals as staff. If necessary, to attract qualified investment professionals to serve on the Boards, review indemnification provisions for Board members.

- DO NOT create a separate investment board or process for "one-time infusions," except to the extent necessary to determine allocations between Plans of a large infusion.
- Under the current structure, the Plans can consider combining their bargaining power when hiring investment managers.

Administrative:

- Do not require the Funds to outsource administration of benefit payments. Leave this to their discretion.

Actuarial:

- Experience Studies:
 - Conduct experience studies every 5 years.
 - Conduct asset liability modeling studies every 2-3 years, or sooner if necessary.
 - Review treatment of salary increases.
 - Review disability, termination and mortality rates.
 - Continue to follow GFOA best practices.
- Assumed rate of return
 - Review historical returns, investment policy and asset allocation
 - Perform forward looking projections of nominal and real returns based on sound capital market assumptions
 - Per GASB, have a long-term view tied to the strategic needs of each Fund
- Actuarial Methods
 - Define objectives and use GASB-approved methods that best meet them.
- Asset Smoothing Method
 - Adopt "20% Corridor" method.
- Integration of actuarial, funding and accounting policies
 - Ensure funding and accounting practices are consistent with industry standards.
 - Evaluate policies and practices through long-term projections and stress-testing.

The reader should bear in mind that the market crash accelerated in late September, 2008, with a bottom (to date) in early March, 2009. The pension world looked much different when the committees were formed, compared to when they reported their findings to the Commission.

F. Scenarios to Better Understand the Options

The Commission found the magnitude of the financial problem to be quite daunting, especially after the market decline of September 2008 to March 2009. Members had positions across a range of issues, but the actuarial impacts were largely unknown. At its June 2009 meeting, the Commission directed staff to prepare a small set of scenarios to help frame the issues and possibilities, purely for analytic purposes. They were very specifically neither proposals nor recommendations.

Staff and the technical team defined and modeled a set of scenarios. All assume an 8% rate of return, and where there is an actuarial funding policy, total contributions are a level percentage of payroll. The Tech Team reported on the results at the September 2009 Commission meeting.

In general, scenarios were developed to show the consequences of certain policy choices:

- Avoiding benefit changes in order to not have a two-tier benefit structure.

- Large benefit changes to see how much of the financial deficit could be addressed through plan design (benefit) changes.
- Moderate benefit changes patterned after the 2008 CTA pension reform.
- The effects of a contribution "ramp," where increased contributions gradually phase in over a period of years.
- The implications if large benefit changes reduce the value of an employee's benefits below the value of their lifetime contributions.

The scenarios are detailed in Volume 2, Technical Resource Tables TA-5 and TA-6, and associated charts.

Significant findings were:

- The problem is the accumulated deficit. Assuming an 8% rate of return, current contributions could fund current benefits.
- Cuts that significantly reduce the value of future benefits have a relatively small effect on the contributions needed to amortize the actuarial deficit. The financial savings are far in the future and greatly discounted. The current unfunded liability dwarfs all other aspects of the problem.
- Aggressive action brings significant benefits; conversely, there are great costs to not acting.
- Many Commissioners were impressed by the financial cost of a long delay in implementing contribution increases due to the modeled 15-year ramp.
- The possibility that a mix of benefit reductions and contributions necessary to financial health might leave some employees contributing more than their benefit is worth was troubling and the subject of discussion

The Commissioners found this presentation quite revealing. The scenarios tested many of the ideas that Commissioners had hoped would offer solutions, but their effects were dwarfed by the \$14+ billion deficit. Both labor and business representatives said that the 15-year ramp scenario did not appear useful because its delayed funding made later contribution requirements so large, and the long delay raised questions whether the ultimate financial commitment would be honored. On the other hand, doubling contributions in a single year remained problematic.

5. RECOMMENDATIONS and OPTIONS

Overview and Summary

The Commission has met over these past two years to determine a way to address the gap that exists between the benefits promised to employees and the currently legislated contributions policies of the Funds.

The City, its pension funds, organized labor, business and civic groups have been represented in the Commission and have brought their perspectives to the discussion. These were discussed in Committees and at the full Commission and many of the ideas are discussed and evaluated below.

The Commission has found broad agreement on the following points. These should be a basis for future negotiations and discussions between stakeholder groups.

FACTS & POINTS OF AGREEMENT:

1. The annual funding gap is the critical measure of liability. The gap between the contributions needed to meet future liabilities and the actual contribution is approximately \$710 million in the first year, and grows every year for 50 years. This is based on achieving 90% funded status by the end of 2061.
2. Three classes of "levers" can and should be deployed to close the funding gap: Employer Contributions, Employee Contributions and Benefits.
3. Investment policy, the traditional fourth leg of the stool, is not a significant source of funding relief. While important governance and efficiency opportunities may exist within the investment process, we cannot invest ourselves out of this funding gap.
4. Absent substantial changes to the funding policy and/or benefit structure, under current actuarial assumptions and conditions at the end of 2009, the Funds will deplete all assets in approximately these years: Fire 2022; Police 2024; Municipal 2027; Laborers 2030.

CONCLUSIONS:

1. The funding gap is substantial and that closing it will require substantial actions across each of the three classes of lever: benefits, employer contributions and employee contributions.
2. The recommendations and options detailed below are viable parts of an integrated solution, with tradeoffs to be determined in negotiations.
3. Employer contributions need to be funded through real commitments, likely including new revenue sources.
4. Deferring action is not a viable option.
5. The recommendations of the Disability Benefits and the Actuarial, Administrative and Investments Committees should be given the utmost consideration.

A detailed discussion of various recommendations and options follows. The discussion includes extensive description and comment so the reader may understand how the Commission views these possibilities. Finally, there is a section of "Differing Views" that lays

out the perspectives of Commissioners who wish to offer analysis or advocate positions that differ from the consensus.

Detailed Discussion

The Commission is not in a position to recommend a comprehensive and detailed program to resolve the financial problems facing the four Chicago pension Funds, for the following reasons:

1. The cost and benefits of post-2013 retiree health care are unknown. The Retiree Health Benefits Commission ("RHBC") convened under provisions of the Korshak settlement is charged with making recommendations in this regard by July 1, 2013, but until those recommendations are made and the City decides what to do in this regard, Labor does not know what benefits its retiree members will receive and the City does not know what it will cost. This limits the ability of both to evaluate pension issues.
2. The financial problem is far larger than it was when the Commission was formed. When Mayor Daley formed the Commission, the most recent reported unfunded liability was an aggregate \$8.6 billion as of December 31, 2006. By the end of 2008 this had grown by over 71%, to over \$14.7 billion, and the investment environment had become more uncertain than it had appeared when Mayor Daley appointed the Commission in early 2008.
3. Large-scale amendments to the relevant articles of the Illinois Pension Code have generally been developed by the City and the labor organizations representing the majority of its employees, and subjected to public scrutiny as they are considered by the General Assembly. A problem of this magnitude must be dealt with through the whole breadth of the political process.

The Commission has developed a body of knowledge and analysis that can inform the important decisions that confront the City, its employees, its pension Funds, its taxpayers, and other stakeholders.

RECOMMENDATION 1. The Defined Benefit ("DB") structure should remain the primary vehicle to help employees save for their retirement.

A Defined Contribution ("DC") structure could have long-term financial benefits to the City, but the transition presents insurmountable short-term financial problems, and DC is not attractive to the labor organizations representing most City employees.

Many private sector employers have instituted DC plans, and the DC structure is now more common than DB in the private sector. This has been the result of various economic and regulatory forces, some of which apply to the City, but some of which do not apply. Appendix 2 compares DB and DC plans and describes their relative benefits and problems.

Briefly:

- A DB plan obligates the Plan and its sponsor to provide an annuity based on a formula of age and years of service, whereas a DC plan does not entail such an obligation by the sponsor, or promise to the employee.
- A DB plan enables greater efficiency in investing for retirement, as it negates longevity risk and the plan can invest more aggressively and earn greater returns than most individuals are able to do.

- A typical DB plan provides greater retirement benefits; a DC plan provides greater benefits upon early (i.e., pre-retirement) termination; this is an "age bias." It is a matter of policy which is preferable.
- A DC plan offers the employee greater portability.
- A transition to a DC plan, for all employees or only for new hires, would be extraordinarily expensive in the short run, and would do nothing to reduce the current unfunded liability.

On balance, the Commission believes the needs of both employees and the City are best served by continuing the current DB Plans.

In light of the possible benefit reductions that could be necessary, the Commission suggests that the City and its employees hold open the possibility of a small, voluntary DC supplement available to employees who wish to provide more for their retirement than the DB plans would provide. This would involve a Section 403(b) program with a City matching contribution. For example, an employee might be able to contribute up to 3% of pay, and the City match it at a ratio of 1:1 or 1:2. This can be viewed as a bridge between the primary DB plan and the non-matched Section 457 deferred compensation program. Such a plan is NOT recommended in and of itself; the Commission merely notes that such an arrangement may make sense in the larger context of an overall reform program.

RECOMMENDATION 2. New employees should continue to become members of the current Plans. Closing the old Plans either entirely or to new members is not financially viable.

Closing the current Plans would exacerbate their financial problems. It would require a huge increase in contributions in order to bring the old Plans into actuarial balance as current members retire, while shifting contributions by new members into the new Plans. Even if this closing is limited to new employees, per capita funding needs would increase as the remaining employee members age and reach retirement, while the employee contribution base would shrink as employees retire and their replacements join the new Plans. This would starve the current Plans of funds they need to operate and recover.

Scenario 4 of the "Illustrative Scenarios" in Appendix 3 presents the actuarial results of closing the current DB plans and replacing them with a DC plan of comparable cost.

As noted in that discussion, this is an example of the more general case of closing the current DB Plans and replacing them. If they were replaced by a new DB Plan covering all future accruals, with the same target benefits and assumptions as used for the new DC option, above, the annual contribution amounts would be virtually identical. The two options would differ in who bears the risk of not achieving the assumptions (in a new DB Plan it would be the Plans and their sponsor, the City, whereas in a new DC structure each employee would be liable to himself or herself). But, if the actuarial assumptions were met, the necessary contributions would be virtually identical.

Were employees, either new hires, only, or current employees as well, moved into new DB Plans, the current unfunded liability would be unaffected even as new liabilities accrued and had to be funded under the new Plans. The financial benefit of such a move could be realized by making the same changes within the current Plans. To the extent it would be deemed important to have the old Plans fully funded by the time the last covered employee retires and stops contributing, annual contributions would have to be greatly increased. This is examined in detail in *Scenarios 4-newDC* and *4-newDB* in Appendix 3.

RECOMMENDATION 3. The Plans should have an actuarially-based funding policy. It would be less expensive to fund the deficit as quickly as possible, but it may take 50 years to reach a satisfactory, sustainable funded ratio of at least 80%.

Contributions should automatically adjust to move the Plans toward adequate levels of funding. The ideal would be to reach and maintain a funded ratio of 100% as quickly as possible. The very large underfunding requires a more nuanced approach, however.

It is generally accepted that public pension plans need not be 100% funded, because the plan sponsors are public bodies that continue into perpetuity. A private employer can disappear into liquidation, leaving its employees and annuitants with nothing. This is virtually unheard of in the public sector. In a related vein, private plans are insured by the Pension Benefit Guaranty Corporation, a federal-sponsored entity, which insures benefits and in turn places various requirements on the Plans it covers, in order to manage its risk. Public sector plans are not insured by the PBGC.

It is generally accepted that a public plan can be prudently managed with a targeted funded ratio as low as 80%, and that a severely under-funded Plan can have a funding policy that reaches that goal in as many as 50 years. The State of Illinois, for example, in 1994 established for pension funds it sponsors a goal of reaching 90% funded in 50 years. The 2008 reform of the Chicago Transit Authority's pension plan used the same goals.

For the four Chicago Plans taken together, the unfunded actuarial liability is over \$14.57 billion and the funded ratio was approximately 43% on December 31, 2009, using the market value of assets. A funding deficiency of that magnitude means that making up for the under-funding is actually a bigger financial issue than is funding newly accrued benefits. Consequently, the level of contributions needed to sustain the Plans and restore their funding is driven by the duration used to amortize the shortfall, more than the targeted funding level. This is shown in the following table:

Effect of Duration and Funded Ratio Goal				
\$millions; % is increase in employee contributions as percent of pay				
Years to Reach Goal	2012 Contribution	Funded Ratio Goal		
		80%	90%	100%
30	Total	\$1,617	\$1,659	\$1,701
	Increase	\$824	\$866	\$908
	City 60% of increase	\$495	\$520	\$545
	Employees 40% of increase	9.20%	9.70%	10.20%
50	Total	\$1,489	\$1,503	\$1,518
	Increase	\$696	\$710	\$725
	City 60%	\$418	\$427	\$436
	Employees 40%	7.80%	8.00%	8.10%

Assumptions: 8% annual return on assets and all other assumptions as used in the December 31, 2008 actuarial valuation reports for each of the plans. Calculations are based on data as of 8-31-2009.

If a 7% annual rate of return is assumed, the 2012 cost for the 90% in 50 years cell increases by 10% or \$153 million, from \$1,503 million to \$1,656 million. The cells below would increase to \$863 million (the highlighted cell), \$519 million, and 8.81%.

Increased contributions start in 2012; City and employee contributions set at current policy until then. Contributions grow with payroll thereafter.

Fund actuarial projections assume the current employer subsidy for retiree healthcare paid from the pension plans continues indefinitely

Figures are estimates. They are directionally correct and accurate within plus/minus 10%.

Annual contributions by both employees and the City are currently \$793 million.

The choice of a target funded ratio makes relatively little difference in the required contribution, whereas the number of years to get there is very important. This is because funding the deficit is a bigger problem than paying for future benefits as they accrue. Reaching any of these goals in 30 years rather than 50 years will cost an additional \$128 million (80%) to \$183 million (100%) more in 2012, a difference that grows with payroll until the goal year (2041 and 2061, respectively). On the other hand, with a duration of 50 years, each additional 10% added to the funded ratio goal increases 2012 costs by approximately \$15 million.

As a practical matter, therefore, the Commission recommends a funded ratio goal of at least 80%, to be attained as quickly as possible, but which may take as long as 50 years.

The analysis and recommendations that follow are all premised on a funding policy to reach 90% funded in 50 years, starting in 2012. This is consistent with the technical analysis and has ample precedent in Illinois. This cell is highlighted in the above table.

With no changes to the Plans except an actuarial funding policy to reach 90% funded in 50 years, total annual contributions would have to increase by approximately 90%, from \$793 million to \$1,503 million in 2012, and grow with payroll thereafter.

If the City were responsible for 60% of the increase, it would require an additional \$427 million in 2012. The scale of such an increase can be expressed in various ways:

- A 90% increase from the City's 2010 budget for its pension contributions;
- or, a 52% increase in the City's 2010 budgeted property tax levy;
- or, more than double the City's budgeted amount for its distributive share of the State Income Tax;

- or, 13% of the City's entire 2010 Corporate Fund budget.

Sixty percent is used for the City's share of increased contributions in this analysis because it is the City's current average share of total contributions across all four Funds. This does not represent a recommended policy. The balance between employee and employer contributions will be a point of discussion in any reform legislation.

Similarly, if employees were to pay 40% of the increase, their contribution rates would rise by 7.94% of pay, from the current range of 8.500 - 9.125%, to 16.440 - 17.065%. The take-home pay of a \$50,000/year employee would fall by almost \$4,000.

The reader must keep in mind, though, that the examples above are just that: different ways to express the additional \$710 million needed in 2012, and growing thereafter with payroll, necessary to achieve a 90% funded ratio in 50 years. This section of the report presents options that in combination could get the City to that goal, but not necessarily using all or any of the above examples.

A footnote in the table addresses the impact of assuming a 7% rate of return, instead of the 8% that is the basis of all analysis in this report. Market volatility in the last decade has led some to question whether 8 percent remains a reasonable assumed rate of return on investments. This is a decision for each Fund, its investment advisers and actuaries. The information regarding a lower rate is provided for information, only.

RECOMMENDATION 4. Plan changes for new employees, though undesirable, will probably be necessary. Provisions for unreduced early retirement should get special attention.

Labor representatives on the Commission have expressed concerns about a "two-tier" system, where employees in the same position are accruing different pension benefits based on when they were hired. The Commission recognizes this is a real and serious concern.

However, given the magnitude of the financial impacts described above, the Commission recommends that the City and the labor organizations representing City employees should consider changes in Plan provisions (i.e., benefits) that would reduce those financial problems. Beyond the direct financial value of such changes, they may be a necessary condition in asking the public to support the increased City contributions that will also be necessary, as discussed in the next recommendation.

The following table illustrates a range of Plan provisions where potential savings might be found. This should be considered a menu of options. Each option, as well as others not listed, will have to be carefully considered as to its financial value as well as its effect on annuitants.

Illustrative Plan Benefit Changes

Assume Funding Policy of 90% in 50 years, Contributions as Level Percent of Payroll

\$millions; additional contributions split 60% City, 40% Employee

Change	Benefit Changes (new hires only, except #7)	Required 2012 Contributions		
		Contributions	Employee Contribution Rate (% of pay)	City Contribution
Current	No changes in current law	\$793	8.500 to 9.125%	\$480
Baseline	No benefit changes, achieve 90% funded in 50 years	\$1,503	16.440 to 17.165%	\$907
Change from Current to Baseline		+\$710	+7.94%	+\$427M
Options and their effect on contributions				
1a	Reduce Benefit accrual: 20% (1)	\$(52)	-0.57%	\$(32)
1b	Reduce Benefit accrual: 10% (1)	\$(25)	-0.27%	\$(16)
2a	Final Avg Pay: Career average	\$(115)	-1.29%	\$(69)
2b	Final Avg Pay: 10yrs	\$(31)	-0.34%	\$(19)
2c	Final Avg Pay: 6 yrs	\$(10)	-0.10%	\$(6)
3a	Unreduced retirement age: 67 for MEABF/LABF, 63 for PABF/FABF	\$(79)	-0.87%	\$(48)
3b	Unreduced retirement age: 64 for MEABF/LABF, 63 for PABF/FABF	\$(59)	-0.65%	\$(36)
3c	Unreduced retirement age: 63 for all Plans	\$(50)	-0.56%	\$(30)
4	COLA lesser of 1.5% or CPI	\$(11)	-0.11%	\$(7)
5	Change Service Definition, Last Yr of Employment	\$(6)	-0.06%	\$(4)
6	Limit salary in FAP to Social Security Wage Base (now, \$106,800)	\$(5)	-0.06%	\$(4)
7	Amend Disability Provisions (2)	\$(3)	-0.02%	\$(2)
8	Flatten Salary Grid; reduce top by 5%, distribute savings in lower steps (3)	\$(20)	-0.22%	\$(13)

Assumes: 8% return on assets and all other assumptions as used in the 12-31-08 actuarial valuation reports
 Increased contributions start 2012; City and employee contributions set at current policy until then
 Projections assume continuation of current employer subsidy for retiree healthcare paid from the pension plans
 Multiply values by approx. **2.15 - 2.50** if also immediately applied to all current members' future benefit accruals
 (1) Equivalent to a reduction in both the benefit accrual rate and maximum cap on benefits
 (2) Assumes administration and plan design changes reduce disability cost of the Fire plan by 5% and Police plan by 2.5%
 (3) Not a change in Plan benefits

In the above table:

- "Current" refers to no changes in current law.
- "Baseline" is no changes to benefits, but a contribution policy to achieve a 90% funded ratio in 50 years, with contributions as a level percentage of payroll, starting in 2012. It is further assumed that the increase in contributions would be shared by the City and employees in the ratio of 60:40, which is the current sharing of total contributions across all four City Funds, and approximates the effective ratio after the 2008 CTA reforms when both pensions and Social Security (CTA employees Social Security members) are considered.

All the optional changes that follow are evaluated under the proposed funding policy of 90% in 50 years, total contributions as a level percentage of pay, and assumed 8% rate of return on assets. The table entries on those lines are changes from the amounts and percentage in the "Baseline."

- "1" shows the effect of reducing benefit accruals for employees hired after 1-1-2012. "1a" posits a 20% reduction, "1b" a 10% reduction. These could be achieved in a variety of

ways. An actual proposal would have to balance changes in the benefit accrual rate, currently 2.40% per year of service in LABF and MEABF, and 2.50% in FABF and PABF and the maximum annuity (80% of FAP in LABF and MEABF, 75% in FABF and PABF), with an eye on how many years of service are implied and the ways in which employees would adjust their behavior, to arrive at an actual proposal.

- "2" shows the effect of changing the calculation of Final Average Pay used in calculating the retirement annuity. It is now the average of the highest four consecutive years within the final ten years of employment. "2a" would take the average of the entire career. "2b" would take the average of the final ten years. "2c" would use the average of the highest six years of the final ten years.
- "3" would increase the age at which an employee could receive an unreduced retirement annuity. For FABF and PABF, this would be the mandatory retirement age for firefighters and police officers, 63. For LABF and MEABF, "3a" the age would be 67, currently the normal retirement age under Social Security for people born in 1960 and later. "3b" would use an age of 64 for LABF and MEABF, the same as in the 2008 CTA reform. "3c" would be 63 for all plans, which is the mandatory retirement age for police and firemen. Extending the retirement age has a large impact because each year is one more year of contributions paid into the Funds, and one less year of annuities paid out.

As was noted in the discussion of "Comparables," unreduced early retirement is perhaps the single greatest difference between public sector and private sector practice. In addition, unreduced early retirement enables "double dipping," where an employee retires and earns a second pension at another job.

- "4" would reduce the COLA from 3.0% (except certain Firefighters and Police) to the lesser of CPI or 1.5%.
- "5" would change the service definition. Under current law, FABF and PABF give credit for the last year of service to an employee working one day in that year, so 30 years of service credit is earned by working 29 years and one day. LABF and MEABF are not as generous, requiring the employee to work one full month and at least one day in each other month in a 6-month period. This change would have employees accrue service credits based on full months worked.
- "6" would affect the calculation of the annuity by capping the salaries considered as part of the FAP at the Social Security Wage Base, now \$106,800.
- "7" posits that it may be possible to attain some savings in disability costs at FABF and PABF, through improved administration and plan changes that would not place disabled employees at risk. This might be done through more aggressive subrogation or offsetting disability payments against income from other sources. The amounts assumed are modest.
- "8" is not a change in Plan benefits, but constitutes "flattening" the step progression in salary schedules. Over a period of years, if the top step grew more slowly than the total salaries covered by a salary schedule, with the "savings" distributed to lower steps, annuity costs would grow more slowly even though total employee compensation would not vary from baseline growth. The salary schedule would become more equal, and younger employees would have more income which they could invest for retirement or use for other purposes, as they saw fit. No employee's salary would be reduced, as these changes would be accommodated within overall growth in compensation. The potential savings are modest, but there is little harm to anyone and this could be done by agreement between the City and Labor without amending the Pension Code.

These changes cannot be simply summed to estimate the savings from a combination. The variables interact with each other. For example, if the benefit accrual rate is lower, the dollar

savings from changing retirement age may be reduced. In addition, members may change their behavior in response to different incentives, especially in deciding when to retire and at what level of annuity. Furthermore, Changes 1a and 1b are actuarial concepts, not specific benefit changes, and would be composed of the "real" changes shown below them.

If all these unduplicated "real" changes were adopted, the 2012 savings would be no more than \$200 million, leaving the required contribution at approximately \$1,303 million, an increase of approximately \$510 million. Saving \$200 million is certainly significant, but it reduces the \$710 million of required new funding by only 28%. Shared 60:40, the remaining \$510 million would cost the City an additional \$306 million in 2012, and employee contributions would increase by approximately 5.70% of gross pay.

Such a "maximal" approach to reduced benefit expenses would materially reduce the value of the pension benefit to the affected new employees, to a degree where it would be questionable to assess the same employee contribution level on current and new employees. New employees would be receiving pension benefits worth perhaps 60% of what current employees receive, based on the modeling described in Appendix 3 (see *Scenario 2*) and be contributing approximately 14% of their gross pay. At this level, over their careers new employees would pay more in contributions than the actuarial value of the benefits they earn. This poses serious moral issues, could impair the City's ability to attract and retain good employees, and might be subject to challenge. Yet, to reduce the contributions of new hires would mean increasing those of current employees and/or the City beyond the level already implied.

This situation is the subject of *Scenario 2-Split* as described in Appendix 2, "Illustrative Scenarios."

A footnote to the above table provides an approximate multiplier to estimate the savings if each benefit change were applied to all future benefit accruals, including those of current employees. This factor, between 2.15 and 2.50 depending on how such a change would be implemented, is a very rough approximation. Including such benefit changes affecting current employees would raise the constitutional question mentioned above, and is discussed in more detail later in this report.

All the estimated savings should be viewed as approximate. The figures represent a blended average of four different pension funds, and in some cases the affected employees might change their behavior in response to different incentives, especially where several changes are implemented together. The Commission used scenarios to better understand this, and detailed actuarial analysis will be needed during future negotiations involving pension changes.

RECOMMENDATION 5. Contributions will have to be increased. Any new funding policy and increased contributions should be implemented through statute in such a way as to guarantee that all contributions will be made in a complete and timely fashion, and the necessary revenues will be forthcoming.

As discussed above, there is no apparent set of benefit changes that can produce the required \$710 million net improvement in finances that the four Funds require in 2012, an amount which grows with payroll for 50 years. Increased contributions are necessary.

To illustrate, 1% of payroll in 2012 will be approximately \$35.8 million. At a 60:40 sharing ratio, this would drive an additional City contribution of \$53.7 million, resulting in a total increase of \$89.5 million. An increase in employee contributions of 3% of pay would be \$107 million; at 60:40, the City would add \$161 million, for a total of \$268 million.

Increasing contributions has one great benefit when compared to changing benefits for new hires: the effect is immediate and the new contributions can be invested, as opposed to benefit changes where the effect on liabilities is far in the future and heavily discounted when brought forward to the present.

RECOMMENDATION 6. Employee contributions should not exceed the value of benefits, on a career basis.

RECOMMENDATION 7. Review any provisions in current law for refunds of contributions or for alternative benefit calculations, to ensure that the anticipated financial results of a reform program are actually obtained.

RECOMMENDATION 8. In general, no Plan changes should be made unless financially neutral or advantageous to the Fund, now or in the future.

Under the current, multiple-based funding policy, benefits can be changed with no change in the statutory contributions, which has masked the effect of such actions. In the future, if an actuarial funding policy is enacted, the actuarial cost of changes will immediately become a cash item, which will enforce a realistic appraisal of costs and benefits. In the meantime, all concerned have to exercise discipline and not significantly worsen the problem.

RECOMMENDATION 9. A variety of other reforms should be considered.

It is difficult or impossible to assign financial values to these proposals, but they all represent sound practice and can be important to the integrity and credibility of the Funds and any reform proposals.

- Review each Plan to determine the potential for abusive practices. The City's Funds do NOT contain provisions, common in other jurisdictions, that enable abuse of the intent of the pension system. "Spiking" a high final salary is made difficult because Final Average Pay is averaged over four years and no pension credit is granted for overtime pay, accrued vacation or sick time paid at retirement, and "double dipping" is less a problem than elsewhere because a Chicago employee cannot retire and return to work in a job covered by the same Plan from which he is taking a pension. Nonetheless, any potential for abuses should be identified and addressed.
- Rationalize reciprocity arrangements between FABF and PABF and other Illinois public pension plans. Lack of such reciprocity has led to a number of unique "fixes" where reciprocity is offered inconsistently, transferring credits sometimes imposes actuarial costs on a Plan, and it does not exist at all for some situations. As a consequence, several pension bills dealing with transferring service are introduced in the General Assembly each year, and sometimes enacted without a clear understanding of the financial consequences. The Retirement Systems Reciprocal Act (Article 20 of the Pension Code) has been effective for the Plans it covers, including LABF and MEABF, and first consideration should be whether to include the City's public safety Plans under it. A better system of reciprocity could also reduce incentives and opportunities for "double dipping."
- Consider an Investment Board as recommended by the Administrative, Actuarial and Investment Committee. This would be composed of and staffed by investment professionals. Alternatively, or as an interim measure, guarantee seats for investment professionals on the Boards of the four City Plans, or require each Fund to hire staff investment experts. If a large one-time infusion is contemplated, as from a POB or asset sale, establish a cooperative process to allocate the proceeds. The Boards should

explore avenues to take advantage of their combined market power in negotiating with investment advisers and managers.

- Administration and rules governing disability programs should be reviewed to ensure they are consistent with best industry practice. Particular attention should be paid to subrogation and return-to work issues. This should be conditioned on the principle that the City owes its employees fair treatment when they are disabled.

RECOMMENDATION 10. Any reform legislation must comprehensively address all aspects of the pension funding problem. Benefit changes, increase employer and employee contributions, any new or enhanced revenue sources, timing, and any other relevant matters must be advanced in a single package. These issues are all intertwined, and any agreement and subsequent legislation must recognize that.

OPTIONS. Pension obligation bonds ("POBs") and phased implementation of increased contributions ("ramps") may be useful options, but entail significant costs and risks, and have been misused by other jurisdictions. They are described more fully in Appendix 3. No specific recommendations are made, except to note that if either are considered it must be with full knowledge of those costs and risks, and they must not be used inappropriately.

6. CONCLUSION

At the end of 2009, the four pension funds covering employees of the City of Chicago, and non-teaching employees of the Chicago Public Schools, had a combined actuarial liability of over \$25.45 billion, assets with a market value of \$10.88 billion, resulting in an unfunded actuarial liability of \$14.57 billion and a funded ratio of 43 percent.

As recently as 2000, the aggregate funded ratio was 83 percent, within the range generally deemed satisfactory for public defined benefit pension funds. However, the dot-com bust of 2000-2002 caused assets to decline as liabilities continued to increase due to structural problems as well as reduced contributions and benefit enhancements, and by 2002 the funded ratio was 62 percent. The ratio fluctuated between 61 percent and 66 percent during the 2003-2007 investment boom, as strong investment returns were largely offset by increased liabilities. The market decline from mid-2007 to early 2009 drove the funded ratio as low as 36 percent; it has since recovered to 42 percent at the end of 2009.

In general, the Funds have suffered from inadequate contributions and the effects of benefit increases, most notably early retirement programs. The early retirement programs are non-recurring, but the inadequate contributions affect the Funds every month.

With a funded ratio this low, it is almost impossible for investment returns to be large enough to restore the funds to a sound financial condition. Liabilities increase by approximately four percent annually due to structural reasons; with assets only 40 percent of liabilities, the Funds would have to earn ten percent and not use any assets for current benefits, just in order to stay even. However, due to inadequate contributions the Funds often have to use assets to pay benefits, so they do not get the full benefit of compounded returns. And, ten percent is not a sustainable rate of return. Therefore, if nothing changes, the Funds are likely to repeat the pattern of the last decade: funded ratio will decline during weak investment markets, and be approximately level during strong investment periods. They will not significantly recover, and the "ratchet" effect will only work in a downward direction.

The Commission looked at how Chicago's retirement benefits compare to other large cities, and to the private sector. In general, Chicago's benefits are comparable to those of other cities, with the public safety Funds at the low end and public service Funds near the average of surveyed DB plans. Chicago's Funds have features that reduce the potential for abuse, such as final average pay being averaged over a longer period than elsewhere, and end-of-career payments for accrued vacation or sick time not counting toward pension calculations. In comparison to the private sector, Chicago employees receive better retirement benefits than private sector employees who are not in defined benefit pension plans, but no account was taken of whether the private sector employees benefited from the pension contributions not made, as by higher employment compensation. Comparing to private sector employees in defined benefit plans, City employees did somewhat better in the case of retiring at an early age, but retirement at or near 65 years of age favored the private sector. This is due to the option of "unreduced early retirement," common in the public sector but rare in the private sector. Private sector employees did relatively better at lower incomes due to the redistributive aspects of the Social Security benefit formula.

The Commission also found that current benefits are not, in themselves, unaffordable. Across all four Plans, the annual cost of newly accrued benefits is approximately the level of combined employer and employee contributions, excluding disability costs. From that perspective, the problem facing the Funds is paying the interest and amortization on the \$14.7 billion unfunded liability. Savings in benefit costs would help address the overall problem, as a dollar not needed for new accrued benefits is available to reduce the accumulated deficit, but were it not for the deficit we would not face a crisis..

The Commission considered whether other methods of funding employee retirement would be beneficial, but concluded that continuing the current Plans in their defined benefit structure was superior to any alternatives, for both the employees and the City.

Resolving an unfunded actuarial liability of \$14.57 billion will require sacrifice by all parties. Under current actuarial assumptions, raising the funded ratio to 90 percent by 2062 would require contributions to increase by \$710 million in 2012, and increase proportionate to payroll every year until the goal is met. Attaining the same goal by 2042 would require an increase of \$866 million in 2012, growing with payroll until the goal is met. Under current law, contributions in 2012 will be approximately \$793 million, \$480 million by the City and \$313 million by employees. So, the 50-year goal requires an increase of 90 percent; the 30-year goal, 109 percent. These gaps can be filled by a mix of higher contributions and expense (benefit) reductions.

The City and its taxpayers will have to increase the amount they contribute. Employees will have to contribute a larger portion of their pay, and benefits may have to be reduced for employees hired in the future. In a worst-case situation, if even these measures fail to close the gap, attention may turn to reducing FUTURE benefit accruals for some current employees. However, there is doubt whether such a step would be allowed by the Illinois Constitution, and it could be viewed as a breach of faith with affected employees. Because of these issues of uncertain legality and equity, this choice is not recommended at this time.

This report presents a menu of options for saving money by reducing benefit costs for future employees (i.e., new hires). One such option stands out as worthy of consideration: reforming provisions for unreduced early retirement. This was the major change in benefits in the 2008 reform of the Chicago Transit Authority's pension plan, which both labor and City Commissioners have mentioned as a good model from which to start. It can significantly reduce the required future contributions. It is the single largest difference between City and private sector retirement benefits.

However, even stringent reductions in benefits cannot come close to filling the gap in required funding. Employees, who now contribute between 8.5% and 9.125% of their gross pay, will have to contribute more, even though those contribution rates are higher than at many comparable cities. The City of Chicago will also have to contribute more, which implies a mix of enhanced revenues and/or offsetting budget savings.

It is beyond the Commission's ability to specify the precise mix of benefit and contribution changes, or how the City can finance its share, but this report lays out the policy choices and provides analysis that will be useful in that effort.

The Commission's specific recommendations are summarized below:

1. The Defined Benefit ("DB") structure should remain the primary vehicle to help employees save for their retirement.
2. New employees should continue to become members of the current Plans. Closing the old Plans either entirely or to new members is not financially viable.
3. The Plans should have an actuarially-based funding policy. It would be less expensive to fund the deficit as quickly as possible, but it may take 50 years to reach a satisfactory, sustainable funding ratio of at least 80%.

4. Plan changes for new employees, though undesirable, will probably be necessary. Provisions for unreduced early retirement should get special attention.
5. Contributions will have to be increased and revenues identified. Any new funding policy and increased contributions should be implemented through statute in such a way as to guarantee that all contributions will be made in a complete and timely fashion, and the necessary revenues will be forthcoming.
6. Employee contributions should not exceed the value of benefits on a career basis.
7. Review any provisions in current law for refunds or for alternative benefit calculations, to ensure that the anticipated financial results of a reform program are actually obtained.
8. In general, no Plan changes should be made unless financially neutral or advantageous to the Fund, now or in the future.
9. A variety of other reforms should be considered, including reforming potential abuses, establishing sound reciprocity with other Illinois public pensions, new structures to manage investments, and improved administration of disability claims and benefits.
10. Any reform legislation must comprehensively and simultaneously address all aspects of the pension funding problem.

POBs and contribution ramps are options that can be considered, but each entails risks and costs that must be carefully evaluated. Both have been misused in other jurisdictions, and if adopted in Chicago must not be used inappropriately.

This problem must be addressed as soon as possible. The actuarial deficit accumulates actuarial interest each year, and current total contributions plus investment returns continue to be inadequate to sustain the Funds, so the problem compounds itself. In a mediocre investment environment, the less well-funded Funds may run out of money before the end of this decade. The City and its employees must soon find realistic solutions to this enormous and vexing problem.

APPENDICES

1. Comparables
2. Illustrative Scenarios
3. Differing Views
4. Glossary

APPENDIX 1: COMPARABLES

The Commission wanted to understand how Chicago's pension benefits compared to other employers. Staff looked at readily available information on benefits and employee contributions from a number of pension systems in large American cities, and modeled the benefits available to City employees and private sector employees with typical benefit packages. Staff did NOT consider other post-employment benefits, such as health insurance.

Comparing to other public sector plans

Public safety plans were compared separately from general employee plans. The results are summarized in these two tables:

COMPARABLES: Public Safety Plans								Annuity for Retirement at:		
City	Plan	Employee Contrib'n	Eligible for Unreduced Benefits	Yrs in FAP	COLA	Accrual Rate	notes	62/30	60/25	55/20
Chicago	Fire	9.125%	50/20	4	1.5%-3%	2.50%		72%	60%	48%
Chicago	Police	9.000%	50/20	4	1.5%-3%	2.50%		72%	60%	48%
Los Angeles	Fire	9.000%		1	Lesser of 3%	2.50%	1	81%	65%	50%
Los Angeles	Police	9.000%	50/20	1	or CPI	2.50%	1	81%	65%	50%
San Fran.	Fire	7.500%		1	Lesser of 2%	3.00%		90%	75%	60%
San Fran.	Police	7.500%	55/5	1	or CPI	3.00%		90%	75%	60%
Houston	Fire	9.000%	0/20	3	3%	2.50%	2	78%	63%	49%
Boston	Fire	11.000%		3	Disc<=(3%,	2.50%		73%	61%	49%
Boston	Police	11.000%	55/20	3	CPI)	2.50%		73%	61%	49%
Dallas	Fire	8.500%		3	4%	3.00%		87%	73%	58%
Dallas	Police	8.500%	50/5	3		3.00%		87%	73%	58%
Baltimore	Fire	6.000%	50/10 or	1.5	unknown	2.50%	3	69%	60%	50%
Baltimore	Police	6.000%	0/20	1.5		2.50%	3	69%	60%	50%
Jacksonville	Fire	7.000%		2	3%	3.00%	4	79%	69%	59%
Jacksonville	Police	7.000%	0/20	2		3.00%	4	79%	69%	59%
Fort Worth	Fire	8.250%	65/5 or Rule of 80	3	Discretionary	3.00%		87%	73%	none
Fort Worth	Police	8.730%	65/5, 0/25 or Rule of 80	3	Discretionary	3.00%		87%	73%	none
El Paso	Fire	15.280%		3	3%	2.75%		80%	67%	53%
El Paso	Police	13.890%	45/20	3		2.75%		80%	67%	53%
Austin	Fire	13.700%	55/10 or 0/25	3		3.00%		87%	73%	58%
Austin	Police	13.000%	62/0, 55/20 or 0/23	3	Variable	3.20%		93%	78%	62%
San Antonio	Fire	12.320%		3	75% of CPI	2.25%	5	84%	68%	44%
San Antonio	Police	12.320%	0/20	3		2.25%	5	84%	68%	44%
San Jose	Fire	12.400%	55/20, 50/25	1	3%	2.50%	6	80%	65%	50%
San Jose	Police	11.960%	or 0/30	1		2.50%	7	90%	70%	50%
Charlotte	Fire	12.650%	60/5, 50/25 or 0/30	2	Discretionary	2.60%		77%	64%	none
Average		9.986%		2.38		2.70%		81%	68%	53%
Number of cases		26		26		26		26	26	26
Chicago Rank		12		1		3		3	1	6
1=least generous										
Notes:										
1) 2.50% in first 20 YoS; 3.00% years 21-29, 4% year 30, 3% years 31-33; Max=90%										
2) 2.50% years 1-20, 3.00% years 21-30; Max=80%										
3) 2.50% years 1-20, 2.00% thereafter										
4) 3.00% years 1-20, 2.00% years 21-30; Max=80%										
5) 2.25% years 1-20, 5.00% years 21-27, 2.00% years 28-30, 5.00% years 31-33; Max=87.5%										
6) 2.50% years 1-20, 3.00% thereafter; Max=90%										
7) 2.50% years 1-20, thereafter 4.00%; Max=90%.										

COMPARABLES: Public sector, Non-Public Safety Plans						Annuity Percentage at:			
City	Employee Contrib'n	Eligible for Unreduced Benefits	Yrs in FAP	COLA	Accrual Rate	notes	62/30	60/25	55/20
Chicago	8.50%	50/30, 55/20 or 60/10	4	3%	2.40%		69%	57%	46%
Los Angeles	6.00%	60	1	Lesser of 3% or CPI	2.16%		65%	54%	40%
San Francisco	7.50%	62	1	Lesser of 2% or CPI	2.30%		69%	53%	30%
Boston	11.00%	65/20	3	Disc<=(3%, CPI)	2.50%		64%	49%	29%
Dallas	6.50%	60 or 50/30	3	Lesser of 5% or CPI)	2.75%		80%	67%	53%
Jacksonville	8.00%	65/5, 55/20 or 0/30	3	3%	2.50%		73%	61%	49%
Fort Worth	8.25%	65/5 or Rule of 80	3	Discretionary	3.00%		87%	73%	none
Austin	8.00%	62, 55/20 or 0/23	3	Discretionary	3.00%		87%	73%	58%
San Jose	8.93%	55/5 or 0/30	1	3%	2.50%		75%	63%	50%
Philadelphia	unk	60/10	3	Discretionary	2.00%	1	60%	50%	29%
Average	8.08%		2.50		2.51%		73%	60%	43%
Number of cases	9		10		10		10	10	10
Chicago Rank 1=least generous	3		1		4		4	5	5
Notes:									
1) 2.20% years 1-10, 2.0% thereafter									

The "Employee Contribution" is the percentage of pay that the employee contributes toward his or her pension benefit; the "Eligible for Unreduced Benefits" is the combination of age and years of service at which an employee qualifies for an unreduced retirement annuity; the "Yrs in FAP" is the number of years averaged to calculate the final average pay, which is multiplied by the accrued benefit rate to determine the annuity (a larger number is less generous); "COLA" is the way cost of living adjustments are handled; the "Accrual Rate" is the amount by which the benefit rate increases for each year of employment; and the last three columns present the retirement annuity as a percentage of the final salary that a typical annuitant would receive at various combinations of age and years of service.

For example, a City of Los Angeles employee, not in a public safety pension plan, would contribute 6.00% of salary, could retire without reduction at 60 years of age regardless of years of service, their pension would be based on their single highest year of earnings, their annual COLA would be the lesser of 3% or CPI, and during their career they earned benefits at a rate of 2.16% per year worked. This Los Angeles employee could retire at age 62 with 30 years of service, and receive an annuity approximately equal to 65% of their last year's pay.

Although this is not an exhaustive study, it indicates that Chicago's pension benefits and employee contributions are well within the normal range for municipal defined benefit pension plans.

The four Chicago Funds calculate Final Average Pay over a period of four years, the longest in the sample. That long FAP period is a notable measure to reduce pension abuse because it dilutes the effect of any "spike" in salary at the end of the employee's career.

Comparing City employees to private sector employees in typical situations

Comparison to private sector practice is much more complicated. Private sector DB plans are heavily regulated and increasingly uncommon, and there are difficulties in comparing one

employee's DB-based situation with another who depends on a 401(k) DC program. A narrow focus on retirement income rather than lifetime earnings might be misleading, but trying to correct for that is a huge technical problem and far beyond the time or resources available to the Commission. Different levels of contributions by both employee and employer are not modeled except insofar as 401(k) contributions must be included in order to calculate the post-retirement income it can generate. So, the analysis is incomplete and tentative, but nonetheless sheds useful light on this area.

With those understandings, staff looked at the retirement income available to various employees at different final levels of pensionable earnings, age and years of service. Private sector employees were assumed to be members of Social Security and to have a 401(k) account with typical rates of contribution and employer match. The private sector employees were modeled with and without a typical private sector DB pension in addition to Social Security and the 401(k). City employees were modeled based on their plan benefits.

The table on the next page summarizes the results. The entries are the actuarial values of future benefits and past contributions, at the time of retirement. In the interest of readability, results are not shown for FABF. They would be slightly worse than for PABF, due to the higher employee contribution rate of 9.125% for FABF, compared to 9.000% for PABF.

In general, City employees fare better than private sector employees when retiring at an earlier age and at higher income levels. Private sector employees who have a DB pension fare better than City employees when retiring at a later age and at lower income levels. This is driven by two primary factors:

- The Social Security benefit structure is more generous to low earners and less generous to high earners, whereas the City's DB plans (and the typical private sector DB plan, as well) do not redistribute income in this way.
- The "unreduced early retirement" options available to City employees are not typically available in the private sector. Social Security retirement age is now approximately 66 and edging upward, and most private sector DB plans have normal retirement at 65. In both cases there are significant reductions for retiring early.

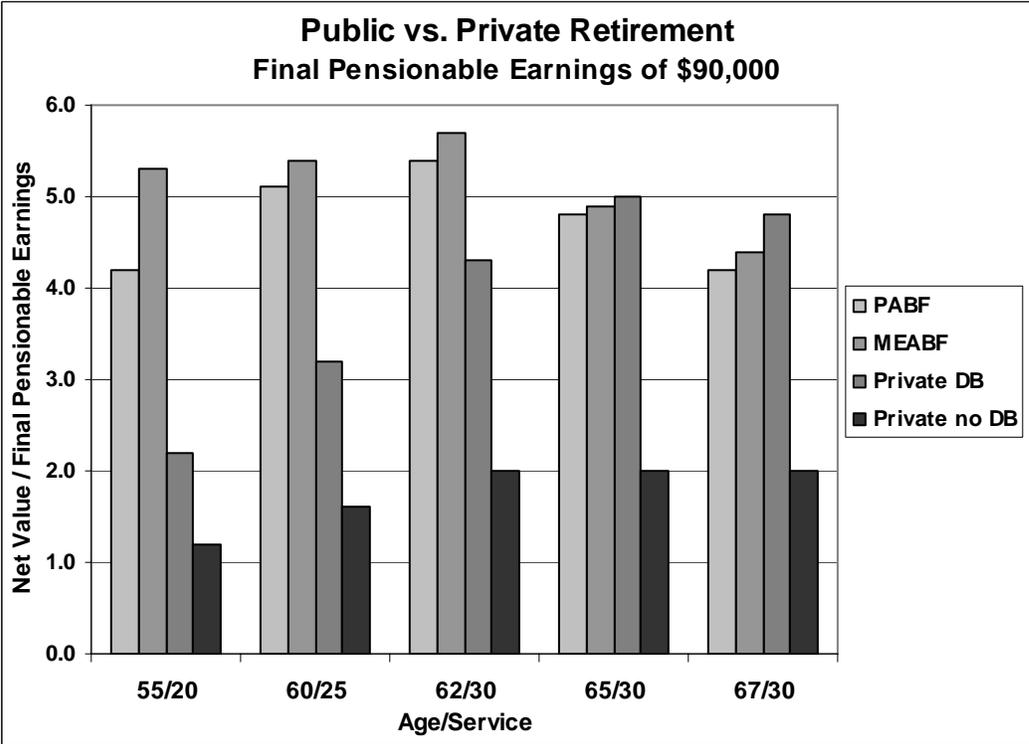
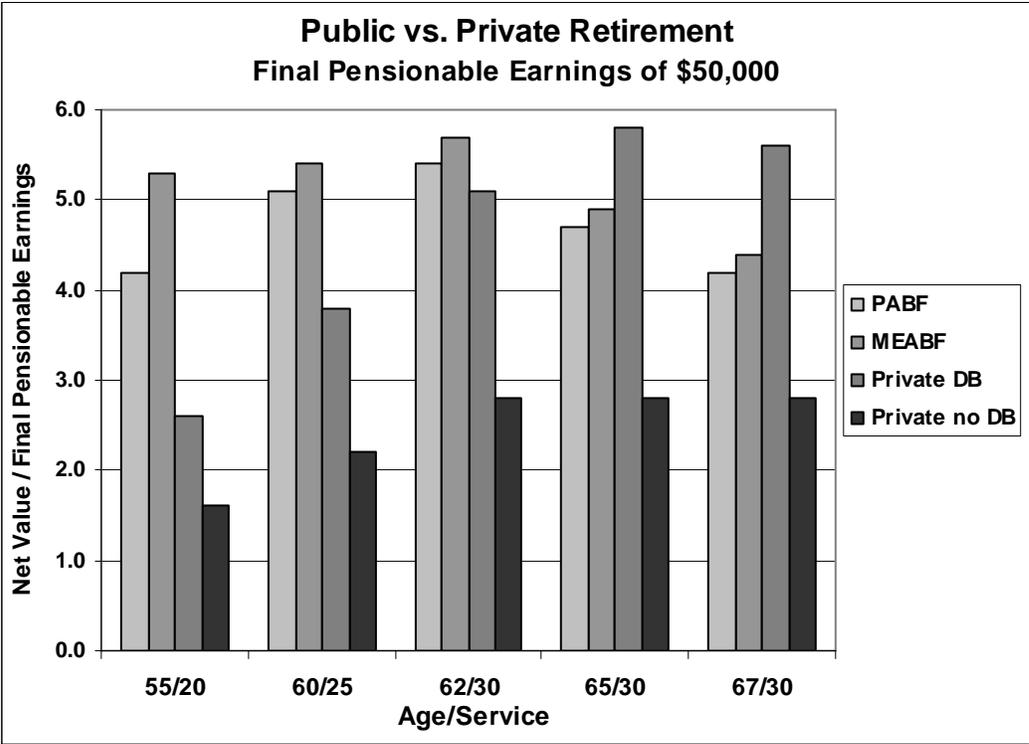
Private sector employees without a DB pension generally fare worst, but this analysis does not take account of the investments they could have made with their income not going into DB contributions, nor whether the employer DB contributions not made inured to their benefit. Given these problems, one must be very cautious in comparing City employees to private sector employees who are not members of a DB plan.

COMPARABLES: Private Sector

Figures are the net present value of the lifetime pension or retirement benefit at the time of retirement

Final Pension Earnings=>	\$50,000				\$90,000			
	Chicago		Private Sector		Chicago		Private Sector	
	PABF	MEABF/ LABF	DB	no DB	PABF	MEABF/ LABF	DB	no DB
Age 55 with 20 Years of Service								
DB Pension	327,048	376,279	84,273	-	588,687	677,303	151,692	-
401(k)	-	-	119,507	156,024	-	-	215,113	280,843
Social Sec - employee	-	-	72,996	72,996	-	-	98,888	98,888
Social Sec - spouse	-	-	15,036	15,036	-	-	20,370	20,370
Total Benefits	327,048	376,279	291,812	244,056	588,687	677,303	486,063	400,101
Employee Contributions	119,507	112,868	161,999	161,999	215,113	203,163	291,598	291,598
Net Value to Employee	207,541	263,411	129,813	82,057	373,574	474,140	194,465	108,502
Net Value / Final Pension Earnings	4.2	5.3	2.6	1.6	4.2	5.3	2.2	1.2
Age 60 with 25 Years of Service								
DB Pension	418,182	422,687	130,449	-	752,727	760,836	234,808	-
401(k)	-	-	161,604	210,983	-	-	290,887	379,769
Social Sec - employee	-	-	97,446	97,446	-	-	129,438	129,438
Social Sec - spouse	-	-	19,956	19,956	-	-	26,508	26,508
Total Benefits	418,182	422,687	409,455	328,385	757,727	760,836	681,641	535,715
Employee Contributions	161,604	152,626	219,063	219,063	290,887	274,726	394,313	394,313
Net Value to Employee	256,578	270,061	190,392	109,322	461,840	486,110	287,328	141,402
Net Value / Final Pension Earnings	5.1	5.4	3.8	2.2	5.1	5.4	3.2	1.6
Age 62 with 30 Years of Service								
DB Pension	479,851	482,849	181,275	-	787,951	869,128	326,295	-
401(k)	-	-	210,132	274,339	-	-	378,238	493,810
Social Sec - employee	-	-	124,871	124,871	-	-	165,281	165,281
Social Sec - spouse	-	-	25,486	25,486	-	-	33,733	33,733
Total Benefits	479,851	482,849	541,764	424,696	787,951	869,128	903,547	692,824
Employee Contributions	210,132	198,458	284,846	284,846	378,236	357,224	512,722	512,722
Net Value to Employee	269,719	284,391	256,918	139,850	409,715	511,904	390,825	180,102
Net Value / Final Pension Earnings	5.4	5.7	5.1	2.8	5.4	5.7	4.3	2.0
Age 65 with 30 Years of Service								
DB Pension	445,453	445,344	213,400	-	801,815	801,619	384,120	-
401(k)	-	-	210,132	274,339	-	-	378,238	493,810
Social Sec - employee	-	-	124,337	124,337	-	-	164,074	164,074
Social Sec - spouse	-	-	25,276	25,276	-	-	33,355	33,355
Total Benefits	445,453	445,344	573,145	423,952	801,815	801,619	959,787	691,239
Employee Contributions	210,132	198,458	284,846	284,846	378,238	357,224	512,722	512,722
Net Value to Employee	235,321	246,886	288,299	139,106	423,577	444,395	447,065	178,517
Net Value / Final Pension Earnings	4.7	4.9	5.8	2.8	4.7	4.9	5.0	2.0
Age 67 with 30 Years of Service								
DB Pension	421,697	419,864	204,056	-	590,375	755,756	367,305	-
401(k)	-	-	210,132	274,339	-	-	378,238	493,810
Social Sec - employee	-	-	124,332	124,332	-	-	163,506	163,506
Social Sec - spouse	-	-	25,426	25,426	-	-	33,439	33,439
Total Benefits	421,697	419,864	563,946	424,099	590,375	755,756	942,488	690,755
Employee Contributions	210,132	198,458	284,846	284,846	378,238	357,224	512,722	512,722
Net Value to Employee	211,565	221,406	279,100	139,253	380,816	398,532	429,766	178,033
Net Value / Final Pension Earnings	4.2	4.4	5.6	2.8	4.2	4.4	4.8	2.0

The ratio of Net Value to final Pensionable Earnings is shown on the charts, below:



APPENDIX 2: COMPARING DEFINED BENEFIT (DB) AND DEFINED CONTRIBUTION (DC) PLANS

Shifting from a DB plan to a DC plan was discussed by both the full Commission and its Structure and Funding Policy Committee. The conclusion at both levels was that the DB structure should remain the primary vehicle to provide retirement benefits for both current and future employees. This appendix summarizes those discussions, and provides background on DB and DC plans:

- In typical DB plans such as the City's, the employer promises a "defined benefit" annuity based on late-career salary and years of service. The employee often contributes a fixed share of income, and employer then contributes whatever additional amount is needed to meet that promise. Because of its promise of a defined benefit, the employer bears the risk of trust assets underperforming the actuarial assumptions. In contrast, in a DC structure the employer does not promise any level of benefits. Instead, the employer contributes a defined amount to employee accounts. After the contribution is made, the employee bears all the investment risk for his or her own account, as well as the risk of outliving the retirement assets ("longevity risk").
- DB plan sponsors can generally invest plan assets for the long term and employ professional investment managers and advisors that are not available or hard to duplicate for individual investors. Thus, DB plans typically earn larger investment returns than do individuals in DC plans. When combined with the DB plan's sponsor assuming the longevity risk (which is offset by the large number of employees in the plan), the typical DB plan can potentially provide retirement income approximately 40 percent more efficiently than the typical DC plan, as described in "*A Better Bang for the Buck*, National Institute on Retirement Security, August 2008.
- A DB plan is not inherently more or less expensive than a DC plan. Some DB plans target high levels of benefits. Others target lower levels. Similarly, some DC plans have high rates of employer contributions, and some have lower rates. The aforementioned efficiencies for DB plans only apply to retirement benefits.
- There is a difference in how DB and DC plans treat employees of different ages or tenures with the employer. Under a typical DB plan, the value of the benefit (relative to the contributions) is greater for employees who retire after meeting certain age and service milestones as defined in the plan (e.g. age 55 with 20 years of service, or age 65 with 30 years of service). A relatively lower level of benefit is provided to those who retire or leave earlier. In a typical DC plan, there are no milestones. Instead, everyone receives the same contribution as a percentage of earnings, regardless of age or service. Thus, compared to a DC plan that is age-neutral, a DB plan with the same costs will provide larger retirement benefits and smaller termination benefits. There is an age bias in the typical DB plan, with its greatest benefit value often being accrued in the employee's last years of service.
- Another common difference between DB and DC plans is portability. In general, DC plans offer greater portability. Participants can take their entire DC balances with them when they leave employment, regardless of age, subject to tax compliance. In contrast, most DB plans only offer monthly annuities and even those annuities only begin after the employee attains certain age or service milestones. Some offer reciprocity with similar DB plans within a larger jurisdiction. A terminating employee can withdraw their account, but because DB benefits accrue on a delayed basis, the value the terminating employee receives will generally be far less than the defined benefit is worth.

There is a large near-term cost associated with transitioning from a DB plan to a DC plan, especially when the change is made for new employees only. Costs in a DB plan are linked to how the benefits accrue. As discussed above, the benefit accruals are small for early-career employees. The costs associated with those benefits are quite small as well. In a transition from a DB plan to a DC plan, the elimination of new DB employees has little impact on the costs for the DB plan, which are largely driven by the larger benefits accruing to the older workers who remain in the DB plan, but the plan sponsor must also pay the full cost of the new DC plan for those new employees. Therefore, in the short term, the costs for a combined DB/DC plan will be larger than under a stand-alone defined benefit plan. This is compounded if the DB plan is underfunded, as the sponsor must also catch up with funding the unfunded past benefit accruals.

It is a value judgment whether the DB plan's age bias is good or bad. It encourages a career-long commitment to an employer, which can help the employer maintain a stable work force, gain the full benefit of training, etc. On the other hand, it can impede the ability of younger workers to pursue new opportunities, which might in turn make the employer less attractive to younger employees in careers where mobility is valued. At the extreme, it can potentially saddle an employer with less productive, older workers, again depending on the particular jobs. An employer's preference would be determined by the nature of the work and the work force. If most employees consistently become more valuable with experience and training, a DB plan offers advantages. If such effects are limited and the employer is better served by a younger, less experienced work force with more turnover, a DC plan might be preferred. Such issues were beyond the scope and expertise of the Commission.

Many private sector employers have switched from DB to DC plans. The main driver for this is the volatile financial markets. Repercussions of recent, significant asset declines (higher required contributions, lower earnings per share, reductions in stockholders' equity, etc.) have highlighted the financial risks of maintaining a DB plan. Switching to a DC plan is one tactic that private sector employers use to shift these risks to employees.

Below is a high-level summary of key pros and cons of typical public-sector DB and DC plans:

Defined Benefit Pros

- Maximizes benefits for career employees. Most City employees are career employees and a DB plan is the least expensive way to provide them with the desired level of benefits.
- This is generally the preferred retirement program for both the unions and employees.
- The DB plan is expected to earn higher investment returns than a typical individual investing in a DC plan. This excess return provides additional retirement benefits to employees, or lower costs to both employees and employers.

Defined Benefit Cons

- The DB plan's sponsor bears the actuarial risks associated with these plans. In an actuarially based funding policy, volatile investment returns can make costs fluctuate dramatically from year to year. This can work to either the advantage or disadvantage of the employer, but the employer must resist the temptation to increase benefits or reduce contributions due to temporary market-driven actuarial surpluses.
- If contributions to the plans are not based on an actuarial funding policy, such volatility can lead to significant underfunding.
- Provides minimal value to younger, short-term employees.

Defined Contribution Pros

- Costs are fixed and known. Any attempt to underfund them is immediately obvious.
- The employer is not liable for a specific benefit level. There can be no unfunded liability.
- Plan benefits are more easily understood by employees.

- Provides relatively greater benefits for younger, short service and mid-career employees.

Defined Contribution Cons

- For any target level of retirement income, short-term and long-term costs will be greater than the costs of a well-funded DB plan based on an actuarially funding policy.
- Places investment risk on the employee. For this reason, current employees and unions view them negatively.
- Does not guarantee that employees will have sufficient retirement income.

After discussing these points, the conclusion was that due to high cost of transitioning from a defined benefit plan to a defined contribution plan, the demographics and funded status of the City plans, the benefits of a DB structure with respect to longevity risk, asset allocation and professional management, and the preferences of employees to retain a DB plan structure, the Commission recommends continued use of the DB model for all current and future employees.

APPENDIX 3: ILLUSTRATIVE SCENARIOS

Various scenarios, mixing different policy options, were analyzed in order to better understand the implications of all the above. The scenarios are not recommended policy mixes, but can improve understanding of the complex and inter-related issues at play. In some scenarios, one can see the extent to which certain changes would, or would not, contribute to a financial solution. Others shed light on specific, complex issues such as contribution ramps and POBs.

The scenarios are:

Scenario	Scenario Concept	Funding Policy Actuarial=90%/50yrs, Level % of Pay	Benefit Changes (new hires, only, except 4)
Current	No Changes	Current	No changes
1	Isolate effect of actuarial funding policy	Actuarial	No changes
1-5r	Show effect of a short (5-yr) contributions ramp		
1-15r	Show effect of a long (15-yr) contributions ramp		
2-all	Aggressive benefit changes for all future accruals	Actuarial	8 YR FAP, 2.00% benefit accrual rate, Unreduced early retirement: 63/10 for Fire & Police, 67/10 for Muni & Laborers, COLA lesser of 1.5% or 1/2 of CPI, compounded Pension pay = base salary up to Social Security Covered Wage Base
2-new	Aggressive benefit changes for new hires		
2-split	Same as 2-new, but new hires pay less than current members		
3-CTA	Modest benefit changes, based on CTA reform	Actuarial	Unreduced early retirement: 63/10 for Police & Fire, 64/10 for Muni & Laborers, Change service definition
3-CTA-L\$	Show the effect of basing contributions on level dollar amount		
3-CTA-P	Show effect of large (\$6.8B) POB		
4-newDC	Close current DB Plans to new members, fully fund in 35 yrs; DC for new hires	Fully fund current DB Plans in approx. 35 years at level % of Pay; Fund new DB or DC at 16.0% of pay (Normal Cost of current plans) --City=9.6% --Employees=6.4%	No Changes to DB Plans
4-newDB	Close current DB Plans to new members, fully fund in 35 yrs; New DB for new hires		
5-3%	Short-term	Current structure, higher contributions	No changes
5-PB-s	Short-term, small POB's FABF/PABF, \$1.245B FABF and \$2.250B PABF, from current City contributions	Current structure, POB Fire & Police, only, to extend lives to equal Muni	
5-PB-b	Short-term, \$9.6B POB for all Funds, from current City contributions	Bond out City Contributions	

- **"Current"** shows the effect of no change in current law.
- **Scenario 1** starts with no change in benefits, and shows effect on contributions of adopting a funding policy targeting 90% funded ratio in 50 years, consistent with the above recommendation.

- **Scenarios 1-5r and 1-15r** take Scenario 1 and add to it a contributions ramp, 5 and 15 years, respectively, to show the trade-offs between a gradual increase in contributions and increased costs down the line.
- **Scenario 2-all** was proposed by a Commissioner, and includes aggressive benefit reductions for all future benefit accruals including those of current employees.
- **Scenario 2-new** uses the same benefit changes as 2-all, but only applies them to new hires, in recognition of the issues surrounding benefit reductions affecting current employees.
- **Scenario 2-split** looks at Scenario 2-new and addresses the problem that with benefits so greatly reduced, and contributions increased, new hires will be receiving a benefit of less actuarial value than their contributions. A way to deal with this would be to reduce their contributions so that the value of their benefit is at least equal to their contributions. Those dollars not contributed by new hires must come from elsewhere, and this scenario increases the contributions of current employees to do so.
- **Scenario 3-CTA** patterns benefit changes for new hires after what was done in the CTA pension reform of 2008. Several Commissioners have noted that the parties were generally pleased with the CTA reform, and it is a good model from which to start.
- **Scenario 3-CTA-L\$** uses the same benefit changes as 3-CTA, but its funding policy calls for contributions at a level dollar amount rather than level percent of pay.
- **Scenario 3-CTA-P** adds a Pension Obligation Bond of \$6.8B to Scenario 3-CTA. The CTA reform included a POB and this is a good scenario in which to evaluate one.
- **Scenario 4-newDC** has the current DB plans closing to new members, and being replaced by a contributory Defined Contribution (DC) Plan. There are no changes to DB benefits, but contributions must rise to fund the deficit. The new DC Plan is based on a total contribution of 16% of pay, which is the approximate Normal Cost of the current plans.
- **Scenario 4-newDB** also closes the current DB plans to new members, but replaces them with new DB plans with benefits and therefore Normal Cost similar to the current plans.
- **Scenario 5** consists of three possible short-term or temporary actions, which would extend the lives of the fund assets and permit more time to develop and implement comprehensive solutions. In all three cases, the funds eventually run out of assets. Because these are so different from the other scenarios, they are discussed separately at the end of this section.

The Tech Team used a consistent set of actuarial assumptions in modeling the scenarios:

- New laws affecting benefits, contributions, or any other measures would take effect January 1, 2012.
- Wherever appropriate, the actuarial funding policy was to reach 90% funded in 50 years, or, by December 31, 2061. Exceptions are in Scenario 4, where the funded ratio of the "old" DB Plans is brought to 100% by the time the last member retires, and the new Plans are created and maintained at 100% funded, and in Scenario 5, which deals with interim measures. Contributions are at a level percent of payroll except where otherwise noted.

- Modeling was based on available information, most of which was as of mid-2009.
- The assumptions used in the respective annual actuarial reports for 2008 were used, including an assumed rate of return on assets, and discount rate, of 8.00%.
- The weighted average distribution of contributions across all four funds is approximately 60% from the City and 40% from employees. The distribution for CTA was similar when the 2008 CTA reform was enacted, when Social Security contributions are included in the calculation (CTA employees are in Social Security). This 60:40 distribution was used in apportioning the total contributions, but would actually be a point of negotiation. The necessary total contributions are not affected.

The results of the scenario modeling are presented in this table. Annual contributions are in millions of current-year dollars, present value and actuarial liability figures are in billions.

Scenario	2012 Total Req'd Contribs + Debt Svce	2012 Change from Current	2012 Change from Scen. 1	2012 Increase in City Contribs	2012 Increase Member Contribs as % of Pay	2037 Required Contribs + Debt Svce	2012 PV of Contribs 2012-61	Actuarial Accrued Liability at 1/1/62
Current	\$793	NA	NA	N/A	N/A	\$4,099	\$26.0B	\$124.5B
1	\$1,503	\$710	NA	\$427	7.94%	\$3,163	\$28.4B	\$124.5B
1-5r	\$793	\$0	(\$710)	\$0	0.00%	\$3,414		
1-15r						\$3,905		
2-all	\$1,155	\$363	(\$348)	\$218	4.05%	\$2,444	\$21.9B	\$66.6B
2-new	\$1,366	\$574	(\$137)	\$344	6.41%	\$2,885	\$25.9B	
2-split	\$1,503	\$710	\$0	\$427	Current 8.00% New 4.25% Blended = Scen 1	\$2,713	\$25.9B	
3-CTA	\$1,440	\$647	(\$63)	\$388	7.23%	\$3,029	\$27.2B	\$97.5B
3-CTA-L\$	\$2,137	\$1,344	\$634	\$807	15.03%	\$2,137		
3-CTA-P	\$1,366	\$573	(\$137)	\$344	6.41%	\$2,873		
4-newDC	\$2,000	\$1,207	\$497	\$724	13.66%	\$2,326	\$27.5B	\$26.6B
4-newDB							\$27.5B	\$124.5B
5-3%	\$1,007	\$214	(\$496)	\$107	3.00%	\$4,099	\$26.0B	\$124.5B
5-PB-s	\$793	\$0	(\$710)	\$0	0.00%	\$4,350	\$25.3B	
5-PB-b							\$24.0B	

For each scenario, the table presents the required contribution in the first year of implementation (2012), the change from the contributions required under current law and *Scenario 1* (which has an actuarial funding policy but no benefit changes), the required contribution in 2037, halfway through the 50-year period, the 2012 Present Value of the contributions required over the 50-year period, the accrued actuarial liability at the end of the period in 2062, and the immediate savings in accrued liability for Scenario 2-all, which affects benefits for current employees.

The scenarios will be presented below through a series of charts that show how required contributions change from year to year, with explanatory discussion. Each chart and related discussion will focus on a particular issue.

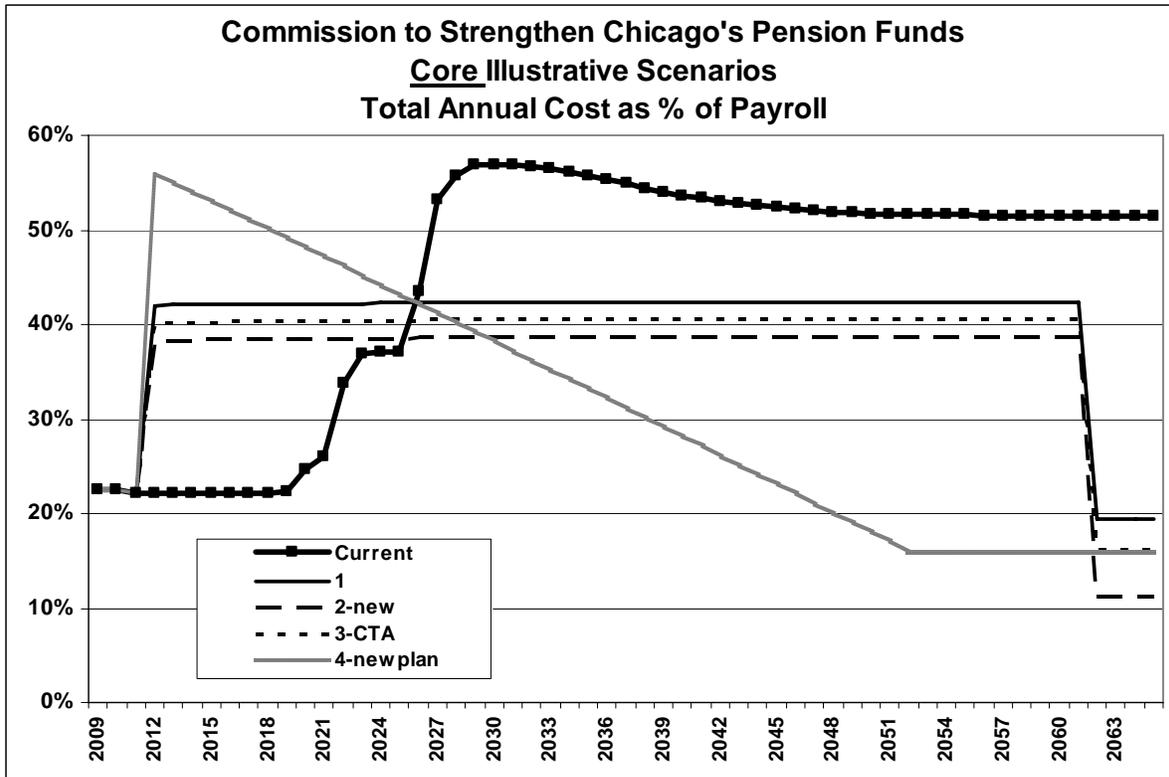
Benefit levels and plan structure

The "Core" scenarios are 1, 2-new, 3-CTA, 4-newDC and 4-newDB. There is no difference in the contributions profile for 4-newDC and 4-newDB, so in the charts they are represented as 4-newplan.

These all have in common the following characteristics:

- Actuarial funding policy to reach 90% funded in 50 years, except for 4, which aims for 100% funded as the DB Plan is being closed. By 2062 the amount involved is trivial, as very few current employees (DB members) or their survivors will still be alive to collect annuities.
- Contributions are a level percentage of pay, with no one-time infusions such as a POB.
- Benefit changes, if any, apply to new hires, only.

These, plus the *Current* scenario, are shown on the following chart:



Presenting the data in terms of "% of Payroll" gives a figure that is approximately adjusted for inflation.

The *Current* scenario continues current law and therefore the current contribution policy. The contributions increase in steps, as each Fund runs out of assets and contributions must be increased to pay benefits and expenses due in that year. At the end of the chart, contributions must be approximately 51.5% of payroll, and as assets are totally depleted (funded ratio = 0%), this rate of contributions continues indefinitely. This is 29.5% higher than the 2009 figure of 22.5% of payroll.

The other scenarios presented in this chart all end with funded ratios of 90%, except *4-newplan* at 100%. The subsequent contributions are far lower, as they fund only normal cost plus interest on the remaining 10% unfunded.

Scenarios 1, 2-new and *3-CTA* have contribution requirements of approximately 42.3%, 38.6% and 40.6% of payroll, respectively, during the 50 years used to get to 90% funded. As the analysis holds everything else constant, this means that the differences between them are due to the benefit changes affecting new hires. *Scenario 1* includes no benefit changes.

Therefore, the benefit changes in *2-new* are approximately worth contributions of 3.7% of payroll for 50 years; those in *3-CTA* are approximately worth contributions of 1.7%.

After 2061, the respective required contributions are 19.4%, 11.2% and 16.0% of payroll, which fund normal cost plus interest on the 10% unfunded. The figures also express, very approximately, the relative value of the benefit packages to members. Contrast those figures with the 51.5% of payroll needed in *Current*, with a funded ratio of 0%, to understand the value of being 90% funded. The amounts by which contributions in *Scenarios 1, 2-all* and *3-CTA* exceed *Current* from 2012 to approximately 2027 may be viewed as an investment that reduces contributions thereafter, in perpetuity.

Scenario 4-newplan looks different. It would close the current DB plans to new members and replace them with either a DC plan or a new DB plan, with total contributions of 16.0% of payroll, the current normal cost, starting in 2012. The initial contributions are high because the under-funded DB plans are to be 100% funded by the time the last current member retires in approximately 35 years. So, it is necessary to simultaneously fund both the new Plan, whether DB or DC, as it gains members each year, and the old DB plans in much less time (substantially complete in 35 years) than the other scenarios (50 years).

The resulting annual cost curve starts out very high, as it is necessary to both fully fund the new Plan, and continue funding the old, DB plans, including their actuarial deficits. Assuming contributions are paid 60% by the City and 40% by employees, in 2012 the City must pay \$2.0 billion, and "old" employees in the DB plans would see their contributions increase by 13.66% of pay.

This was shown on the previous table of scenario results as two scenarios: *4-newDB* and *4-newDC*. As both involve closing the current Plans to new members, and establishing new plans for new employees with contributions equal to 16% of pay, split 60:40, their contribution profiles are the same. They are therefore represented by a single curve, *4-newplan*. There is a significant difference between them, however. With a new DC Plan, each employee bears their own risk of investments failing to meet the target rate of return (they also would gain the benefit of exceeding it). The City or its DC Plan would not incur an actuarial liability. With a new DB Plan, the risks (and rewards) are with the DB Plan and its sponsor, and the City or the Plan would incur an actuarial liability, shown in the rightmost column of the summary table.

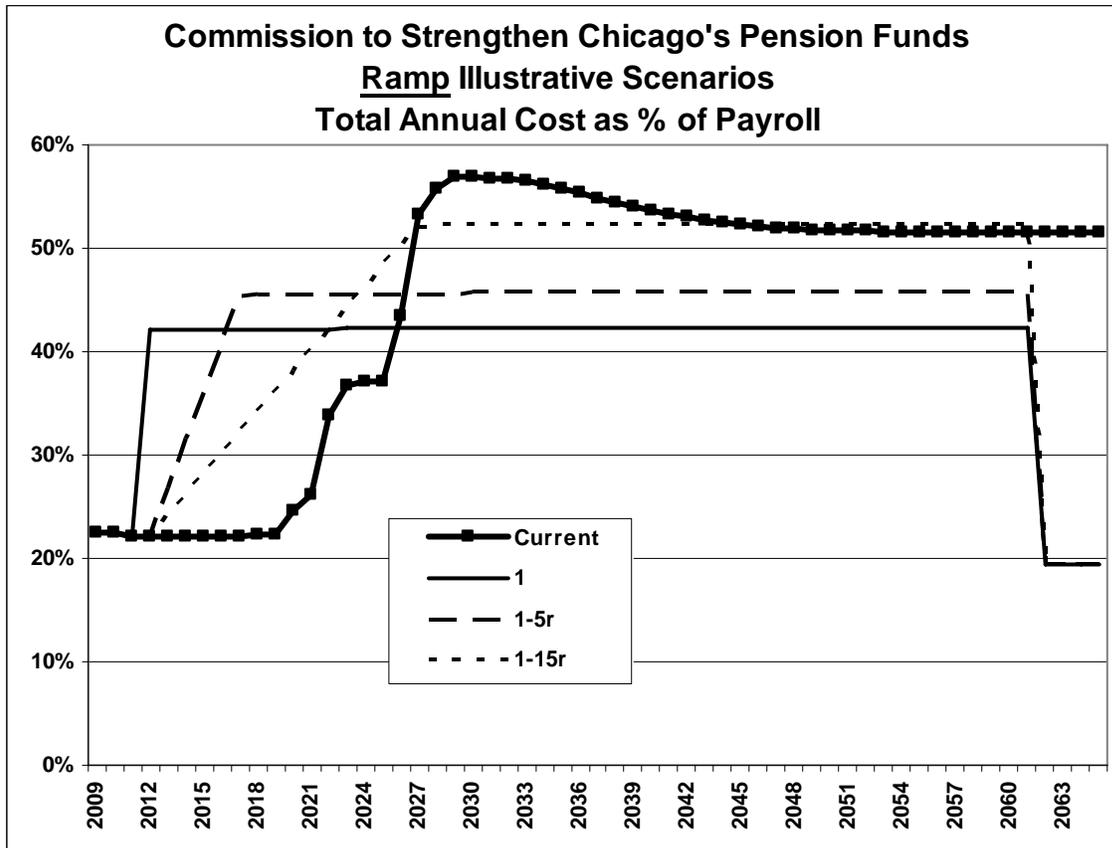
Scenario 4-newplan looks financially attractive in the later years of the 50-year period. It has the lowest total contributions of any Core scenario for every year from 2030 to 2061. However, the cost in the early years is impractical for both the City and its taxpayers, and the employees. For this reason, in addition to concerns about the level of security a DC plan affords the employees, closing the DB plans and starting a new plan for new employees, whether DB or DC is NOT financially viable.

Ramps

The next chart looks at the same data, total contributions as a percentage of payroll, across *Scenarios 1, 1-5r* and *1-15r*. This isolates the financial consequences of a contributions ramp.

A contributions ramp gives time for contributors to adjust to paying more, by having contributions gradually increase to the required level. In the case of employees, the increased contributions might be timed to coincide with scheduled pay increases so employees do not suffer a diminution in take-home pay. Such scheduling was part of the 2008 CTA reforms. For the City, new revenue sources can be gradually phased in and taxpayers given time to adjust. These advantages may make the needed changes more politically practical.

There are two important disadvantages. Every year that contributions are less than needed to cure the problem, the deficit grows and accrues actuarial interest. A short ramp, say, four or five years, will have a smaller effect than a longer ramp of, for example, 15 years. This is seen in the chart, below:



With no ramp, *Scenario 1* immediately has total contributions equal to 42.3% of payroll, where they remain for the 50 years from 2012 through 2061. With a 5-year ramp, *Scenario 1-5r* has contributions build to a level of 45.7% of payroll in 2017, where they remain until 2061. In *Scenario 1-15r*, the contributions at the end of the much longer 15-year ramp are 52.3% of payroll, which is even higher than the final level of contributions under *Current*. However, after the 50 years, *Scenario 1-15r* has achieved a 90% funded ratio, whereas under *Current* the funded ratio is 0%. Once the 90% funded ratio is achieved, all three *Scenario 1* alternatives have contributions of 19.4% of payroll, which is the normal cost of their identical benefits plus interest on their identical 10% unfunded.

The other disadvantage is that to the extent adequate long-term funding is not locked in by law, the delay in fully implementing the higher contributions and the mechanisms to fund them presents opportunities to avoid those responsibilities. This a significant credibility issue for any proposals that depend on a ramp, especially a ramp of long duration.

Weighing all this, the Commission is of the opinion that a ramp may be considered in order to help move both City and employee contributions to the required levels. However, that ramp should be as short as possible, the initial legislation should include the growing revenues to support the post-ramp years, and the ramp schedule should be treated as an irrevocable commitment.

Aggressive benefit reductions

Scenario 2 includes a very aggressive set of benefit reductions. Three scenarios use those benefit reductions, in order to shed some light on this approach.

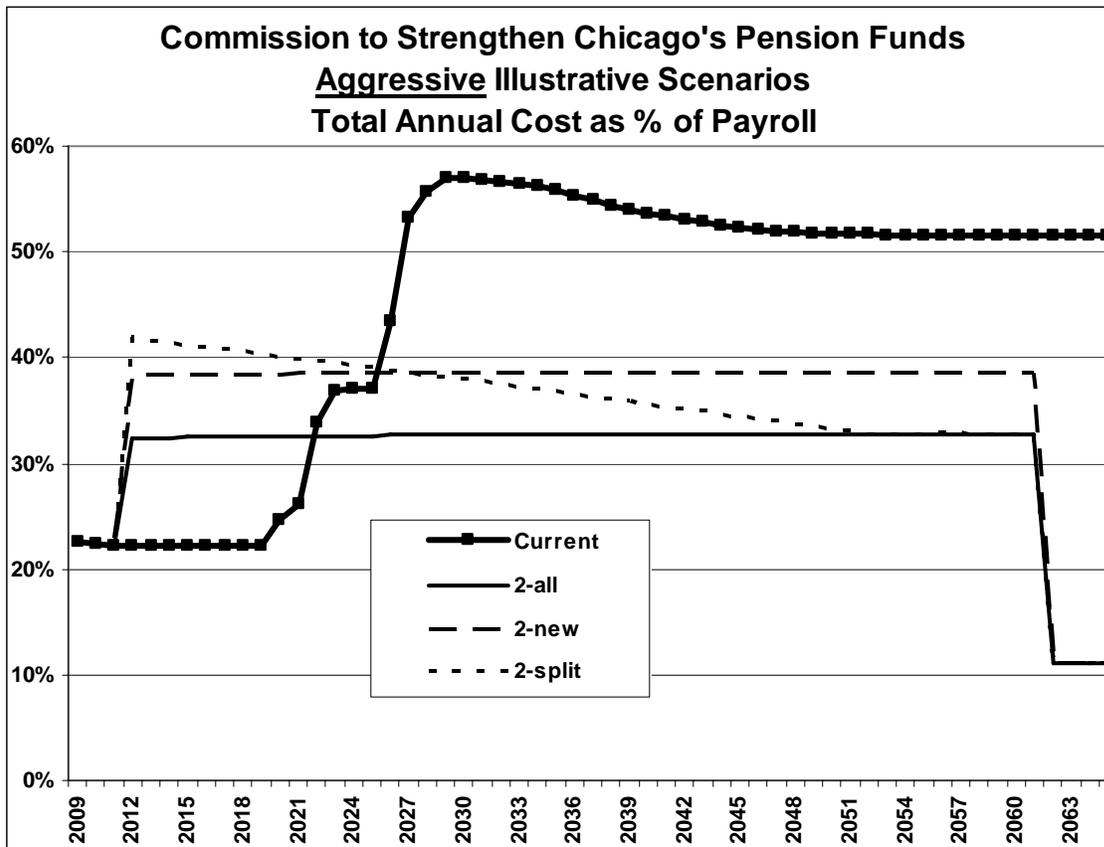
Scenario 2-all would apply those benefit changes to all future benefit accruals, including those of current employees. This raises a constitutional question, which is set aside for the purpose of this actuarial analysis.

Scenario 2-new applies the benefit changes only to new hires. Comparing *2-all* and *2-new* let the Commission isolate the financial value of including current employees.

Scenario 2-split addresses the problem created when very large benefit cuts for future employees are combined with large increases in contributions. In such a case, the actuarial value of the employee's pension benefit may be less than the value of the employee's contributions. This is a moral issue, it would affect the City's competitiveness in the labor market, and might have other implications, as well. *Scenario 2-split* addresses this by having new employees pay a lower contribution, shifting some costs to current employees, who would pay that much more but whose pensions are not being affected. In *Scenario 2-new*, employee contributions increased by 6.41% of payroll. For *2-split*, the increase in contributions of new employees is reduced to 4.25% of payroll, while the increase for current employees rises to 8.00% of payroll.

Using MEABF as an example, employees now contribute 8.50% of pay. Under *Scenario 2-new*, this would increase to 14.91% of pay. Under *2-split*, current employees would pay 16.50% of pay, and new employees would pay 12.75% for a much smaller benefit.

The effect on total contributions is shown below:



Scenario 2-new, which was also presented as a Core scenario, has required contributions of 38.6% of payroll during the 50 years it takes to get to 90% funded. Applying those same benefit changes to all new accruals in *Scenario 2-all* reduces the requirement to 32.7%, or by 5.9% of payroll. This difference is approximately \$211 million in 2012, of which \$127 million would be a reduction in the City's annual contribution and \$84 million in the annual employee contributions, under the 60:40 sharing assumption. These figures would all grow with payroll until 2061. *Scenario 2-all* would reduce the current actuarial liability by approximately \$4.4 billion, compared to *Scenario 2-new*. This is reflected in the \$34.0 billion difference between the "2012 PV of Contribs 2012-2061" column in the table on page 46; \$4.0 billion being 90% of \$4.4 billion, because the funding goal is 90%.

Scenario 2-split starts with 2012 contributions of approximately \$1.5 billion, the same as in *Scenario 1* (not shown, here). These contributions decline each year, as employees paying the higher contribution rate retire and their replacements, who earn reduced benefits, pay at the reduced contribution rate. This downward slope continues until 2050, when the last pre-2012 employee is assumed to retire and all employees henceforth are paying for their reduced benefits at the lower rate.

The higher contributions for current employees also proportionately increase City contributions based on the assumptions used in the modeling. As total employee contributions decline with the changing mix of older and newer employees, the City's contribution will also decline. This refers to contributions as a percentage of payroll or adjusted for inflation. In current-year dollars, contributions would increase, but slowly.

Because *2-split* has contributions slightly front-loaded, its total cost and 2012 present value are slightly less than *2-new*.

All *Scenario-2* alternatives have required contributions of 11.2% of payroll after 2061, which reflects normal cost and interest on the 10% unfunded. This 11.2% may be compared to *Scenario 1's* 19.4% to approximate the reduction in the value of benefits. This is also seen in the table of scenario data, where the 2062 actuarial accrued liability of *Scenario 1* is \$124.5 billion, compared to \$66.6 billion for *Scenario 2*. These "aggressive" benefit changes are, indeed, quite substantial.

A Considered Proposal

A proposal that the Commission staff evaluated at the request of representatives of the business community was a reduction of future benefit accruals by current members. Staff modeled this possibility and the results are reported above as *Scenario 2-all*.

Aggressive benefit cuts applied to current employees could reduce the total cost of City pensions by approximately 15%, compared to similar cuts that only affect new hires. However, such a step raises a serious question, namely of constitutionality. Labor representatives believe that such action would violate the state constitution. Article XIII of the Illinois Constitution includes the following:

SECTION 5. PENSION AND RETIREMENT RIGHTS

Membership in any pension or retirement system of the State, any unit of local government or school district, or any agency or instrumentality thereof, shall be an enforceable contractual relationship, the benefits of which shall not be diminished or impaired.

A common interpretation of this provision is that once a person becomes a member of an Illinois public pension system, which typically occurs when hired or at the end of a probationary period, they have an enforceable contractual right to accrue and be paid benefits no less than what was in effect when they were hired, or when benefits were subsequently increased. This is sometimes characterized as, "A promise made is a promise to be kept." An alternative interpretation is that the constitutional guarantee applies only to benefits already accrued, which implies that future accruals by current employees could be reduced.

There is no way to know *a priori* whether such action would be upheld or overturned; however, the labor community argues that prior court decisions make clear that reduction of pension benefits for current employees would not pass Constitutional muster.

There is little precedent for any public pension reform in the United States to reduce benefits significantly for current employees, and no precedent at all in states with legal or constitutional provisions similar to Article XIII. This suggests how legally and politically difficult it would be to pass such provisions in Illinois.

Any action reducing benefits for current members will be very difficult to implement in the Illinois General Assembly, and if passed will certainly lead to litigation with an appreciable delay offsetting the savings, not to mention that the action may be found unconstitutional.

Funding Policy and Pension Obligation Bonds (POBs)

Background on POBs

One sells a POB at an interest rate less than one expects the proceeds to earn as part of the Funds' investment pool. The Fund benefits from immediately receiving the capitalized value of a long stream of debt service, and from the difference between debt service cost and investment income, the arbitrage. At this time, all four Chicago Funds assume an 8% annual return on assets. Assuming a high degree of confidence in that figure over the life of the proposed POB, it could be advantageous to sell a POB at a lower rate, including all costs of issuance. However, if the investment returns disappoint and are lower than the cost of the debt, the "negative" arbitrage will speed the deterioration of the funds from the current "Lifelines" schedules noted previously. This investment risk would be very hard to manage, being largely beyond the control of the City or the pension Funds. It is also difficult to be highly confident of investment returns over the life of a POB, which might be as much as thirty years.

Many states and municipalities sold POBs in the 1990s and 2000s. Some were considered successful based on the sale occurring when interest rates were at a cyclical low, such as Illinois's \$10 billion POB in 2002. Other, such as New Jersey's POB in 1997, are considered to have failed when the timing of the bond sale took place at a time of higher interest rates or before a downturn in the investment markets. In such a case, the proceeds of the POB can fail to earn their debt service and the Funds are actually harmed. The market decline of 2007-2009 impaired pension fund earnings and raised questions about POBs that had previously been considered successful.

POBs are a subset of a more general case of borrowing in order to get investable capital, in pursuit of arbitrage gains. At this writing (March, 2010) the yield curve is steep, which might tempt one to consider short-term borrowing and investing in long-term instruments, with the intent of rolling the borrowing forward as long as it is advantageous. This is a very risky

execution strategy as the steep yield curve can quickly flatten, with no commensurate increase in the value of, or income from the investments that are being funded. As short-term rates are at historically low levels, a strategy based on the steep yield curve must be deemed highly risky and not advisable.

All such options carry the risk that investment returns will fall short. In addition, the practicality of any such plan depends on hitting the bond market at the right time, i.e., when there is not a lot of competition bidding up rates on similar debt.

A POB may be more appropriate as a form of bridge finance, permitting a quick injection of money that will allow the Funds to avoid liquidating invested assets at an inopportune time in the market cycle, better deploy their assets, and not have to keep a large portion in cash or short-term instruments in order to meet current obligations. This is explored in a set of "Illustrative Scenarios" in Appendix 3. However, the risks remain and the City and Funds would have to proceed with great caution.

Issuing a POB essentially converts the employer's "soft" debt owed to the pension fund, to a "hard" debt owed to bondholders. The consequences of this would have to be understood before such initiating such a transaction. On the other hand, the act of providing a large infusion of money to the funds could make complementary actions on the part of employees, such as increased employee contributions, more feasible.

Some jurisdictions have issued POB's as a way to spread the cost of current contributions over many years and thereby reduce the immediate cash need. In the long run, this increases costs as bond interest must be paid. Using the POB to reduce the City's current annual commitment to the Funds would be a form of borrowing in order to fund the past borrowing embedded in the actuarial deficit. This is not a sound practice, and should be avoided. In other words, a POB MAY be useful in capitalizing a stream of future contributions, but only if the required level of commitment (POB debt service plus direct contributions) is maintained. A POB should NOT be used as a way to reduce the annual amounts in that stream, because it defers current contributions and increases the ultimate cost of the program.

In summary, a POB could be considered under tightly restricted circumstances, but it is not a panacea and entails very significant risk. It may best be viewed as an optional component in a comprehensive financial package, which might marginally improve financial performance if conditions are favorable, but it should not be a financially essential element of the program, and it should not be used to alleviate the City's short-term budget problems.

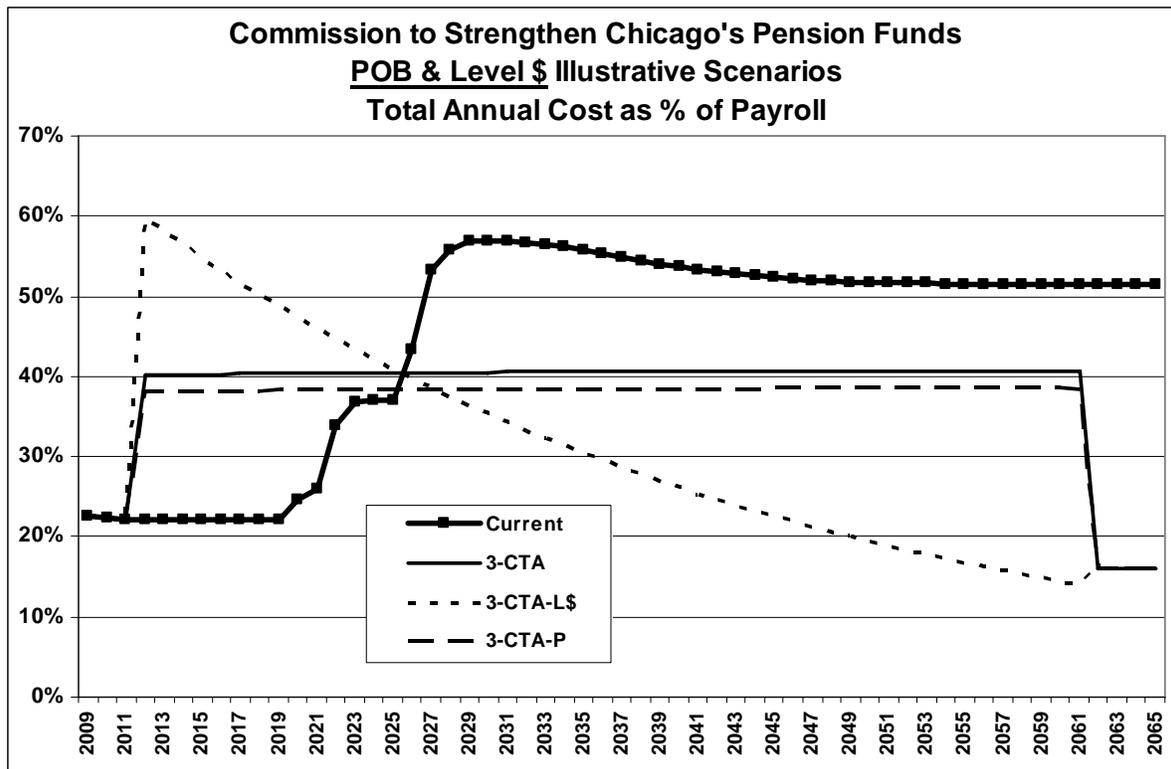
Long-term POBs

Scenario 3 includes benefit changes patterned after those in the CTA pension reform of 2008, which increased the age for unreduced early retirement to 64, with 10 years of service. The unreduced early retirement age for FABF and PABF was adjusted to 63, which is the mandatory retirement age for police and firefighters.

Scenario 3-CTA includes those benefit changes and an actuarial funding policy to reach 90% funded in 50 years, with contributions as a level percentage of payroll.

Scenario 3-CTA-L\$ is the same as 3-CTA, except contributions are a level dollar amount. In an environment with inflation (more strictly, a growing payroll cost in nominal dollars), this means larger contributions as a percent of pay in the early years, and lower contributions the later years.

Scenario 3-CTA-P is the same as Scenario 3-CTA, except a portion of the City's contributions are used to fund debt service on a \$6.8 billion pension obligation bond.



Scenario 3-CTA requires 50 years of funding at a level 40.6% of payroll. This is 1.7% less than Scenario 1, reflecting the financial value of the benefit changes affecting unreduced early retirement.

Scenario 3-CTA-L\$ has the same general shape as did Scenario 4-newplan, which closed the DB plans and replaced them a new plan, and Scenario 2-split, which raised the contribution rate for current employees more than for new employees receiving lesser benefits. If this chart was in nominal dollars rather than percent of payroll, Scenario 3-CTA-L\$ would look flat and the other curves would rise steeply.

Scenario 3-CTA-L\$ has 2012 contributions of \$2.14 billion, almost 60% of payroll. This is even more extreme than was the case for Scenario 4-newplan, described above. While it would be attractive to pay down the unfunded liability in such an accelerated fashion, the increase in contributions (an additional \$1.344 billion for the City and 13.66% of pay for employees) is simply unrealistic. **The Commission recommends against giving any further consideration to a funding policy basing contributions on level dollar amount.**

Scenario 3-CTA-P assumed contributions as a level percent of payroll, and then used the City's entire contribution for the first 30 years to fund a pension obligation bond. After 30 years, the City makes annual contributions to the Funds. It was assumed that arbitrage would be 2%, selling the bond at 6% and earning the actuarially assumed 8% return on the invested proceeds. And, as one would expect, total contributions are reduced by 2%, to 38.6% of payroll. This reduces the total contributions (including debt service) and slightly reduces the present value of those contributions. These benefits of a POB are well-known and understood.

Weighing against a POB are the uncertainties of hitting the market at a time when interest rates are low, and the fact that the "soft" pension obligation is converted to a "hard" bond debt magnifies the risk of not earning the assumed rate of return. A POB is advantageous even if it costs a bit more and/or earns a bit less than assumed here; as long as the rate of return exceeds the interest rate including all issuance costs. However, to base an entire strategy on the POB risks failure if the arbitrage returns are significantly less than expected. It risks far worse if investment returns fall below bond debt service.

For these reasons, a long-term POB should not be a central or essential element of a comprehensive program. A POB entails very significant risks and can be misused. At most, a POB might be an optional element of a program, to be pursued only under circumstances that minimize the risks.

Short-term POBs

While it would be preferable to define and implement a comprehensive long-term solution to the financial problems of Chicago's pensions, such a program will require a combination of new revenues and reduced benefits totaling approximately \$710 million in 2012, and growing every year thereafter for 50 years. Faced with these daunting numbers, the Commission reluctantly considered three scenarios that could extend the financial lives of the assets of the Funds by a few years. These are the three variations of Scenario 5.

Scenario 5-3% simply increases both City and employee contributions by 3% of payroll, a total increase of 6% or approximately \$214 million in 2012. It does not change benefits, nor does it include an actuarial funding policy.

Scenario 5-PB-s does not change contributions, nor does it directly affect LABF or MEABF. It uses POBs to extend the asset lives of FABF and PABF to the same range as LABF and MEABF. The POB for FABF is \$1.245 billion, the one for PABF is \$2.250 billion, each funded by a portion of the City's contribution under current law.

Scenario 5-PB-b uses the City's contributions to all four Funds to pay for a POB. The POB debt would be serviced by all the City's projected pension contributions for the next 30 years. The proceeds of the POB, \$9.6 billion, would be deposited with each Fund in proportion to that Fund's share of the City's total pension contribution.

In both cases, the POB would capitalize the City's projected pension contributions for 30 years. In *Scenario 5-PB-s*, the POB would use only as much of those contributions as needed to service bonds of the size required to meet the goal. In *Scenario 5-PB-b*, the entire 30-years on contributions are used to service the largest possible POB.

In both *5-PB-s* and *5-PB-b*, the potential gain is largely due to depositing large amount of funds years earlier. The life extensions are shown in this table:

Lifelines Table for Scenario 5 - Short-Term Actions				
Year Each Fund Runs Out of Money*				
		Scen. 5-3%	Scen. 5-PB-s	Scen. 5-PB-b
		With 3.0% Extra Contributions from both City and Members**	With \$1.245 Billion POB for Fire and \$2.250 Billion POB for Police***	With \$9.6 Billion POB split among all Plans****
FUND	No Change			
Fire	2019	2024	2027	2031
Laborers	2028	2033	2028	2032
Municipal Employees	2026	2032	2026	2032
Police	2022	2026	2027	2031
* Based on 8% Current Investment Return Assumption, and 2% arbitrage on POBs				
** Assumes 3% increase in annual employee and City contribution percentage, on 1/1/2012				
*** Assumes POBs effective 1/1/2012 and debt service paid out of current City contributions				
**** Assumes \$9.6 Billion POB effective 1/1/2012 in lieu of City contribution for next 30 years				

The above table assumes an 8% average annual rate of return on assets. This drives the years under "No Change" and *Scenario 5-3%*. The up-front deposit of POB assets drives the results of the two POB scenarios.

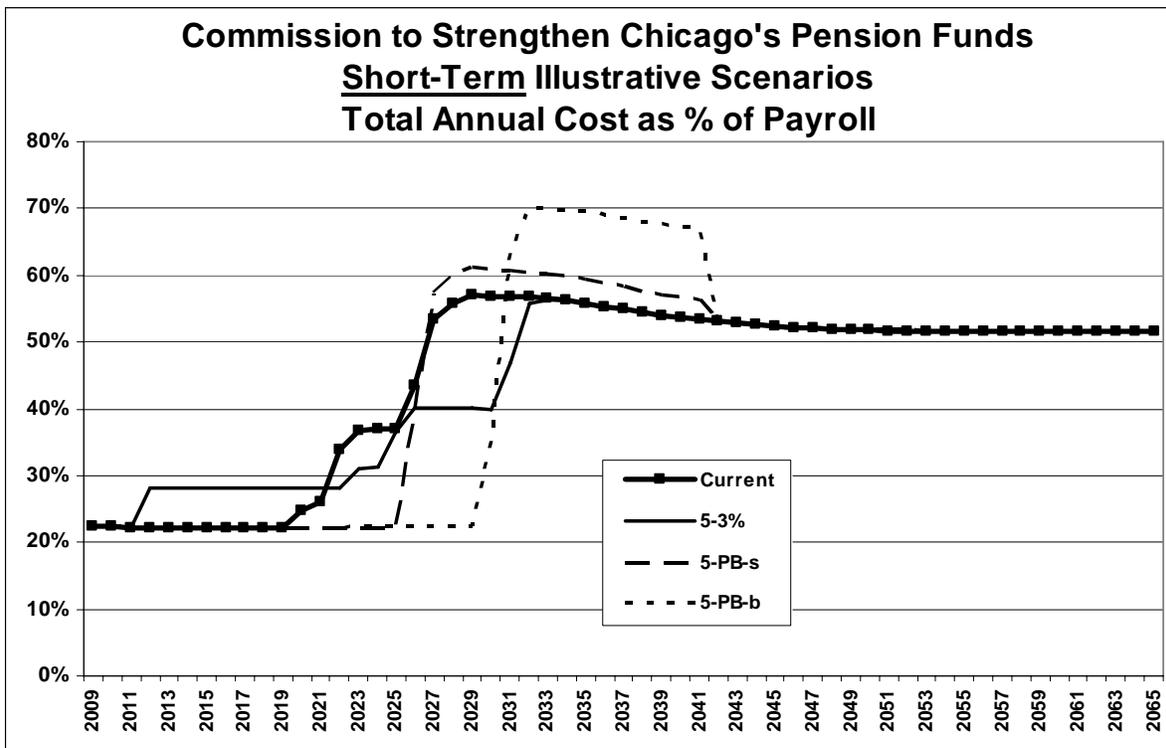
Under *Scenario 5-3%*, the funded ratios continue to deteriorate, but more slowly than under current law. This adds approximately 5 years of life to each Fund.

Under *Scenario 5-PB-s*, there is no change for LABF and MEABF. If the POB is successful, FABF and PABF gain a few years and all four funds run out of assets in the 2026-2028 period. If one views as critical the date of the first fund to run out of assets, this scenario extends that date from 2019 to 2026.

Scenario 5-PB-b extends the lives of all four Funds to 2031-2032. This could be attractive, but the risk is high. This scenario may allow all parties to ignore fixing the problem for a long period of time. That cost will increase in the future, making a long-term solution even more difficult. Also, the City would be shifting "soft" debt into "hard" debt, with unknown consequences. If no solution is implemented in time, the City would face having to pay the remaining debt service on the POB, in addition to its share of contributions to the Funds.

In both *5-PB-s* and *5-PB-b*, every Fund runs out of assets well before the POB is paid off, at which point the City would be paying debt service but not contributing directly to the Plans. Employee contributions would continue to go to the Plans, throughout.

With that in mind, the chart below may be enlightening:



Scenario 5-3% has its contributions increase by 6% of payroll in 2012, and it then mimics the step-wise increases in required contributions that occur as each Fund runs out of assets under *Current*, but a few years later.

The two POB scenarios look much different. Neither of them has increased contributions, they merely convert a portion of *Current* City contributions into POB debt service. Their contributions therefore stay flat at the level of 22% of payroll, until each Fund runs out of assets. Under each of these scenarios, the funds deplete their assets at approximately the same time, and the required contributions jump above the *Current* line because debt service is still due on the POBs even as the Funds have run out of assets. The POBs are retired in 2041, so in 2042 and thereafter all four scenarios (*Current* and all three alternatives in *Scenario 5*) are on the same line, being the pay-as-you-go costs of the Funds.

As high as the contributions are under *Current* when all the Funds run out of assets, they are even worse in the POB scenarios, where debt service is added to the pay-as-you-go costs.

Whether such steps should be considered to address a near-term crisis will be a very complex decision, but this scenario may help to inform that process by clarifying some of the opportunities and risks.

APPENDIX 4: DIFFERING VIEWS

The following items were submitted by various Commissioners to express their concerns, disagreements, qualifications or support regarding this Report. They are included as submitted, and are solely the responsibility of the indicated authors.

Expected from:

1. Dan Fabrizio
2. Laurence Msall
3. Eden Martin for The Civic Committee
4. Organized Labor
5. Comments on "Differing Views"

1. From Commissioner Dan Fabrizio

March 29, 2010

Mr. Dana Levenson, Chairman
Mr. Gene Saffold, Co-Chairman

RE: Commission to Strengthen Chicago's Pension Funds

Dear Chairman Levenson and Saffold,

I would like to thank you for the opportunity to serve on the Mayor's Commission to Strengthen Chicago's Pension Funds. Restoring the City Pension Funds financial health is critical to Chicago's well-being and is an important issue to the taxpayers and those who have dedicated much of their lives serving Chicago's residents.

As a variety of National Public Pension Fund analyses have shown, employee pension contributions and the return on investment dollars of all contributions made to the fund provide approximately 80% of all plan receipts. Employer pension contributions represent the remaining 20% of plan receipts. Adequate pension funding must be addressed to keep the promise of a secure retirement for public safety personnel and all other city employees to assure that Chicago can continue to attract and retain superior personnel at a reasonable cost. I pledge my support to work with all parties to resolve this revenue issue.

The current benefit structure, including the existing disability benefit structure, afforded to Chicago's public safety personnel did not cause the underfunded status of the pension systems with which the city is confronted. Contribution rates by Chicago public safety personnel to their pensions were found to be generally higher, and the benefits found to be less generous than was common for the cities surveyed by the Commission. Our public safety professionals do not receive Social Security, many do not receive Medicare and none are eligible for workmen's compensation. The level of risk is much greater than those in the private sector. Therefore, the retirement and disability benefits of public safety should reflect the inherent dangers associated with duties performed.

There is a significant point that the Commission failed to adequately address. The Commission Report suggests that a 3% COLA for Chicago public safety employees could be lowered. The facts do not bear out such a conclusion. The 3% COLA is not compounded for public safety personnel. Due to "sunset clauses", the overwhelming majority of current firefighters, paramedics and police are not eligible for this benefit. The history of Social Security COLA increases from 1975 to present averages 4.39% compounded and the CPI inflation since 1929 to 2008 was 3.29% compounded. Any ultimate solution should address the inequity that exists with respect to the COLA that is afforded to nearly all public safety employees throughout the country and yet, denied to so many of Chicago public safety personnel.

The Commission report shows that defined benefit plans would be an employer's preference, as employees consistently become more valuable with experience and training. This would certainly apply to public safety personnel. The typical defined benefit plan can potentially provide retirement income approximately 40% more efficiently and earn larger investment returns at a lower cost which will ultimately be beneficial to our city plans.

I appreciate the opportunity to participate in a project that will protect our city, taxpayers of Chicago, annuitants, present and future employees.

Dan Fabrizio
Commission Member

2. From Commissioner Laurence Msall



The Civic Federation

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☼ Past Chairmen's Council

March 18, 2010

Mr. Dana R. Levenson
Co-Chairman, Commission to Strengthen Chicago's Pensions
c/o Royal Bank of Scotland
71 S. Wacker Drive
Chicago IL 60606

Mr. Gene R. Saffold
Co-Chairman, Commission to Strengthen Chicago's Pensions
c/o City of Chicago
121 N. LaSalle
Chicago IL 60602

Dear Chairman Levenson and Chairman Saffold:

Thank you for the opportunity to comment on the final report of the Commission to Strengthen Chicago's Pension Funds. Your leadership has helped develop meaningful consensus of the Commission regarding the size of the problem and the direction of potential solutions. I also commend the work of the staff and actuaries whose models have been invaluable in illustrating the effects of different proposals.

The Civic Federation is strongly concerned that many of the report's recommendations do not go far enough. The severity of the City's pension crisis cannot be overstated and no small changes will be adequate to the task of restoring the funds' fiscal health. Major benefit changes and contribution increases are required. The risk of these funds running out of money to pay benefits is now very real.

The Civic Federation makes the following specific recommendations:

1. **Reduce pension benefits for both new employees and prospectively for current employees**, as described in Scenario 2-All (see Appendix 3). This includes using an 8-year final average salary, a 2.0% benefit accrual rate, unreduced retirement at age 67 and ten years of service for members of the Municipal and Laborers' funds and at age 63 and ten years of service for members of the Police and Fire funds, COLA at the lesser of 1.5% or CPI with simple interest, and limiting pensionable salary to the Social Security Covered Wage Base (\$106,800 in 2010).
2. The situation is so severe that even with these benefit reductions, **both the City and the employees will have to make additional contributions**. We recommend, as does the Commission, that these contributions be actuarially-based. The Commission report uses a 60:40 ratio between employer and employee contributions but we recommend a 50:50 ratio where the City and employees would split the cost of contributions, as do employers and employees participating in the Social Security system.
3. The City's annual contribution must increase immediately by several hundred million dollars. The Civic Federation recommends that the **City make several**

Officers

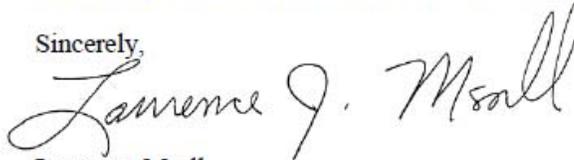
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Laurence J. Msall, *President*
Lise Valentine, *Vice President*

hundred million dollars worth of cuts to services starting in FY2011 in order to free up resources to pay the required pension contribution, **otherwise the size of the tax increase needed will be massive.** For years the City has failed to contribute amounts needed to keep the funds healthy, so dramatic and immediate shifts in the City's spending priorities are needed.

4. **The pension funds should be consolidated.** The City should not have four separate pension funds for its employees. The Civic Federation recommends that either the four funds be consolidated into a single fund, or that the Municipal and Laborers' funds be merged with the Illinois Municipal Retirement Fund and the Police and Fire funds be merged into a single Chicago Public Safety fund.¹
5. The Civic Federation recommends that the **composition of the pension fund boards of trustees be revised** in three ways. The balance of employee and management representation on the boards should be changed so that employees do not hold the majority of seats. A tripartite structure should be created that includes independent citizen representation on the board. Finally, financial experts should be included on the pension boards and financial training for non-expert members should be required.²

We do not make these recommendations lightly, but we believe that the severity of the pension crisis demands that these actions be taken. This crisis has built up over years of making pension enhancements and failing to adequately fund the plans. The pensions promised to public employees are now much richer than what most private sector employees and taxpayers can expect to receive. Yet residents of Chicago will have to bear either service cuts or tax increases in order to save the pensions of these public employees. Major sacrifices must be made by all.

Sincerely,



Laurence Msall

¹ See the Civic Federation's *Status of Local Pension Funding FY2008: An Evaluation of Ten Local Government Employee Pension Funds in Cook County* at <http://www.civicfed.org/civic-federation/publications/fy2008statuslocalpensions>

² See the Civic Federation's *Recommendations to Reform Public Pension Boards of Trustees in Illinois* at <http://www.civicfed.org/civic-federation/publications/recommendations-reform-public-pension-boards-trustees-illinois>.

3. From Commissioner Eden Martin

CIVIC COMMITTEE POSITION

Introduction

Several facts with respect to Chicago's four pension funds stand uncontroverted:

1. Chicago's pension funds are almost as badly underfunded as those of the State of Illinois, with accumulated unfunded liabilities amounting to \$14.7 Billion. The majority report shows that, at the end of FY2009, those four plans taken together were funded only to the extent of 42 percent. Looking at each pension plan separately, the "percent funded" ratio was:

- Fire: 29%
- Police: 36%
- Municipal Employees: 47%
- Laborers: 66%

2. Chicago's pension plans are even more generous than those of the State – permitting Chicago's employees to retire as early as age 50; and full pensions can reach 75-80% of final average pay, with generous cost-of-living adjustments thereafter;

3. Chicago cannot afford to fund such generous pensions; nor are such benefits available to most taxpayers in the private sector;

4. The reforms recommended by the majority of this Commission – as to *new* employees only – would not reduce the unfunded liability of \$14.7 Billion; nor would they reduce the annual cost of the pension plans any time soon. By contrast, the reforms recommended by the business minority members – as to *current* as well as new employees – would reduce the unfunded liability by approximately \$4.4 Billion, and would also reduce the cost of the plans by approximately \$400 Million per year beginning immediately.¹

5. The majority of the Commission shrinks from recommending reforms as to current employees because the representatives of those employees express "doubt" as to whether such reforms are constitutional, but offer no legal analysis to support such "doubts." The business minority members have submitted an analysis by a major Chicago law firm concluding that the proposed reforms – applied prospectively to current employees – are constitutional. (That analysis is attached.)

#

¹ The majority report cites a savings of \$350 Million but this is based on the City's current funding formula, which back-end-loads pension costs. Using a Normal Cost Plus Interest standard for calculating pension costs results in "interest" savings alone of \$352 Million (\$4.4 Billion * 8%) with additional savings to normal cost.

The majority report provides a thoughtful description and analysis of the City's pension plans. That analysis underscores the urgent need for both pension reform and improved funding. But the report does not recommend such reform as to current employees.

Representatives of organized labor and the pension plans outnumber the representatives of the business community on the Commission. As a general matter, they support – or can tolerate – reform limited to *new* employees – people who are not yet their members. But they strongly oppose reforms that would apply to *current* employees. As a result, the report rejects pension reform as to current employees. (See, e.g., pp. 8, 42.) It only grudgingly endorses reform as to new employees – calling it “undesirable.” (See, e.g., pp 8, 43.)

Representatives of the Civic Committee and the Civic Federation support pension reform as to current as well as new employees for several reasons:

First, employers in the private sector have been forced by competition and other economic factors to reform their retirement programs, and shift to defined contribution programs, or cash balance plans, or hybrids. Almost no private sector employers maintain defined benefit programs for their employees offering the kind of benefits afforded by the City's plans.

Second, the City faces enormous budget difficulties as a result of its pensions. Under current law, the City is required to fund its pensions in FY2012 in the amount of \$480 Million. If funding were adjusted to the level required by actuarial standards, total contributions in FY2012 would have to be *increased* – in the absence of pension reform – by approximately \$710 Million per year. If the City's traditional 60% share of the funding requirement were maintained, this would mean an increase in the City's funding requirement from \$480 Million to \$907 Million.

The reform limited to *new* employees endorsed by the majority report would not reduce the \$14.7 Billion liability by a penny. Nor would it reduce the City's pension costs by more than a few dollars in FY2012 – since there would be so few new employees added to the payroll that year.²

By contrast, the reform advocated by the Civic Committee and Civic Federation as to *current* employees would reduce the \$14.7 Billion liability immediately by approximately \$4.4 Billion. That reform would also reduce the City's real annual pension costs in FY2012 by approximately \$400 Million.

² The majority report suggests that the proposed reform as to new employees would create “savings” of \$150 Million in FY2012. This is not because of reduced costs that would actually be achieved in FY2012. It is rather because the City would in effect “up front” cost savings to be achieved in future decades in order to justify reducing pension *funding* to the extent of \$150 Million in FY2012. A funding formula which keeps unfunded liabilities from growing and makes a contribution to amortize the unfunded amount is far preferable to one – such as the formula used by the City – that back-end loads pension costs and allows the unfunded liabilities to grow.

Third, the majority report endorses the more limited reform because of its “doubt” as to the constitutionality of reform applied to current employees. (E.g., at p. 42.) The proposed reforms would apply only prospectively – to benefits to be earned in future years.

The Civic Committee provided the Commission with an analysis by Sidley Austin LLP which concludes that the proposed reforms are entirely consistent with the Illinois Constitution. The majority have provided no legal analysis of their own.

The Problem

Chicago maintains four pension plans for employees who work for the City. These plans provide pensions for the City’s firemen, policemen, laborers, and municipal employees and officers/officials. Teachers in the City’s schools are members of a separate fund, for which CPS is responsible.

All four City pension plans are “defined benefit” (DB) plans, similar to the State’s pension plans. In certain respects, these pension plans are even more generous than those of the State of Illinois. The State’s pension plans permit retirement with undiminished pensions at ages 60 or even 55, with the requisite number of years of service. Chicago’s four pension plans permit retirement with undiminished pensions at age 50, with the requisite number of years of service. This enables many retirees from Chicago’s employment, at age 50 or soon after, to “retire” and then go to work at another government job, get paid for that job, and start generating additional pension rights.

Chicago’s pension plans are now dangerously underfunded. At the end of FY2009 (calendar year 2009), the unfunded pension liability of the City’s four pension funds totaled \$14.7 Billion, with an aggregate funded ratio of 42%. (This means the funds, as a group, as of December 31, 2009, had only about 42% of the value that would be needed to meet the plan liabilities.) The Policemen’s and Firemen’s funds were in the worst fiscal condition, with funded ratios of only 36% and 29%, respectively.

Funding for the pension plans comes from employee and employer (City) contributions each year. The four Chicago pension plans are governed by State law, and the State determines the amount that the City must put into the funds each year. Just as in the private sector, total funding is supposed to be sufficient to maintain adequate investments in the funds so that the value of these investments (assumed to grow at an average rate of about 8% per year) is approximately equal to the present value of the obligations. If the funds are approximately 100% funded, then the value in the funds should be adequate to pay the future pension benefits that have been earned by employees up to that date. As funding levels drop below 100% – either due to past inadequate funding or for other reasons – then annual contributions must cover (1) current “normal costs” of future pensions, and also (2) “past costs” that have not been adequately funded.

So long as the value of the funds remains reasonably close to 100% of the liabilities, there is little cause for concern. When funding levels drop below 90%, concern increases because total annual contributions must fund not only the current “normal costs,” but also the increasing value of the “past costs.” Because unfunded liabilities grow by virtue of the reversal of the discount rate each year, small gaps in funding can quickly become larger gaps – as larger and larger amounts of unfunded costs are shifted to the future, growing at a compounded rate of 8% per year.

The claims of retirees to receive pensions from the four pension plans are governed by State law. The rights of City retirees to receive pensions are rights vis-à-vis the pension funds themselves – not the City. This point is of central importance in considering what should now be done to address the underfunding problem.

First, Section 5, Article XIII of the Illinois Constitution, provides as follows:

Membership in any pension or retirement system of the State, any unit of local government or school district, or any agency or instrumentality thereof, shall be an enforceable contractual relationship, the benefits of which shall not be diminished or impaired. (Emphasis supplied.)

Section 5 was added to the Constitution in 1970 because of judicial decisions which cast doubt on whether membership in a pension system created a contractual right on the part of the member/retiree against that pension system. Section 5 eliminated that doubt – making it clear that membership in the pension system “shall be an enforceable contractual relationship, the benefits of which shall not be diminished or impaired.” Thus, the relationship of the member to the pension system is to be regarded as a contract, the rights under which are protected. It is the pension system with which the contract relationship exists – not the City. It is thus the pension system that is responsible for any claims.

Second, Illinois statutory law – Section 403, 40 ILCS 5/22 – reinforces the point that any member/retiree pension claims are against the pension system – not the City:

Any pension payable under any law hereinbefore referred to shall *not* be construed to be an obligation or debt of the State, or of any county, city, town, municipal corporation or body politic and corporate located in the State, other than the pension fund concerned, but shall be held to be *solely* an obligation of such pension fund, unless otherwise specifically provided in the law creating such fund. (40 ILCS 5/22, Section 403, Laws 1963, p. 161.) (Emphasis supplied.)

The City’s obligation is thus to pay money into the pension funds in accordance with the schedule provided by the State – not to guarantee payment of the pensions if the funds were to run out of money.

Beyond its legal obligation, the City has an obvious interest in seeing that it has appropriate retirement arrangements in place to enable it to attract and retain workers. The problem is that the current benefits available to City pensioners are far more generous than those available to most private-sector employees – the taxpayers.

Because of competition and other economic pressures, “defined benefit” (DB) programs have been terminated or frozen in most areas of the private sector, and have been replaced by “defined contribution” (DC) programs or hybrids. The retirement age for most Chicago-area private-sector employees is approximately 65. Guaranteed cost-of-living adjustments comparable to those offered by the City of Chicago are uncommon in the few areas of the private sector where “defined benefit” (DB) plans continue to survive.

Organized labor representatives have pointed out that City workers do not participate in Social Security, unlike those in the private sector. However, these City workers or their

predecessors have chosen not to participate in Social Security because they did not regard participation as in their best interests. By not participating, they have retained the money they would otherwise have been required to contribute to Social Security.

If nothing is done to address these two problems – City retirement benefit levels more generous than those available in the private sector, and chronic underfunding – then the four pension funds will surely run out of money.

The Need for Reform and Improved Funding

These two problems should be addressed together – by (1) reforming the pension plans going forward, for both current and future employees, and (2) increasing annual funding to bring the funding into line with actuarially-determined standards. In short: reduce the unfunded liability to the extent permitted by law – and fairness – and then fund it adequately. Both steps would require amendment of State law.

As to the first step – reforming the pension plans prospectively – there are several possible approaches. Shifting to a “defined contribution” (DC) plan for the future would make the most sense. It is what most employers in the private sector have done. It would be fair vis-à-vis taxpayers who are now covered by DC plans.

However, organized labor has strongly opposed movement to the DC alternative, in part because municipal employees in Chicago do not participate in Social Security. As pointed out above, these employees have also not been required to contribute to Social Security; the use of those funds has been of at least as great a value as the value of the Social Security payments.

If the DC alternative for the future is not politically feasible, the “second-best” alternative would be to shift – prospectively – to what has been called a “second-tier” DB plan for both current and future employees. Such a DB plan would be less generous and less costly than the current DB plans, and should include these elements:

- Increase the unreduced retirement age to 67 with 10 years of service (63 with 10 years of service for Fire and Police) – to mirror current Social Security provisions – and the reduced retirement age to 62 with 10 years of service.
- Reduce the benefit accrual rate to 2.0% of pay.
- Limit COLA to the lesser of 1.5% (the COLA already applied to the retiree benefits of policemen or firemen born after 1/1/55) or ½ of the CPI.
- Calculate pension benefits solely on base salary up to the Social Security Covered Wage Base (presently \$106,800). Calculate final average salary on the average of the highest consecutive eight years out of the last ten years.

The above prospective changes in pension benefits should be accompanied by appropriate adjustments to employee contribution levels.

As to the second step – increasing annual funding of the pensions – this should be done in accordance with actuarial standards (to the level of the annual required contribution, or

ARC), rather than some notion of what the City can afford to pay. Otherwise, the City risks recreating in the future the underfunding problems that have arisen over the past decade.

The majority report cites “doubt” on the part of organized labor as to the constitutionality of proposed prospective changes as to current employees. Reproduced below is an analysis of the “pension protection” clause of the Illinois Constitution. Prepared by Sidley Austin LLP, it explains why a second-tier plan, applied to both current and future employees, is consistent with the Constitution. The purpose of Section 5, Article XIII, is to give contractual status to membership in the pension funds. The contract rights of members must be fully protected. All accrued rights must be protected. Everything the employees and retirees have earned should be fully protected. But they have not yet earned rights for future years – after a second-tier plan would be put in place.

The ultimate unfairness – to Chicago’s retirees and current employees – would be if nothing is done and the pension funds run out of money. The Firemen’s fund is in the worst shape. If nothing is done, it will run out. This is not hypothetical. The only question is when. The effect on retirees and workers nearing retirement would be disastrous.

If these funds do run out of money, neither the State nor the City is a guarantor of the pension obligations.

In order to avoid that risk to the City’s employees – and also the unfairness which the present system represents to private-sector taxpayers – we propose the two steps outlined above: reform and improved funding. These would address the problem with both the public interest and the employees’ interests in mind.

Chicago Cannot Afford Its Current Pension Plans

Finally, Chicago cannot afford the current plans.

Chicago’s annual embedded operating deficit this year – stripping out one-time revenues from reserves, and adding the growth in unfunded pension debt – appears to be more than \$1 Billion. That deficit will grow next year.

To fund properly its growing pension costs, Chicago would be required to cut services and/or raise taxes. The increase in taxes required to fund the growing unfunded pension obligation – without reform – would be enormous. In FY2009, Chicago funded its four pension funds to the extent of \$443 Million – in the range of 13% of its annual payroll costs. In FY2012, if there is no reform – and if Chicago shifts to full funding at the level of the ARC – Chicago would be required to fund its pension funds to the extent of approximately \$907 Million – or about 25% of its annual payroll costs (assuming the current 60/40 ratio of employer/ee contributions is maintained).

Chicago cannot wait any longer to fix this problem. The longer the City waits, the harder – and more costly – fixing it will become.³

³ The majority report also discusses pension bonds in detail (at p. 61 et seq.) It recognizes they are “very risky.” It divides them between “long term” and “short term.” It recommends against long term POBs (p. 64.) By contrast, as to short term POBs, the report says it “reluctantly considered” them, and seems to support a POB in the range of \$9.6 Billion, with proceeds to be deposited in each of the funds. This is not only very risky. As the report itself recognizes, it shifts “soft” debt into “hard” debt – even though it appears that the City is not a legal

guarantor of the obligations of the pension funds. In effect, the City would be giving up a major chip and getting no quid pro quo in the form of serious pension reform as to current employees, or anything else.

Pension Reform Analysis

The Pension Protection Clause of the Illinois Constitution provides: “Membership in any pension retirement system of the State, any unit of local government or school district, or any agency or instrumentality thereof, shall be an enforceable contractual relationship, the benefits of which shall not be diminished or impaired.” Ill. Const., art. XIII, § 5. As the Supreme Court recognized, the “primary purpose” of the clause was “to eliminate any uncertainty as to whether state and local governments were obligated to pay pension benefits to their employees.” *People ex rel. Sklodowski v. State*, 182 Ill. 2d 220, 228 (1998). Prior to the 1970 Constitution, when a pension plan was mandatory, “the rights created in the relationship were considered in the nature of a gratuity that could be revoked at will.” *Id.* The Pension Protection Clause changed that, “mak[ing] participation in a public pension plan an enforceable contractual relationship [that] demands that the ‘benefits’ of that relationship ‘shall not be diminished or impaired.’” *Id.* at 228-29.

An increasingly important question is whether a *prospective* diminishment in pension benefits — meaning a diminishment that applies only to an employee’s future service, not to benefits already accrued from the employee’s prior service — causes a pension benefit to be “diminished or repaired.” The answer is No. Four years after the 1970 Constitution, the Supreme Court held that “the purpose and intent of the constitutional provision was to insure that pension rights of public employees *which had been earned* should not be ‘diminished or impaired’” *Peters v. City of Springfield*, 57 Ill. 2d 142, 152 (1974) (emphasis added); see also *People ex rel. Ill. Fed’n of Teachers v. Lindberg*, 60 Ill. 2d 266, 271 (1975) (reiterating standard from *Peters*). Thus, the only pension benefits protected from diminishment are those “which had been earned” at the time the pension scheme is altered. Pension benefits earned in the past cannot be reduced, while benefits that the employee hopes to earn in the future can be reduced.

The Attorney General considered this very issue in Atty. Gen. Op. No. S-1407, 1979 Ill. Atty. Gen. 9 (Jan. 10, 1979). In Public Act 80-841, the General Assembly amended the manner in which the Pension Code calculated an employee’s pension. Prior to the amendment, the pension was based on “final average compensation,” meaning the actual monthly pay during any four of the employee’s last ten years of service, which usually was the last four years, when the employee’s wages generally were the highest. The amendment provided that, for purposes of calculating “final average compensation,” the employee’s salary for the last 12 months of the four-year period could not exceed the “final average compensation” by more than 25%.

The Attorney General recognized that the amendment, “by changing the way in which State employees’ compensation is considered for pension calculation purposes, may result in lower pensions for some employees than they would have received otherwise.” *Id.* at 10. For example, if “a State employee happened to receive \$9,000 each of the first three years and then was appointed to a \$13,000 position the fourth year,” the employee’s “final average compensation” would have been \$10,000 under the former system, but about \$200 less under

the amendment. *Id.* at 11. The question was whether the amendment diminished pension benefits under the Pension Protection Clause.

In answering that question, the Attorney General focused on the above-quoted passage from *Peters*, which makes clear that the Clause was designed to protect only those pension rights “which had been earned.” *Id.* at 13. Applying that principle, the Attorney General concluded that “applying the [amendment] to pay received before January 1, 1978,” the amendment’s effective date, would violate the Clause. *Id.* By contrast, the Attorney General stated that the amendment “may be applied only to earnings received after” the effective date.

The lesson of *Peters*, then, is that the Pension Protection Clause prohibits state and local governments from reducing pension benefits earned in prior years, but permits state and local governments to reduce pension benefits an employee may earn in the future, benefits that have not yet accrued. This conclusion is in accord with the underlying premise of the Clause, which was to “create a contractual right to benefits.” *Skłodowski*, 182 Ill. 2d at 233. “Statutory pension rights cannot be altered, modified, or released except in accordance with usual contract principles,” meaning that “the constitutional protection afforded public pensions extends as far as the pension rights conferred by statute and contract.” *Smithberg v. Illinois Mun. Retirement Fund*, 306 Ill. App. 3d 1139, 1143 (1999). Contract law does not permit one party to deprive its counterparty of fruits of the contract that have already been earned. But contracts, and statutes, are not frozen in place for all eternity, and can be amended to alter the parties’ relationship on a prospective basis. See *Peter*, 57 Ill. 2d at 151-52 (municipality may lower retirement age from 63 to 60 even if effect is to reduce pension benefits of retirees); *Higgins v. Sweitzer*, 291 Ill. 551, 554 (1920) (“the right to prospective salary of an office or position is not a property right”). By adding the Pension Protection Clause to the 1970 Constitution, the Framers intended to adopt those very principles to govern the rights and obligations inherent in public pensions.

Supplemental Pension Reform Analysis

The Pension Reform Analysis we submitted several months ago addressed the text of the Pension Clause, as well as case law and an Attorney General opinion issued shortly after adoption of the 1970 Constitution. While certain other Illinois decisions have addressed the Pension Clause, we believe those decisions do not undermine, and in fact are consistent with, our bottom-line conclusion that because the purpose of the Clause was to create a contractual right to pension benefits, statutory pension rights are not frozen in place for all eternity and may be amended to alter the parties’ relationship on a prospective basis — meaning to alter benefits to be earned in the future.⁴

We understand that some have raised questions regarding those other decisions, particularly *Buddell v. Board of Trustees*, 118 Ill. 2d 99 (1987), and *Kraus v. Board of Trustees*, 72 Ill. App. 3d 833 (1979). The holdings of those cases are consistent with the

⁴ Cases addressing whether the Pension Clause requires a specific level or mechanism for pension funding are inapposite as regards the contour of the right to receive benefits protected by the Pension Clause. See, e.g., *People ex rel. Illinois Federation of Teachers v. Lindberg*, 60 Ill. 2d 266 (1975); *McNamee v. State*, 173 Ill. 2d 433 (1996); *People ex rel. Skłodowski v. State*, 182 Ill. 2d 220 (1998); *Houlihan v. City of Chicago*, 306 Ill. App. 3d 589 (1999).

principle, set forth in *Peters v. City of Springfield*, 57 Ill. 2d 142, 152 (1974), that a prospective diminishment in pension benefits does not violate the Pension Clause. In *Buddell*, the benefit at issue – the right to purchase military service credits – was earned on the effective date of the 1970 Constitution. And in *Kraus*, the benefit at issue – the right to have pension benefits calculated based on the salary attached to his rank at the time of retirement, as opposed to the time he went on disability – had been earned in the past, as the plaintiff began work 17 years prior to the statutory amendment and went on disability six years prior to the statutory amendment at issue.⁵

Indeed, *Kraus* explicitly recognized that the Pension Clause would not prohibit any of the following actions: (i) reducing work hours or salary on a prospective basis; (ii) increasing employees' contribution rates to equalize their contributions with those of other employees; (iii) requiring the employee to agree, for consideration, to accept a reduction in benefits; (iv) conditioning COLAs or other salary increases on the employee's agreement that they not be regarded as salary for pension purposes. *Kraus*, 72 Ill. App. 3d at 849-50. All this can be accomplished legislatively. The General Assembly could provide, on a prospective basis, that COLAs are not counted for pension purposes. It also could increase contribution rates, again prospectively. And the General Assembly could pass a law conditioning future employment upon an agreement to prospectively alter pension benefits or formulas – in that scenario, the consideration for a prospective reduction in benefits would be the State's agreement to continue employing the employee.

Thus, our conclusion remains as it was before: the Illinois Constitution does not prevent Illinois pension reform applicable to current state employees or other members of state pension funds, provided that all contract rights vested by current employees for past service – all rights earned up to the time the pension reforms are implemented – are protected.

⁵ Other decisions that invalidate actions diminishing pension benefits already accrued for the employee's prior service, which likewise do not undermine the principle that the Pension Clause permits a prospective diminishment in pension benefits, include *Felt v. Board of Trustees*, 107 Ill. 2d 158 (1985), and *Miller v. The Retirement Board of Policemen's Annuity*, 329 Ill. App. 3d 589 (2002)

4. From "Organized Labor," Commissioners Jorge Ramirez, Henry Bayer, Christine Boardman, Mark Donahue, Edward Hogan, Charles LoVerde, and Thomas E. Ryan

Commission to Strengthen Chicago's Pension Funds, Final Report

Comments from Commissioners Representing Organized Labor

Executive Summary

The most important factual finding of this Commission is that strengthening Chicago's Pension Fund on a minimally sound basis "will cost approximately \$710 million per year, growing with inflation for 50 years." This is the amount of required increased contributions, which would have to start in 2012 in order to reach a funding target of 90% of actuarial liabilities by 2062. **Further postponement of this funding obligation would raise the annual cost to the City's taxpayers above this level.**

The Commission report is crystal clear. This additional required contribution is in addition to the \$480 million per year currently contributed by the City and the \$313 million per year currently by participants in the four City pension funds. A 50-year funding plan prolongs the pain of digging out of this pension funding hole. It would be cheaper in the long run for the City to follow the Governmental Accounting Standard Board (GASB) guidelines and establish a 100% funding goal over thirty years, but this would cost an additional \$908 million per year starting in 2012 compared to what the City is currently contributing.

No actuarial work has been completed to measure the impact of Senate Bill 1946, signed on April 14, 2010 by Governor Quinn. This measure does not apply to either the Chicago Police or Chicago Fire funds, these funds include the highest paid city employees and the more costly retirement benefits. Estimating from the illustrative benefit changes contained on page 36 of the Commission's Final Report, as modeled by Commission staff, the changes included in SB 1946 would reduce required contributions in FY 2012 by about \$115 million per year if applied to all four funds. A reasonable estimate for annual savings that would accrue to the Municipal and the Laborers funds would be approximately \$40 million per year

That leaves the City needing \$670 million per year in new pension contributions, over and above the \$480 million per year currently contributed by the City.

Will the General Assembly enact similar benefit reductions for newly hired Chicago police officers and firefighters? We don't know. If they do, that still leaves the City of Chicago \$600 million per year short of what is required to adequately fund the pension plans. \$600 million of additional annual pension contributions would increase the City's total annual pension contribution from the current \$480 million to \$1.08 billion, which is a 125% increase.

The Commission's conclusion is stark, it is unmistakable, and it is unavoidable. The City must find a minimum of \$600 to \$670 million per year of new revenue (depending on pension benefits for newly-hired uniformed personnel) for the four pension funds. There is no other legal or practical solution to strengthen Chicago's Pension Funds. **And, the longer the City delays in addressing this problem, the more expensive the solution.**

Comments

We had hoped that the final Commission recommendation (number 10) would be embraced by the City of Chicago: “Any reform legislation must comprehensively address all aspects of the pension funding problem. Benefit changes, increased employer and employee contributions, any new or enhanced revenue sources, timing, and any other relevant matters must be advanced in a single package. These issues are all inter-related, and any agreement and subsequent legislation must recognize that.”

Before noon on Wednesday, March 24, every city representative, joined by all other commission members save three of those representing the corporate community, agreed to the statement quoted above.

Yet before the sun had set, the City’s lobbyists in Springfield were in full support of SB1946. Within hours SB 1946 passed both the House and the Senate, and went to the Governor for his signature. It is evident that SB 1946 is not the comprehensive approach to strengthening Chicago’s pension funds that City representatives had approved just hours before at the final Commission meeting.

So much for cooperation from the City of Chicago. The City now has significant benefit reductions for new hires for two of the four pension funds. Governor Quinn signed SB 1946 on April 14th.

SB 1946 utterly fails to address the root cause of the pension funding crisis, and that is the fact that the Illinois Pension Code has perpetuated systematic underfunding of most Illinois public pension funds, including the four City of Chicago pension funds. And, the City has ignored this problem year after year.

The enactment of Senate Bill calls into question the sincerity of the Daley Administration and the Chicago business community in establishing this Commission and working through the difficult issues that must be addressed to truly “Strengthen Chicago’s Pension Funds.”

This measure does nothing whatsoever to address the real problem facing the four Chicago pension funds, and that is the failure of the City of Chicago to fund these systems on a sound basis, according to actuarial principles such as those recommended by the Governmental Accounting Standards Board.

The findings of this Commission are clear. What is facing these pension funds is not primarily a problem of unaffordable benefits. It is a problem of growing unfunded pension liabilities whose cause is underfunding. We will amplify these points below.

Organized labor, through this Commission, expressed a willingness to work collaboratively with the City to both modernize pension benefits and address the need for additional revenues to address the \$14 billion in unfunded pension plan liability. Now the City has done an end-run around the Commission, supporting the assault by the Governor and the leaders of the General Assembly on the pension benefits of virtually every future Illinois State or local government employee hired on or after January 1, 2011. This is an act of bad faith on the part of the City and its representatives in Springfield.

While SB 1946 did not address the pension benefits of future uniformed Chicago police officers and firefighters, it made major pension benefit reductions for all other future city employees.

The dramatic cuts contained in SB 1946 go far beyond anything contemplated by the union members of the Commission. Clearly there is no rationale for deeper cuts for future participants in the Municipal and Laborers pension funds.

Now that future civilian employees have been forced to forego benefits to which they would have otherwise been entitled, resulting in significant future savings for the City, it is incumbent on the City to do its part and create a revenue stream to fund the benefits which they have promised to their employees.

So, for the Unions representing members of the Municipal and Laborers funds, the pension benefits are now “reformed.” or more accurately “deformed.” Many of these reforms will undermine the retirement security of future City of Chicago employees, who after all cannot participate in Social Security and solely rely on their City pensions for their economic security in retirement.

The City got what it wanted: a substantially less expensive tier for a large portion of newly hired City employees. Although modernization of the retirement benefits for future police officers and firefighters should be considered in the context of the full recommendations of the Commission, it should also be the Commission’s understanding that the City will honor all prior commitments made in regards to police officer and firefighter benefits, particularly relative to COLAs.

The City’s Unions can show that they historically have been very responsible stewards of the Pension Funds. The City would be hard pressed to show the same. Our members have always made their pension contributions, from every paycheck. The City, on the other hand, has opposed legislation initiated by the Union that would have raised its contribution to the Police fund. And the City has been aware of this problem for years and did nothing to increase their contributions into the four pension funds.

Now it is time for the City of Chicago to step up, identify, and enact a source of new revenues sufficient to pay both the normal cost of all City of Chicago pension benefits in all four pension funds, and also to begin to pay down the \$14 billion in unfunded liability, based on actuarial required contributions.

Facts critical to public understanding of these findings

Organized Labor supports the overall thrust of the Report and Recommendations of the Commission to Strengthen Chicago’s Pension Funds because, as the report states, “The four pension plans serving employees of the City of Chicago face a financial crisis.they lack the financial assets to guarantee all the pensions that their members, the City’s employees and retirees, have been promised.”

The report acknowledges a reality that must be faced by the Mayor and the members of the Chicago City Council: “There is no conceivable way to adequately fund these pension plans except by increasing contributions and reducing expenses.**The City and its taxpayers will have to increase the amount they contribute.**”

City of Chicago employees and retirees are also proud members of organized labor. They work for the City of Chicago, live in the City of Chicago, pay taxes in the City of Chicago, and they contribute to the social and economic vitality of the City. Many retire in the City to stay close to friends and family, and their pension benefits help support the City's economy.

We support the Commission's recommendation for the enactment of a new revenue stream because nothing is more important to the retirement security of our members who work for the City of Chicago, and those who have already retired, *than finding a real solution to this funding crisis.*

Chicago pension funding crisis is both enormous and urgent. As the report concludes on page 43, "This problem must be addressed as soon as possible. The actuarial deficit accumulates actuarial interest each year, and contributions and investment returns continue to be inadequate to sustain the Funds, so the problem compounds itself. . . . The City and its employees must soon find realistic solutions to this enormous and vexing problem."

As the report states, fixing the problem "will cost approximately \$710 million per year, growing with inflation for 50 years." And under the 50 year scenario modeled by the Commission, the pension plans would reach a 90% funding level in 2062.

Like paying off a mortgage, it would actually be cheaper over the long run for the City to fix the problem over a shorter time frame. Quick repayment of a debt dramatically decreases interest costs. In defining the "Annual Required Contribution" (ARC) the Governmental Accounting Standards Board (GASB) suggests that public pensions be funded on a sound, actuarial basis, with the full unfunded liability amortized over 30 years, with the goal set at 100% of actuarial liabilities. Funding based on those principles would cost \$908 million additional dollars in 2012, but the goal would be reached in 2042, sparing taxpayers an extra 20 years of pain. All members of the Commission have acknowledged that the City is going to have to identify and enact significant new sources of revenue if this crisis is to be responsibly addressed. **The enactment of SB 1946 does not change this fact.**

This report puts to rest many myths surrounding public employee pensions in general, and the City of Chicago pension plans in particular. To solve a problem of this magnitude, policy makers cannot shrink from the facts:

1. Defined benefit pension plans are more cost-effective than the 401K-type plans now prevalent in the private sector, and should remain the primary vehicle to help City employees save for their retirement. This is a very important point. Retirement security in the private sector has been decimated as defined benefit plans have been replaced by so-called defined contribution plans. This Commission clearly recognizes that the current defined benefit structure is more cost-effective for the City and provides for a more secure retirement for city employees. We do not want to follow the private sector in converting the pensions of future City of Chicago employees to defined contribution plans.
2. City employees do NOT participate in the federal Social Security system, and neither the City nor its employees pay the 6.2% FICA tax. City employees therefore must rely on the City's pension benefit as their sole source of retirement security, other than personal savings.

3. “In general, the Funds have suffered from inadequate contributions and the effects of benefit increases, most notably early retirement programs” that were initiated by the City of Chicago. The City reduced contributions to the Municipal and Laborers funds starting 1998, and this reduction has continued on an annual basis. In addition, consistent with statute the City made no contributions whatsoever to the Laborers Fund for seven (7) years. The funded ratios for these two funds would be at least 10-12% higher had the City not enacted these funding changes.
4. The current basis for the City’s contributions to each of the four funds, the so-called “multipliers,” bear no relationship to the true cost of both paying the “normal cost” of the pension benefits and paying down the unfunded liability. Recommendation 3 is therefore paramount: “the Plans should have an actuarially-based funding policy.” The current “multipliers” have had the effect of perpetuating and worsening the funding crisis for the four Chicago pension funds.
5. “It is clear that the Funds cannot invest their way out of their deficits. While investment processes and strategies are important, when Funds are only 42% funded, investments can play only a small part in solving the problem.” Wishing that this problem would go away is not going to cut it.
6. “The Commission also found that current benefits are not, in themselves, unaffordable. Across all four plans, the annual cost of newly accrued benefits is approximately the level of combined employer and employee contributions, excluding disability costs.” **This fact, however, did not cause the City of Chicago to engage in a thoughtful process to modernize current pension benefits. Rather, the City supported the action by the General Assembly and the Governor to gut the pension benefits of future members of the Municipal and Laborers’ funds.** The Commission’s findings, however, recognize that **what is destabilizing the Chicago pension funds is the growing unfunded liability for past service already rendered to the City of Chicago, and NOT the cost of the benefits earned each day by City employees.**
7. Commission staff found that “among municipal defined benefit pension plans, Chicago’s employee contributions are in the middle range, as are the annuity benefits available in the Laborers and Municipal funds. Benefits for Fire and Police are somewhat less generous than was common in public safety plans for the cities surveyed, but not dramatically so.” Furthermore, for the four city funds, “compensation in the form of overtime pay or bonuses are not included in the calculation” of final average salary for pension purposes. “In both areas, Chicago’s pensions are less prone than many other systems to abusive practices that artificially increase pensions based on short-term manipulation of compensation. Chicago’s Funds do not count overtime; unused sick time is not paid; payment for unused vacation time is not pensionable.....and the final average pay is calculated over four years to smooth out the effects of any last-year raises.” **The current level of pension benefits are both earned and deserved, and are not excessive compared to other large municipalities in the United States. The notion that current benefits are overly rich and subject to abuse are both myths.**
8. If the benefits are not the problem, then funding is the primary issue. In the words of the report “the problem is paying the interest and amortization on the \$14.7 billion

unfunded liability.” **The City of Chicago has a pension funding problem, and this problem is not a cause, but rather is a symptom of an antiquated tax structure that will need major adjustments if the pension funding crisis is to be addressed.**

Some of the recommendations of the Commission look to modernization of pension benefits for newly hired City employees. This has now been done unilaterally by the Illinois General Assembly, for non-public-safety personnel, with no input from this Commission. (It should be noted that these changes are “modernizations” only in the sense that the City, like employers in the private sector has dealt with future costs by seriously undermining retirement security prospects for a new generation of workers.) In the past, these changes in pension benefits have been worked out between the City, its unions, and the pension funds, and the results have been agreed bills. This process is now shattered and likely beyond repair.

Another recommendation of the Commission is to seek agreement on increased employee contributions from current City workers. In light of the City’s actions with respect to SB 1946, this is going to be even more difficult to accomplish than many of us thought prior to March 24th. **If such contributions were to be changed, it should only be done in the context of full collective bargaining as was done between the CTA and CTA unions in the recent past, so that wage increases could be negotiated to offset any potential higher pension contributions.**

But make no mistake. Employees are already contributing significantly toward their pensions: 8.5% of salary for Laborers and Municipal, 9.00% for Police, and 9.125% for Fire. Current pension contributions are short \$710 million per year (to achieve 90% funding over 50 years). An additional 1% contribution (which amounts to a pay cut) would generate \$35.8 million. Wage reductions simply cannot begin to solve this funding crisis.

Similarly, the Commission staff ran numerous scenarios for how much savings could be generated by a second tier of benefits for newly hired city workers. Commission staff should be asked to calculate the savings that will be generated to both the Municipal and Laborers’ funds due to SB 1946. **However, based on the actuarial work already done for similar proposals, the new tiers established by SB 1946 will not, by themselves, begin to solve this funding crisis.**

The Dissent of Eden Martin, Laurence Msall, and Lester Crown

Finally, we note that three Commissioners representing the business community have elected to dissent from the full Commission report and offer their own set of recommendations. We have not seen their written comments, but their one stated objection at the final Commission meeting was that the Commission failed to recommend that future benefit accruals for current employees be reduced. They have a “legal opinion” from Sidley Austin which purports that the Illinois constitution does not prohibit the diminution of future benefit accruals for current employees. We don’t know if Mr. Martin paid Sidley the same \$950 an hour that the Tribune has paid its lead attorneys for bankruptcy work, but we do believe that Sidley’s constitutional analysis is as bankrupt as its Tribune client.

Eden Martin has publically been critical of SB 1946 because it only applies to new hires, and not to current workers.

However, we concur with the overwhelming majority of the Commission, including Commission staff and most knowledgeable Constitutional lawyers, that reducing future benefit accruals for current employees is unconstitutional. For a full discussion of the Constitutional issues, the opinion of retired Illinois Appellate Judge Gino L. DiVito and John Sullivan can be found here:

<http://www.illinois.gov/publicincludes/statehome/gov/documents/DiVito%20Memorandum.pdf>

Reducing benefits for current workers is also highly unfair. It makes no sense, in our view, to advocate a solution that is both controversial and very likely to end up in litigation over many years.

Conclusion

The Chicago pension funding crisis is urgent: “The problem worsens with each passing year.....it is important to address this problem effectively and quickly. If we fail to act, the pension funds will begin to run out of assets in a decade or less.”

SB 1946 fails to address the root cause of the pension funding crisis, and that is the fact that the Illinois Pension Code has perpetuated systematic underfunding of most Illinois public pension funds, including the four City of Chicago pension funds. And, the City has ignored this problem year after year.

Therefore, it is now up to the Mayor to acknowledge that the City needs a major source of new revenue. City services are deteriorating across-the-board. City assets are, in effect, being sold off to prop up City finances over the short term. If the City pension funds do not start to receive hundreds of millions of dollar a year in increased contributions, they will go bankrupt. The current City finance structure is not sustainable.

This view, we believe, is shared even by the business representatives on this Commission. To fix this problem, the Mayor is going to have to level with the public, the members of the City Council, and show true leadership.

Jorge Ramirez, Chicago Federation of Labor
Henry Bayer, AFSCME Council 31
Christine Boardman, SEIU Local 73
Mark Donahue, FOP
Edward Hogan, Attorney, Chicago Building Trades Council
Charles Loverde, Laborers Local
Thomas E. Ryan, Jr., Chicago Firefighters Union

April 22, 2010

5. Comment on "Differing Views" (Submitted by Commission Co-Chairs)

A. Comment on Commissioner Eden Martin's "Differing View"

Commissioner Martin's "Differing View" on behalf of the Civic Committee raises an issue that requires comment.

In three places, it states that applying its recommended benefit changes to future accruals by current employees would reduce the unfunded actuarial liability by \$4.4 billion, thereby reducing the cost of the plans by approximately \$400 million in 2012. This may mislead the reader into thinking that \$400 million in 2012 cash outlays can be saved in this manner.

Unless the Plans' funding policies are changed, there would be no cash savings. The current funding policy is set by statute as a fixed percentage of pay and does not factor in the funded status of the plan. An actuarial funding policy, whether based on the ARC or the funding policy modeled in the report, will have cash savings, but less than \$400 million in 2012. The amount of cash savings would depend on the funding policy.

For the impact on the cash contribution under the funding policy modeled in the report, the reader should refer to *Scenarios 2-all* and *2-new*, in Appendix 3. These model the Civic Committee's proposed benefit changes, with *2-all* applying to all employees, and *2-new* applying only to new hires, with normal retirement age adjusted to account for mandatory retirement of firefighters and police at age 63. On that basis, the 2012 cash savings achieved by applying the changes to all employees is estimated to be \$211 million, the difference between an annual total contribution of \$1,366 million if only new employees are affected, and \$1,155 million if current employees are affected, as well. With no benefit changes at all, the 2012 annual contribution would be \$1,503 million.

B. Comment on Organized Labor's "Differing View"

There are additional comments to be made regarding the "Differing View" from Organized Labor.

1. The "Differing View" comments from Organized Labor were submitted on April 22, three weeks after the report was otherwise substantially completed, including other Differing Views included in the report. Labor therefore had the advantage of discussing the recently enacted Illinois state legislation (SB 1946) dealing with pensions. The policy-related work of the Commission was completed at its meeting of March 24, 2010, coincidentally the same time that the pension legislation was making its way through the Illinois General Assembly. SB 1946 came after the Commission's 26 months of work, and due to the timing it was not possible for the Commission to take SB 1946 into account.

2. Organized Labor's writes, "Before noon on Wednesday, March 24, every city representative, joined by all other commission members save three of those representing the corporate community, agreed to the statement quoted above." This refers to Recommendation 10, which called for a comprehensive solution to the City's pension problems.

In fact, the three members of the corporate community that did not endorse the report did not object to Recommendation 10. Rather, they objected that the Commission did not take a more aggressive position regarding reducing future benefit accruals by current employees.

3. Organized Labor writes that “This measure [SB 1946] does nothing whatsoever to address the real problem facing the four Chicago pension funds, and that is the failure of the City of Chicago to fund these systems on a sound basis, according to actuarial principles such as those recommended by the Governmental Accounting Standards Board.”

GASB does not recommend any particular funding policy for public pension plans.

4. Organized Labor writes, “However, we concur with the overwhelming majority of the Commission, including Commission staff and most knowledgeable Constitutional lawyers, that reducing future benefit accruals for current employees is unconstitutional.”

The Commission took no position on the constitutionality of such action. Rather, the Commission recognized the different opinions on this issue and did not recommend proceeding in that direction because of the uncertainty and risk of wasting precious time, the possibility that any such action would be invalidated in court, as well as strong differences about the wisdom and fairness of such a move, and expected strong opposition.

APPENDIX 5: GLOSSARY

Actuarial Value of Assets (AVA). Smoothed value of assets that recognizes the difference between the expected investment return using the valuation assumption of 8.0 percent and the actual investment return over a five-year period. Dampens volatility of asset value over time.

Actuarial Accrued Liability (AAL). The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as “accrued liability” or “past service liability.”

Actuarial Assumptions. Estimates of future plan experience such as investment return, expected lifetimes and the likelihood of receiving a pension from the Pension Plan. Demographic, or “people” assumptions, include rates of mortality, retirement and separation. Economic, or “money” assumptions, include expected investment return, inflation and salary increases.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the “actuarial present value of future plan benefits” between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the “actuarial funding method.”

Actuarial Present Value of Future Plan Benefits. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Amortization. Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

Annual Required Contribution. The sum of the normal cost and amortization of the unfunded actuarial accrued liability.

Asset Return. The net investment return for the asset divided by the mean asset value. Example: if \$1.00 is invested and yields \$1.08 after a year, the asset return is 8.00 percent.

Funded Ratio. The actuarial value of assets divided by the actuarial accrued liability. Measures the portion of the actuarial accrued liability that is currently funded.

Market Value of Assets (MVA). The value of assets currently held in the trust available to pay for benefits of the Pension Plan. Each of the investments in the trust is valued at market price which is the price at which buyers and sellers trade similar items in the open market

Normal Cost (NC). The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as “current service cost.” Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

Unfunded Actuarial Accrued Liability (UAAL). The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as “unfunded accrued liability.”