Retirement Plan for CTA Employees

Actuarial Valuation Report as of January 1, 2015, including supplementary disclosure information for GASB Statement No. 67

August 2015

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August 2015

Board of Trustees and Executive Director
Retirement Plan for CTA Employees
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Certification of Actuarial Valuation

Ladies and Gentlemen:

This report represents the results of the annual valuation of the assets and liabilities of The Retirement Plan for Chicago Transit Authority Employees ("the Plan") as of January 1, 2015, prepared in accordance with 40 ILCS 5/22-101(e). In addition it includes disclosure information as of December 31, 2014, as required under GASB Statement No. 67. The actuarial valuation of the Plan is performed annually and Buck Consultants was retained to perform the valuation as of January 1, 2015. This valuation has been conducted in accordance with all applicable Actuarial Standards of Practice (ASOPs) issued by the Actuarial Standards Board (ASB).

The actuarial valuation is based on unaudited financial and member data provided by the staff of the plan and summarized in this report. The benefits considered are those delineated in the plan and is governed by legislation contained in the Illinois Compiled statutes, particularly Chapter 40, as amended and restated effective December 31, 2012. The actuary did not verify the data submitted, but did perform tests for consistency and reasonableness.

Public Act 95-308, effective January 18, 2008, requires that the Plan's pension and retiree health care programs be separated into two distinct trusts by July 1, 2009 (40 ILCS 5/22-101B(a)). This January 1, 2015 valuation report for the Plan does not reflect the liabilities and assets that were spun off in the healthcare trust.

Contribution rates were determined in accordance with 40 ILCS 5/22-101(e) using the projected unit credit cost method and provide for a funded ratio of at least 60 percent no later than ten years after the implementation year (2015) through fiscal year end 2039. Contribution rates reflect the issuance of bond or notes by the Authority, as defined in 70 ILCS 3605/12c. Authority contribution rates are adjusted by a debt service credit, for debt service paid in the prior year, of up to six percent of compensation per year from 2009 to 2040, as defined in 40 ILCS 5/22-101(e)(2).

Based on the preceding provisions, the sum of current assets, net bond proceeds, future contributions and investment earnings, less benefit payments and expenses, the Plan is projected to be at least equal to 60 percent of actuarial liabilities by 2024 and through fiscal year end 2040, if the following contributions, expressed as a percentage of compensation, are made to the Plan and the Plan experiences no net actuarial losses in the future.

	Annual Contributions to the Plan (Percentage of Compensation)	
Fiscal Year	Authority	Employees
2016 to 2040	14.250%	10.125%

40 ILCS 5/22-101(e)(4) provides for a minimum contribution, determined either by the Board of Trustees or the Auditor General, to bring the funded ratio of the Plan “up to” or “no less than” 90% by December 31, 2059. Thus, the attached schedules contain funded ratios in the years just prior to 2059 which may enable a lowering of contribution rates at that point.

While not required by 40 ILCS 5/22-101(e)(3), Buck has recommended that the Board of Trustees consider, as appropriate, moving towards a contribution of the Actuarial Math Contribution over the next several years.

- Fund 100% of the entry age normal cost method
- Use an actuarial value of assets to help mitigate contribution volatility
- Pay off the unfunded liability over 20 years using layered amortization

This methodology suggests a contribution of approximately 34.147% (total contribution). The rates adopted by the Board pursuant to its ten-year plan are higher than the minimum required by 40 ILCS 5/22-101(e)(3). We understand that the Board anticipates an annual review of rates during the ten-year period.

The results documented in this report are estimated based on data that may be imperfect and on assumptions about future events. Assumptions may have been made about participant data or other factors. Reasonable efforts were made in this valuation to ensure that items that were significant in the context of the actuarial liabilities or costs are treated appropriately, and not excluded or included inappropriately. We believe that the use of approximation in our calculations, if any, has not resulted in a significant difference relative to the results we would have obtained using more detailed calculations.

A range of results, different from those presented in this report could be considered reasonable. The numbers are not rounded, but this is for convenience only and should not imply precision, which is not inherent in actuarial calculations.

This valuation was based on the actuarial assumptions and methods as approved by the Board of Trustees. Please see Section 6.2 and 6.3 of this report for a description of the assumptions and methods used. Actuarial Standards of Practice now require that the likelihood and extent of future mortality improvements be considered for valuations performed on or after June 30, 2011. Traditionally for the CTA Retirement Plan, experience studies are performed once in every five year period. Our initial conclusion is that the mortality tables currently in use and adopted by the Board provides for some future mortality improvements. The most recent study of the plan’s experience, used in developing the current actuarial assumptions, was based on a period from January 1, 2008 – December 31, 2013 and first used with the January 1, 2014 actuarial valuation; the next review will cover the period from January 1, 2014 through December 31, 2019. The interest rate of 8.25% has been approved by the

Board of Trustees. It is based upon a review of the existing portfolio structure, a review of recent experience, and future long-term expectations of rates of return. We believe that the economic and demographic assumptions adopted in accordance with the recent experience study and a review of recent experience are reasonable and appropriate for the purposes of this valuation.

All assumptions and methods used for this valuation are unchanged from the prior valuation.

The assumptions and methods used to determine the Actuarial Math Contribution of the Plan as outlined in this report and all supporting schedules meet the parameters and requirements for disclosure of Governmental Accounting Standards Board (GASB) Statement No. 67, Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans. Based on member data and asset information provided by the CTA Retirement Plan staff, we have prepared the Schedule of Funding Progress and Schedule of Employer Contributions that are included in the Financial Section of the Comprehensive Annual Financial Report.

No one may make any representations or warranties based on any statements or conclusions contained in this report without the written consent of Buck.

Future actuarial measurements may differ significantly from the current measurement presented in this report due to such factors as: plan experience different from that anticipated by the economic and demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in plan provisions or applicable law. Due to the limited scope of this report, an analysis of the potential range of such future measurements has not been performed.

Please note that GASB Statement No. 25 (Financial Reporting for Defined Benefit Pension Plans) is applicable for fiscal years ending prior to 2014 and has been replaced by GASB Statement No. 67 (Financial Reporting for Pension Plans) for fiscal years ending 2014 and later. Similarly, GASB Statement No. 27 (Accounting for Pensions by State and Local Governmental Employers) is applicable for fiscal years ending prior to 2015 and has been replaced by GASB Statement No. 68 (Accounting and Financial Reporting for Pensions) for fiscal years ending 2015 and later. We have prepared the required accounting information for Governmental Accounting Standards Board (GASB) Statement No. 67 for the fiscal year ending December 31, 2014 based on a valuation date of December 31, 2013.

All historical valuation results presented in this report represent results taken from prior actuarial reports and reflect the funding methods and techniques used by the prior actuary. Our report/certification does not apply to those results other than to represent that our report has presented accurate information developed by prior actuaries.

Qualified actuaries completed the valuation in accordance with accepted actuarial procedures as prescribed by the Actuarial Standards Board. The qualified actuaries are members of the American Academy of Actuaries and are experienced in performing actuarial valuations of public employee retirement systems. To the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally accepted actuarial principles and practice. The undersigned with actuarial designations is qualified to render the opinions contained in this report.

In our opinion the calculations also comply with Illinois law and where applicable, federal laws such as the Internal Revenue Code, and the Statements of the Governmental Accounting Standards Board. We certify that the information presented herein is accurate and fairly portrays the actuarial position of the Plan as of January 1, 2015.

Respectfully submitted,

BUCK CONSULTANTS, LLC

Larry Langer, ASA, MAAA, EA
Principal and Consulting Actuary

cc: Emily Urbaniak
Steve Evanego

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Executive Summary

Overview

The Retirement Plan for CTA Employees provides pension and ancillary benefit payments to the terminated and retired members of the Chicago Transit Authority. A Board of Trustees comprised of appointed representatives is responsible for administering the Plan and making investment decisions. This report presents the results of the actuarial valuation of the Plan benefits as of the valuation date of January 1, 2015.

Purpose

An actuarial valuation is performed on the retirement plan annually as of the beginning of the fiscal year. The main purposes of the actuarial valuation detailed in this report are:

1. To certify the statutory contribution requirements for plan year 2015, as required under 40 ILCS 5/22-101(e)(3);
2. To disclose the funding assets, liability measures and funded ratio as of the valuation date;
3. To disclose the accounting measures for the Plan required by GASB No. 25 as of the end of the last fiscal year;
4. To compare actual and expected experience under the Plan during the last fiscal year;
5. And to report trends in contributions, assets, liabilities, and funded status over the last several years.

This actuarial valuation provides a “snapshot” of the funded position of the Retirement Plan based on the plan provisions, membership, assets, and actuarial assumptions as of the valuation date. Actuarial projections are also performed to provide a long-term view of the expected future funding status and contribution patterns.

Membership

Actives: As of January 1, 2015, there were 8,251 members in active service covered under the provisions of the Plan. The significant age, service, salary and accumulated contribution information for these members is summarized below, along with comparative figures from the last actuarial valuation one year earlier.

	January 1, 2015	January 1, 2014
Number of active employees [1]	8,251	8,186
Average age	48.2	48.1
Average years of service	13.8	14.2
Total annual valuation salary (in thousands) [2]	564,827,965	550,616,338
Average annual salary [2]	68,923	67,461
Total accumulated contributions	379,907,286	342,529,743
Average accumulated contributions	46,358	41,966

[1] Active statistics for 2015 include participants who are actively employed which includes 18 participants who are on leave and 56 participants who have opted out of participating in the plan and are only entitled to a return of their contributions.

[2] The salary information for the participants who have opted out of participating in the plan is not included.

The number of active members increased by 0.8% from the previous valuation date. The average age of the active members increased by 0.1 years, and the average service decreased by 0.4 years. The total annual valuation salary increased by 2.6%. The average salary increased by 2.2% from the previous valuation.

Distributions of active members by age and service are given in Section 5.2.

Inactives: In addition to the active members, there were 103 inactive vested members who did not elect to receive their accumulated contributions when they left covered employment. The significant age and annual benefit information for these inactive members is summarized below with comparative figures from the last actuarial valuation one year earlier.

	January 1, 2015	January 1, 2014
Number of inactive members	103	95
Average age	56.4	55.4
Average annual benefit payments	$25,773	$25,701

The number of inactive vested members increased by 8.4% from the previous valuation. The average age of the inactive vested members increased by 1.0 year. The Average Monthly Pension Benefit for these members increased by 0.3% from the previous valuation.

Distributions of inactive members by age and pension benefit are given in Section 5.4.

Retirees and Beneficiaries: In addition to the active and inactive members, there were 8,988 retired members and 902 beneficiaries who are receiving monthly benefit payments on the valuation date. The significant age and annual benefit information for these members are summarized below with comparative figures from the last actuarial valuation performed one year earlier.

	January 1, 2015	January 1, 2014
Number of members receiving payments		
➢ Retirees	8,988	8,865
➢ Beneficiaries	902	828
➢ Total	9,890	9,693
Average age	69.7	69.4
Annual benefit amounts		
➢ Retirees	235,979,910	229,293,648
➢ Beneficiaries	9,985,487	8,779,881
➢ Total	245,965,397	238,073,529
Average annual benefit payments	24,870	24,561

The number of retired members and beneficiaries increased by 2.0% from the previous valuation date. The average age of these members increased by 0.3 years. The total annual benefit payments for these members increased by 3.3% from the previous valuation date.

Distributions of retired members by age and benefit amounts are given in Section 5.3.

In our opinion, the membership data collected and prepared for use in this actuarial valuation meets the data quality standards required under Actuarial Standards of Practice No. 23.

Plan Assets

The Plan's assets are held in trust and invested for the exclusive benefit of plan members. The trust is funded by member and employer contributions, and pays benefits directly to eligible members in accordance with plan provisions. The assets are audited annually and are reported at fair value. On a fair value basis, the Plan has Net Assets Available for Benefits of $1,855.9 million as of January 1, 2015. This includes a decrease of $36.8 million over the Net Assets Available for Benefits of $1,892.7 million as of January 1, 2014. During the prior year, the investment return was 4.8% as reported by the Plan.

Starting with the January 1, 2012 valuation, the Board of Trustees adopted the market value of assets to determine the actuarial value of assets used for funding purposes. This method recognizes gains and losses, i.e. the difference between actual investment return during the year and the expected return based on the valuation interest rate, immediately.

A summary of the assets held for investment, a summary of changes in assets, and the development of the actuarial value of assets is shown in Section 2.

Actuarial Experience

Differences between the expected experience based on the actuarial assumptions and the actual experience create changes in the actuarial accrued liability, actuarial value of assets, and the unfunded actuarial accrued liability from one year to the next. These changes create an actuarial gain if the experience is favorable and an actuarial loss if the experience is unfavorable. The Plan experienced a total net actuarial loss of $102.1 million during the prior year. This net loss is about 3.3% of the plan's prior year actuarial accrued liability. The net loss is a combination of two principal factors, demographic experience and investment performance.

The demographic experience tracks actual changes in the plan's population compared to the assumptions for decrements such as mortality, turnover, and retirement, as well as pay increases. The Plan experienced a demographic loss of $21.9 million during the year ending December 31, 2014. This loss increased the unfunded actuarial accrued liability by $21.9 million and decreased the funded ratio by 0.4%.

Continued tracking of the demographic experience is warranted in order to confirm the appropriateness of the actuarial assumptions. Details of the demographic, economic, and other assumptions used to value the plan liabilities and normal cost can be found in Section 6. In our opinion, the economic assumptions comply with Actuarial Standards of Practice No. 27 and the demographic assumptions comply with Actuarial Standards of Practice No. 35.

On the asset side, the Plan experienced a loss on an actuarial value of assets basis. The actual rate of return on the actuarial value of plan assets was 4.8% for the year ending December 31, 2014 compared to the assumption of 8.25%, resulting in a loss of $80.2 million. This loss decreased the unfunded actuarial accrued liability by $80.2 million and decreased the funded ratio by 2.5%.

A summary of the actuarial gains and losses experienced during the prior year is shown in Section 1.4.

Funded Status

The funded status is a measure of the progress that has been made in funding the plan as of the valuation date. It is determined as a ratio of the actuarial value of assets divided by the total actuarial accrued liability on the valuation date. A ratio of over 100% represents a plan that is ahead in funding, and a ratio of less than 100% represents a plan that is behind in funding on the valuation date.

As of January 1, 2015 the funded ratio of the Plan is 58.2%. This represents a decrease of 2.7% from last year's funded ratio of 60.9% as of January 1, 2014. Unless otherwise noted, the funded status shown in the report unless otherwise noted is based on the projected unit credit cost method.

A history of the unfunded actuarial accrued liability and the funded ratio is shown in Section 1.5.

Actuarial Math Contributions

Actual required contribution rates were determined in accordance with 40 ILCS 5/22-101(e) using the projected unit credit cost method and provide for a funded ratio of at least 60 percent no later than ten years after the implementation year (2015) through fiscal year end 2039 and 90 percent funding by fiscal year end 2059.

Contribution rates reflect the issuance of bond or notes by the Authority, as defined in 70 ILCS 3605/12c. Authority contribution rates are adjusted by a debt service credit, for debt service paid in the prior year, of up to six percent of compensation per year from 2009 to 2040, as defined in 40 ILCS 5/22-101(e)(2).

While not required by 40 ILCS 5/22-101(e), white papers on funding policies for public sector plans developed over the past few years suggest a funding policy be sufficient to pay the normal cost on the entry age normal cost basis and amortize the unfunded actuarial accrued liability over a fixed period of 20 years. We will broadly refer to this type of policy as an Actuarial Math Funding Policy. Buck has recommended that the Board of Trustees consider, as appropriate, moving towards a contributions based on the Actuarial Math Funding Policy over the next several years. The rates adopted by the Board pursuant to its ten-year plan are higher than the minimum required by 40 ILCS 5/22-101(e)(3). We understand that the Board anticipates an annual review of rates during the ten-year period.

Under Actuarial Math, the normal cost represents the cost of the benefits that accrue during the year for active members under the Entry Age Normal Cost Method. It is determined as a level percent of pay over each individual career attributable to the respective plan year. The normal cost for 2015 has been determined to be $52.6 million, or 10.03% of pay. This represents a decrease in the normal cost rate of .33% of pay from last year's normal cost rate of 10.36%, primarily attributable to the change from Projected Unit Credit to Entry Age Normal.

Under Actuarial Math, the cost method under which the actuarial accrued liability is determined is the entry age normal cost method. Under the entry age normal cost method, the actuarial accrued liability (AAL) is equal to the present value of projected benefits less the present value of future benefits to be accrued. The AAL amount is compared to the actuarial value of assets to determine if the Plan is ahead or behind in funding as of the valuation date. The difference between the total actuarial accrued liability and the actuarial value of assets equals the amount of unfunded actuarial accrued liability or surplus (if negative) on the valuation date. This amount is amortized and added to the normal cost to determine the annual required contribution for the year suggested by public sector funding policy white papers.

The unfunded actuarial accrued liability under the entry age normal cost method as of January 1, 2015 is $1,439.5 million. This represents an increase of $117.4 million in the unfunded actuarial accrued liability from last year's amount of $1,212.9 million. The annual payment required to amortize the unfunded actuarial accrued liability of $1,439.5 million as of January 1, 2015 is $119.5 million, or 22.81% of pay.

The total contribution suggested by actuarial math is the sum of the normal cost and the payment to the UAAL, or 34.147% of pay.

The actuarial liabilities and development of the Actuarial Math Contribution is shown in the Comparative Summary and Section 1.1.

In our opinion, the measurement of the benefit obligations and determination of the actuarial cost of the Plan is performed in compliance with Actuarial Standards of Practice No. 4.

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Accounting Information

The Governmental Accounting Standards Board (GASB) issues statements which establish financial reporting standards for defined benefit pension Plans and accounting for the pension expenditures and expenses for governmental employers. The required financial reporting information for the Plan and the Employer under GASB No. 67 can be found in Section 3 beginning on page 26.

Projections

As part of the annual actuarial valuation, a forecast of expected future valuation results is performed over a 50 year period beginning on the valuation date. This analysis provides a dynamic look into the future to identify trends in future employer contributions and funded status. The forecast replaces active members who are assumed to decrement (terminate, retire, etc.) during the period with new members resulting in a stable active membership. The forecast assumes all actuarial assumptions are exactly realized each year during the forecast period. The results of these forecasts can be found in Section 4.

Changes in Plan Provisions

There have been no significant changes in the plan provisions which changed the meaning of the Plan according to Plan Counsel since the last actuarial valuation performed as of January 1, 2014.

Changes in Actuarial Assumptions, Methods, or Procedures

There have been no changes in the actuarial assumptions, actuarial cost method, asset valuation method or valuation procedures since the last actuarial valuation performed as of January 1, 2014.

Comparative Summary of Key Actuarial Valuation Results

	January 1, 2015	January 1, 2014
1. Investment Return Assumption	8.25 %	8.25 %
2. Membership Data		
a. Active Employees		
Number	8,251	8,186
Annualized Salaries (in thousands)	564,828	550,616
Average Pay	68,923	67,461
b. Terminated Participants with Vested Benefits		
Number	103	95
Total Monthly Accrued Benefit	221,218	203,467
Average Monthly Accrued Benefit	2,148	2,142
c. Retirees and Beneficiaries		
Number	8,788	8,636
Total Monthly Pension	19,044,614	18,488,291
Average Monthly Pension	2,167	2,141
d. Disabled Recipients		
Number	1,102	1,057
Total Monthly Pension	1,452,503	1,351,169
Average Monthly Pension	1,318	1,278
3. Statutory Minimum Contribution Rates (as a percentage of Payroll)[1]		
a. Employer Contribution Rate		
Gross Employer Rate	20.250 %	20.250 %
Credit for Debt Repayment	6.000 %	6.000 %
Net Employer Rate	14.250 %	14.250 %
b. Employee Contribution Rate	10.125 %	10.125 %
4. Actuarial Math Contribution*		
a. Amortization Payment for UAAL		
i. Amount	119,484,503	101,880,647
ii. As a % of pay	22.81 %	18.50 %
b. Normal Cost		
i. Amount	52,561,046	57,062,746
ii. As a % of pay	10.03 %	10.36 %
c. Interest Adjustment to Mid-Year		
i. Amount	6,815,730	6,556,415
ii. As a % of pay	1.3 %	1.19 %
d. Actuarial Contribution		
i. Amount	178,861,279	165,499,808
ii. As a % of pay	34.147 %	30.05 %
5. Actuarial Funded Status ($ in thousands)		
a. Actuarial Accrued Liability	3,186,187	3,105,567
b. Actuarial Value of Assets (AVA)	1,855,912	1,892,714
c. Unfunded Accrued Liability	1,330,275	1,212,853
d. Funded Ratio	58.2 %	60.9 %
e. Market Value of Assets (MVA)	1,855,912	1,892,714
f. Return on MVA (prior year)	4.8 %	19.5 %
g. Return on AVA (prior year)	4.8 %	19.5 %

*Amounts displayed for 2013 are in accordance with GASB 25

[1] Contribution rate applicable for the plan year following the year of valuation.

Section 1
Actuarial Funding Results

Section 1.1 - Actuarial Liabilities and Normal Cost

Actuarial Accrued Liability	January 1, 2015	January 1, 2014
1. Active Members		
a. Retirement Benefits	945,335,933	923,438,582
b. Withdrawal Benefits	23,908,707	24,143,161
c. Disability Benefits	35,896,921	35,915,163
d. Death Benefits	14,519,551	14,053,376
Total	1,019,661,112	997,550,282
2. Inactive Members with Deferred Benefits	13,162,759	10,986,538
3. Retired Members and Beneficiaries Receiving Benefits	2,153,362,801	2,097,030,009
4. Total Actuarial Accrued Liability (1. + 2. + 3.)	3,186,186,672	3,105,566,829

Normal Cost	January 1, 2015	January 1, 2014
1. Active Members		
a. Retirement Benefits	52,410,522	50,832,985
b. Withdrawal Benefits	2,635,071	2,377,311
c. Disability Benefits	2,968,823	2,873,025
d. Death Benefits	1,065,043	979,426
2. Employer Normal Cost (Dollar amount)	**59,079,459**	**57,062,747**
3. Total Normal Cost (As a % of pay)	**10.46%**	**10.36%**

Section 1.2 - Actuarial (Gain) / Loss

Development of Actuarial (Gain) / Loss	Amount
1. Expected Actuarial Accrued Liability	
a. Actuarial Accrued Liability at January 1, 2014	3,105,566,829
b. Normal Cost at January 1, 2014	57,062,747
c. Interest on a. + b. to End of Year	260,916,940
d. Benefit Payments and Administrative Expenses for 2014, with Interest to End of Year	259,235,151
e. Expected Actuarial Accrued Liability Before Changes (a. + b. + c. - d.)	3,164,311,365
f. Change in Actuarial Accrued Liability at January 1, 2015 due to	
Change in Actuarial Assumptions	0
g. Change in Actuarial Accrued Liability at January 1, 2015 due to	
Change in Plan Provisions	0
h. Expected Actuarial Accrued Liability at January 1, 2015 (e. + f. + g.)	3,164,311,365
2. Actuarial Accrued Liability at January 1, 2015	3,186,186,672
3. Liability (Gain) / Loss (2. – 1.h.)	21,875,307
4. Expected Actuarial Value of Assets	
a. Actuarial Value of Assets at January 1, 2014	1,892,714,102
b. Interest on a. to End of Year	156,148,913
c. Contributions Made for 2014	140,834,744
d. Interest on c. to End of Year	5,694,315
e. Benefit Payments and Administrative Expenses for 2014, with Interest to End of Year	259,235,151
f. Change in Actuarial Value of Assets at January 1, 2015	
due to Change in Method	0
g. Expected Actuarial Value of Assets at January 1, 2015	
(a. + b. + c. + d. – e. – f.)	1,936,156,923
5. Actuarial Value of Assets as of January 1, 2015	1,855,912,051
6. Actuarial Asset (Gain) / Loss (4.g. - 5.)	80,244,872
7. Actuarial (Gain) / Loss (3. + 6.)	102,120,179

Section 1.3 - Actuarial Balance Sheet

Financial Resources	January 1, 2015	January 1, 2014
1. Actuarial Value of Assets (market)	1,855,912,051	1,892,714,102
2. Present Value of Future Contributions	508,866,647	493,241,843
3. Unfunded Actuarial Accrued Liability/(Reserve)	1,330,274,621	1,212,852,727
4. Total Assets (1 + 2 + 3)	3,695,053,319	3,598,808,672

Benefit Obligations	January 1, 2015	January 1, 2014
1. Present Value of Future Benefits		
a. Active Members	1,528,527,759	1,490,792,125
b. Inactive Members	13,162,759	10,986,538
c. Retirees, disabilities and beneficiaries	2,153,362,801	2,097,030,009
d. Total	3,695,053,319	3,598,808,672

Section 1.4 - Analysis of Financial Experience

Analysis of Financial Experience

Analysis of Actuarial (Gains) and Losses

Resulting From Differences Between Assumed Experience and Actual Experience

Type of (Gain) or Loss	Year End December 31, 2014	As a % of Last Year's AAL
(1) COLA Experience	0	0.00%
(2) Salary Experience	(11,019,554)	-0.35%
(3) Retiree Mortality Experience	3,723,693	0.12%
(4) Other (turnover, retirement ages, service purchase, etc.)		
(a) Unexpected Participant Pick Up	9,844,212	0.32%
(b) Unexpected Data Change for Decrementing Actives	6,074,264	0.20%
(c) Unexpected Data Change for Continuing Inactives	550,296	0.02%
(d) Unexpected Rehires	139,374	0.00%
(e) Miscellaneous	2,860,996	0.09%
(f) Total	19,469,143	0.63%
(5) Active Decrements	1,366,788	0.04%
(6) New Entrants	8,335,237	0.27%
(7) Liability (Gain) or Loss During Year, (1) + (2) + (3) + (4)(f) + (5) + (6)	21,875,307	
(8) Investment Experience	80,244,872	2.58%
(8) Asset Valuation Method	0	0.00%
(10) Assumption and Method Changes	0	0.00%
(11) Benefit Changes	0	0.00%
(12) Other	0	0.00%
(13) Total (Gain) or Loss During Year, (7) + (8) + (9) + (10) + (11) + (12)	102,120,179	3.29%

Section 1.5 - History of UAAL and Funded Ratio

($'s in 000's)

Valuation Date	Actuarial Accrued Liability (AAL)	Actuarial Value of Assets (AVA)	Funded Ratio (AVA as a % of AAL)	Unfunded Actuarial Accrued Liability (UAAL)
January 1, 2015	3,186,187	1,855,912	58.25%	1,330,275
January 1, 2014	3,105,567	1,892,714	60.95%	1,212,853
January 1, 2013	2,867,335	1,702,788	59.39%	1,164,547
January 1, 2012	2,808,184	1,662,196	59.19%	1,145,988
January 1, 2011	2,724,191	1,909,967	70.11%	814,224
January 1, 2010	2,588,462	1,936,849	74.83%	651,613
January 1, 2009	2,632,356	1,995,953	75.82%	636,403
January 1, 2008	2,531,440	941,864	37.21%	1,589,576
January 1, 2007	2,466,106	1,007,305	40.85%	1,458,801
January 1, 2006	2,354,125	810,336	34.42%	1,543,789

Section 1.6 - Solvency Test - Comparative Summary of Accrued Liability and Actuarial Value of Assets

	Accrued Liability for:				Portion of Accrued Liability Covered by Actuarial Value of Assets		
	(1)	(2)	(3)		(1)	(2)	(3)
Valuation as of January 1	Active Member Contributions	Retirees, Beneficiaries, TVRs and Disabled	Active Member (Employer Financed Portion)	Actuarial Value of Assets[1]			
2015	379,907,286	2,166,525,560	639,753,826	1,855,912,051	100.00 %	68.13 %	0.00 %
2014	342,529,743	2,108,016,547	655,020,539	1,892,714,102	100.00 %	73.54 %	0.00 %
2013	306,193,043	1,987,917,394	573,224,876	1,702,787,884	100.00 %	70.25 %	0.00 %
2012	271,327,054	1,945,958,148	590,898,382	1,662,195,612	100.00 %	71.47 %	0.00 %
2011	242,723,521	1,866,770,851	594,696,243	1,909,967,120	100.00 %	88.36 %	0.00 %

1. Excludes health care assets.

Section 1.7 - Projected Actuarial Results

Projection of Funded Status based on Board Adopted Contribution Rates

Year	Board Adopted Contribution Rates: Employee Contribution Percent	Board Adopted Contribution Rates: Employer Contribution Percent	Board Adopted Contribution Rates: Total Percent	Board Adopted Contributions: Employee Contribution	Board Adopted Contributions: Employer Contribution	Board Adopted Contributions: Total Contribution	Actuarial Accrued Liability	Actuarial Value of Assets (Market)	Funded Ratio
2015	10.125%	14.250%	24.375%	58,734,129	82,662,848	141,396,977	3,186,186,672	1,855,912,051	58.25%
2016	10.125%	14.250%	24.375%	60,523,360	85,181,025	145,704,385	3,242,837,238	1,891,649,940	58.33%
2017	10.125%	14.250%	24.375%	62,534,734	88,011,848	150,546,582	3,305,949,220	1,927,458,519	58.30%
2018	10.125%	14.250%	24.375%	65,072,462	91,583,465	156,655,927	3,369,560,107	1,964,055,875	58.29%
2019	10.125%	14.250%	24.375%	67,750,620	95,352,725	163,103,345	3,432,872,118	2,003,453,043	58.36%
2020	10.125%	14.250%	24.375%	70,479,627	99,193,549	169,673,176	3,496,200,759	2,046,402,787	58.53%
2021	10.125%	14.250%	24.375%	73,261,562	103,108,865	176,370,427	3,559,800,536	2,092,874,430	58.79%
2022	10.125%	14.250%	24.375%	76,231,610	107,288,932	183,520,542	3,624,025,059	2,142,844,521	59.13%
2023	10.125%	14.250%	24.375%	79,295,672	111,601,316	190,896,988	3,688,766,999	2,197,018,828	59.56%
2024	10.125%	14.250%	24.375%	82,528,928	116,151,825	198,680,753	3,752,668,230	2,256,347,821	60.13%
2025	10.125%	14.250%	24.375%	85,867,926	120,851,156	206,719,082	3,817,389,822	2,321,168,126	60.81%
2026	10.125%	14.250%	24.375%	89,384,401	125,800,268	215,184,669	3,881,860,330	2,392,256,379	61.63%
2027	10.125%	14.250%	24.375%	93,112,676	131,047,470	224,160,146	3,946,463,586	2,470,322,125	62.60%
2028	10.125%	14.250%	24.375%	96,995,908	136,512,760	233,508,668	4,011,635,294	2,556,510,774	63.73%
2029	10.125%	14.250%	24.375%	101,021,442	142,178,326	243,199,768	4,077,485,315	2,652,414,336	65.05%
2030	10.125%	14.250%	24.375%	105,225,737	148,095,482	253,321,219	4,145,258,863	2,759,683,649	66.57%
2031	10.125%	14.250%	24.375%	109,582,486	154,227,203	263,809,689	4,216,484,091	2,880,496,878	68.32%
2032	10.125%	14.250%	24.375%	114,007,639	160,455,196	274,462,835	4,291,656,952	3,017,689,665	70.32%
2033	10.125%	14.250%	24.375%	118,433,766	166,684,559	285,118,325	4,372,056,147	3,173,294,792	72.58%
2034	10.125%	14.250%	24.375%	122,949,439	173,039,952	295,989,391	4,459,663,285	3,348,791,812	75.09%
2035	10.125%	14.250%	24.375%	127,633,582	179,632,448	307,266,030	4,555,893,295	3,546,131,381	77.84%
2036	10.125%	14.250%	24.375%	132,201,898	186,061,930	318,263,828	4,659,585,918	3,768,254,446	80.87%
2037	10.125%	14.250%	24.375%	136,883,172	192,650,390	329,533,562	4,772,370,996	4,016,237,090	84.16%
2038	10.125%	14.250%	24.375%	141,691,496	199,417,661	341,109,157	4,896,317,561	4,291,474,737	87.65%
2039	10.125%	14.250%	24.375%	146,704,458	206,472,941	353,177,399	5,030,997,106	4,596,799,963	91.37%

Section 2
Plan Assets

Section 2.1 - Statement of Net Plan Assets

($'s in 000's)

	As of December 31	
	2014	**2013**
ASSETS		
1. Total investments, at fair value	1,842,308	1,876,128
2. Invested securities lending cash collateral	257,370	274,156
3. Receivables:		
a. Employer contributions	7,975	13,755
b. Employee contributions	5,669	9,778
c. Securities sold, but not received	2,717	14,534
d. Accrued interest and dividends	2,253	2,194
e. Other	1,668	1,150
4. Total assets	2,119,960	2,191,695
LIABILITIES		
1. Payable upon return of securities	257,370	274,156
2. Accounts payable	3,964	3,856
3. Other payables	75	0
4. Securities purchased, but not paid	2,639	20,969
5. Total liabilities	264,048	298,981
Net assets held in trust for Plan benefits	**1,855,912**	**1,892,714**

Section 2.2 - Changes in Net Plan Assets

($'s in 000's)

	As of December 31	
	2014	**2013**
ADDITIONS		
1. Net investment (loss) income	78,662	299,369
2. Employer contributions	82,268	79,518
3. Employee contributions	58,566	56,792
4. Other income	0	0
Total additions	219,496	435,679
DEDUCTIONS		
1. Benefit payments	246,038	238,732
2. Contribution refunds, including interest	7,137	4,932
3. Administrative expenses	3,123	2,089
Total liabilities	256,298	245,753
NET ASSETS HELD IN TRUST FOR PLAN BENEFITS		
1. Beginning of year	1,892,714	1,702,788
2. Net (decrease) increase	(36,802)	189,926
End of year	**1,855,912**	**1,892,714**

Section 2.3 - Actuarial Value of Assets

The actuarial value of assets is the market value as of January 1, 2015 of $1,855,912,051.

Section 2.4 - Historical Asset Rate of Return

Year Ending December 31	Actuarial Value Annual Recognized Rate of Return	Fair Value Annual Market Rate of Return
2014	4.80% [1]	4.80% [1]
2013	19.50% [1]	19.50% [1]
2012	11.27% [1]	11.27% [1]
2011	3.13% [1]	3.13% [1]
2010	4.80%	11.80%

[1] As reported by the Plan.

Section 2.5 - Forecast of Expected Benefit Payments

Year Ending December 31	Active Members	Inactive Members	Total Payments
2015	8,833,091	245,277,998	254,111,089
2016	21,417,363	239,700,579	261,117,942
2017	33,690,403	234,164,430	267,854,833
2018	45,408,654	228,466,970	273,875,624
2019	57,102,897	222,520,108	279,623,005
2020	69,145,045	216,542,984	285,688,029
2021	81,860,526	210,218,607	292,079,133
2022	94,571,182	203,834,570	298,405,752
2023	107,017,752	197,246,215	304,263,967
2024	119,887,584	190,613,200	310,500,784
2025	133,635,273	183,786,999	317,422,272
2026	147,782,859	176,770,249	324,553,108
2027	161,961,783	169,543,519	331,505,302
2028	175,623,861	162,162,149	337,786,010
2029	188,716,218	154,725,285	343,441,503
2030	201,023,035	147,178,170	348,201,205
2031	211,945,873	139,557,094	351,502,967
2032	222,158,669	131,853,563	354,012,232
2033	231,662,834	124,126,042	355,788,876
2034	240,014,152	116,387,039	356,401,191
2035	246,665,223	108,705,710	355,370,933
2036	251,885,560	101,133,780	353,019,340
2037	256,076,137	93,630,499	349,706,636
2038	259,079,014	86,257,751	345,336,765
2039	260,782,984	79,069,072	339,852,056
2040	261,291,373	72,102,301	333,393,674
2041	260,674,593	65,394,889	326,069,482
2042	259,180,217	58,981,047	318,161,264
2043	256,740,398	52,888,950	309,629,348
2044	253,855,011	47,142,251	300,997,262
2045	250,307,981	41,764,360	292,072,341
2046	246,457,728	36,773,253	283,230,981
2047	241,980,808	32,176,470	274,157,278
2048	236,898,900	27,975,663	264,874,563
2049	231,278,876	24,164,167	255,443,043
2050	225,232,937	20,731,805	245,964,742
2051	218,565,351	17,663,167	236,228,518
2052	211,132,617	14,940,554	226,073,171
2053	203,236,274	12,545,269	215,781,543
2054	194,862,406	10,455,495	205,317,901
2055	186,167,136	8,647,132	194,814,268
2056	177,199,538	7,094,391	184,293,929
2057	168,020,958	5,773,046	173,794,004
2058	158,741,584	4,658,899	163,400,483
2059	149,425,850	3,728,744	153,154,594
2060	140,141,557	2,959,673	143,101,230
2061	130,943,626	2,330,331	133,273,957
2062	121,876,161	1,820,463	123,696,624
2063	112,992,192	1,411,690	114,403,882
2064	104,330,558	1,087,431	105,417,989
2065	95,941,410	832,627	96,774,037
2066	87,855,057	633,965	88,489,022
2067	80,100,485	480,174	80,580,659

Section 2.5 – Continued
Forecast of Expected Benefit Payments

Year Ending December 31	Active Members	Inactive Members	Total Payments
2068	72,702,060	361,878	73,063,938
2069	65,675,497	271,668	65,947,165
2070	59,038,653	203,274	59,241,927
2071	52,795,547	151,836	52,947,383
2072	46,943,816	113,322	47,057,138
2073	41,481,327	84,701	41,566,028
2074	36,406,559	63,429	36,469,988
2075	31,716,038	47,714	31,763,752
2076	27,404,931	36,123	27,441,054
2077	23,470,045	27,653	23,497,698
2078	19,908,994	21,498	19,930,492
2079	16,715,756	17,072	16,732,828
2080	13,884,201	13,891	13,898,092
2081	11,399,498	11,607	11,411,105
2082	9,246,589	9,959	9,256,548
2083	7,405,986	8,752	7,414,738
2084	5,856,276	7,843	5,864,119
2085	4,568,580	7,134	4,575,714
2086	3,515,299	6,548	3,521,847
2087	2,666,714	6,026	2,672,740
2088	1,994,337	5,532	1,999,869
2089	1,470,413	5,045	1,475,458
2090	1,068,720	4,557	1,073,277
2091	765,910	4,065	769,975
2092	541,258	3,569	544,827
2093	377,452	3,071	380,523
2094	259,698	2,605	262,303
2095	176,349	2,180	178,529
2096	118,219	1,796	120,015
2097	78,240	1,459	79,699
2098	51,156	1,160	52,316
2099	33,009	902	33,911
2100	21,029	681	21,710
2101	13,220	498	13,718
2102	8,190	349	8,539
2103	5,002	240	5,242
2104	3,009	161	3,170
2105	1,781	106	1,887
2106	1,029	68	1,097
2107	584	43	627
2108	326	27	353
2109	175	16	191
2110	92	10	102
2111	46	6	52
2112	21	4	25

Note: Forecast based on the present members without assumption about replacement members

Section 3
Accounting Information

Section 3.1 - Actuarial Methods and Assumptions for GASB 67/68 Disclosure Purposes

The total pension liability as of December 31, 2014 was determined by rolling forward the total pension liability as of January 1, 2014 to December 31, 2014 using the following actuarial methods and assumptions, applied to all periods included in the measurement. All other assumptions such as retirement rates, termination rates, and disability rates used to determine the total pension liability are set forth in Section 6 - Basis of the Actuarial Valuation.

Valuation Date:	January 1, 2014
Actuarial Cost Method:	Entry Age Normal – Level Percentage of Pay
Amortization Method:	For pension expense; the difference between expected and actual liability experience and changes of assumptions are amortized over the average of the expected remaining service lives of all members. The difference between projected and actual earnings is amortized over a closed period of five years.
Mortality:	Healthy pensioners: RP2000 Blue Collar Table, generational to 2016 based on Scale BB and then fully generational.
	Active members: RP2000 Blue Collar Table, generational to 2016 based on Scale BB and then fully generational.
Experience Study:	The actuarial assumptions used were based on the results of an actuarial experience study for the period January 1, 2008 through December 31, 2013.

Section 3.2 - Schedule of Expected Changes in Net Pension Liability as of December 31, 2014

The GASB Statement No. 67 Change in Net Pension Liability

Schedule of Changes in Net Pension Liability as of December 31, 2014	
Total Pension Liability	
Service Cost	$ 49,066,078
Interest	259,592,822
Changes of Benefit Terms	-
Difference between Expected and Actual Experience	-
Change of Assumptions	-
Benefit Payments, including Refund of Member Contributions	(246,037,562)
Net Change in Total Pension Liability	62,621,338
Total Pension Liability - Beginning of Year	$ 3,220,532,359
Total Pension Liability - End of Year	$ 3,283,153,697
Plan Fiduciary Net Position	
Employer Contributions	$ 82,268,465
Member Contributions	58,566,279
Net Investment Income	71,524,132
Benefit Payments, including Refund of Member Contributions	(246,037,562)
Administrative Expenses	(3,123,365)
Other	-
Net Change in Plan Fiduciary Net Position	(36,802,051)
Plan Fiduciary Net Position - Beginning of Year	$ 1,892,714,102
Plan Fiduciary Net Position - End of Year	$ 1,855,912,051

Section 3.3 - Net Pension Liability (Asset)

The GASB Statement No. 67 Net Pension Liability

Net Pension Liability (Asset)		
		December 31, 2014
Total Pension Liability	$	3,283,153,697
Plan Fiduciary Net Position		1,855,912,051
Net Pension Liability (Asset)	$	1,427,241,646
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability (Asset)		56.53%

Section 3.4 - Sensitivity

The GASB Statement No. 67 Sensitivity of Net Pension Liability

Sensitivity of the Net Pension Liability to Changes in the Discount Rate	1% Decrease	Current	1% Increase
Discount Rate	7.25%	8.25%	9.25%
Net Pension Liability (Asset)	1,752,256,860	1,427,241,646	1,149,201,021

The discount rate used to measure the total pension liability was 8.25%. The projection of cash flows used to determine the discount rate assumed that the System's contributions will continue to follow the current funding policy. Based on those assumptions, the System's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members.

Section 3.5 – Supporting Exhibits

Projection of Fiduciary Net Position

Year	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expense	Projected Investment Earnings	Projected Ending Fiduciary Net Position
12/13/2013	$ 1,702,787,884	$ 136,310,397	238,731,582	$ 2,089,276	$ 294,436,680	$ 1,892,714,102
12/31/2014	1,892,714,102	140,834,744	249,160,927	3,123,365	71,524,132	1,855,912,051
12/31/2015	1,855,912,051	135,009,777	252,042,518	2,216,513	148,358,355	1,885,021,152
12/31/2016	1,885,021,152	136,160,836	258,703,067	2,283,008	150,536,419	1,910,732,332
12/31/2017	1,910,732,332	137,527,111	265,014,533	2,351,499	152,456,951	1,933,350,363
12/31/2018	1,933,350,363	139,734,659	270,803,988	2,422,044	154,177,398	1,954,036,389
12/31/2019	1,954,036,389	142,240,480	276,436,849	2,494,705	155,756,825	1,973,102,140
12/31/2020	1,973,102,140	144,865,916	282,426,615	2,569,546	157,192,963	1,990,164,858
12/31/2021	1,990,164,858	147,345,624	288,807,960	2,646,632	158,442,103	2,004,497,993
12/31/2022	2,004,497,993	149,766,507	295,169,771	2,726,031	159,464,441	2,015,833,138
12/31/2023	2,015,833,138	152,473,522	301,275,200	2,807,812	160,261,356	2,024,485,003
12/31/2024	2,024,485,003	155,217,306	307,958,131	2,892,047	160,815,011	2,029,667,142
12/31/2025	2,029,667,142	158,058,066	314,841,655	2,978,808	161,078,199	2,030,982,944
12/31/2026	2,030,982,944	160,989,056	321,891,851	3,068,172	161,019,297	2,028,031,274
12/31/2027	2,028,031,274	163,934,809	328,960,386	3,160,217	160,608,158	2,020,453,637
12/31/2028	2,020,453,637	167,189,898	335,388,816	3,255,024	159,853,736	2,008,853,431
12/31/2029	2,008,853,431	170,800,536	341,162,398	3,352,675	158,808,277	1,993,947,171
12/31/2030	1,993,947,171	174,663,844	345,954,545	3,453,255	157,539,936	1,976,743,151
12/31/2031	1,976,743,151	179,028,599	349,175,931	3,556,853	156,165,784	1,959,204,750
12/31/2032	1,959,204,750	183,849,920	351,484,564	3,663,558	154,819,379	1,942,725,927
12/31/2033	1,942,725,927	188,637,100	352,946,682	3,773,465	153,593,204	1,928,236,084
12/31/2034	1,928,236,084	193,771,273	353,119,635	3,886,669	152,597,241	1,917,598,294
12/31/2035	1,917,598,294	199,360,612	351,519,583	4,003,269	152,009,128	1,913,445,182
12/31/2036	1,913,445,182	205,395,295	348,554,231	4,123,367	152,029,175	1,918,192,054
12/31/2037	1,918,192,054	211,817,905	344,558,993	4,247,068	152,840,759	1,934,044,657
12/31/2038	1,934,044,657	218,619,377	339,284,653	4,374,480	154,635,565	1,963,640,466
12/31/2039	1,963,640,466	226,010,470	332,686,046	4,505,714	157,641,530	2,010,100,705
12/31/2040	2,010,100,705	233,837,473	325,145,461	4,640,886	162,094,482	2,076,246,313
12/31/2041	2,076,246,313	242,047,560	316,923,174	4,780,112	168,214,489	2,164,805,075
12/31/2042	2,164,805,075	250,545,524	308,182,651	4,923,516	176,216,130	2,278,460,563
12/31/2043	2,278,460,563	259,159,343	298,938,635	5,071,221	186,313,251	2,419,923,301
12/31/2044	2,419,923,301	268,004,086	289,529,810	5,223,358	198,720,425	2,591,894,644
12/31/2045	2,591,894,644	277,089,429	279,853,438	5,380,059	213,665,059	2,797,415,635
12/31/2046	2,797,415,635	286,122,262	270,252,563	5,541,460	231,372,315	3,039,116,189
12/31/2047	3,039,116,189	295,473,032	260,465,491	5,707,704	252,084,719	3,320,500,745
12/31/2048	3,320,500,745	305,140,388	250,484,740	5,878,935	276,091,635	3,645,369,093
12/31/2049	3,645,369,093	315,216,374	240,366,812	6,055,303	303,707,980	4,017,871,331
12/31/2050	4,017,871,331	325,670,576	230,270,111	6,236,962	335,268,502	4,442,303,335
12/31/2051	4,442,303,335	336,438,198	220,055,527	6,424,071	371,130,612	4,923,392,546
12/31/2052	4,923,392,546	347,564,595	209,545,986	6,616,793	411,693,317	5,466,487,678
12/31/2053	5,466,487,678	358,861,467	199,079,123	6,815,297	457,376,619	6,076,831,344
12/31/2054	6,076,831,344	370,426,181	188,607,660	7,019,756	508,618,881	6,760,248,990
12/31/2055	6,760,248,990	382,307,177	178,163,784	7,230,349	565,901,356	7,523,063,391
12/31/2056	7,523,063,391	394,203,329	167,788,259	7,447,259	629,731,848	8,371,763,050
12/31/2057	8,371,763,050	406,505,512	157,533,714	7,670,677	700,659,335	9,313,723,506
12/31/2058	9,313,723,506	419,218,052	147,448,842	7,900,797	779,290,501	10,356,882,419
12/31/2059	10,356,882,419	432,426,582	137,562,077	8,137,821	866,282,513	11,509,891,616
12/31/2060	11,509,891,616	446,090,728	127,914,119	8,381,956	962,345,868	12,782,032,137
12/31/2061	12,782,032,137	460,193,418	118,524,146	8,633,415	1,068,244,784	14,183,312,778
12/31/2062	14,183,312,778	474,748,520	109,421,260	8,892,417	1,184,804,367	15,724,551,988

Section 3.5 – Supporting Exhibits (continued)

Projection of Fiduciary Net Position (continued)

Year	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expense	Projected Investment Earnings	Projected Ending Fiduciary Net Position
12/31/2063	15,724,551,988	489,772,515	$ 100,635,597	$ 9,159,190	$ 1,312,916,586	$ 17,417,446,303
12/31/2064	17,417,446,303	505,237,391	92,186,218	9,433,965	1,453,544,500	19,274,608,011
12/31/2065	19,274,608,011	521,179,415	84,101,258	9,716,984	1,607,728,948	21,309,698,132
12/31/2066	21,309,698,132	537,624,419	76,398,276	10,008,494	1,776,597,296	23,537,513,077
12/31/2067	23,537,513,077	554,593,420	69,091,616	10,308,749	1,961,370,516	25,974,076,648
12/31/2068	25,974,076,648	572,137,974	62,192,578	10,618,011	2,163,372,195	28,636,776,228
12/31/2069	28,636,776,228	590,311,670	55,706,829	10,936,551	2,384,038,730	31,544,483,247
12/31/2070	31,544,483,247	609,131,960	49,642,824	11,264,648	2,624,927,373	34,717,635,108
12/31/2071	34,717,635,108	628,590,768	43,997,414	11,602,587	2,887,724,008	38,178,349,882
12/31/2072	38,178,349,882	648,718,694	38,760,657	11,950,665	3,174,255,011	41,950,612,265
12/31/2073	41,950,612,265	669,519,277	33,922,905	12,309,185	3,486,499,651	46,060,399,103
12/31/2074	46,060,399,103	690,909,912	29,477,012	12,678,461	3,826,597,962	50,535,751,505
12/31/2075	50,535,751,505	712,970,305	25,414,209	13,058,814	4,196,866,912	55,407,115,699
12/31/2076	55,407,115,699	735,743,857	21,725,093	13,450,579	4,599,820,445	60,707,504,329
12/31/2077	60,707,504,329	759,198,804	18,401,152	13,854,096	5,038,181,160	66,472,629,044
12/31/2078	66,472,629,044	783,436,335	15,432,145	14,269,719	5,514,899,770	72,741,263,285
12/31/2079	72,741,263,285	808,485,057	12,806,257	14,697,811	6,033,176,715	79,555,420,989
12/31/2080	79,555,420,989	834,371,231	10,510,698	15,138,745	6,596,479,721	86,960,622,498
12/31/2081	86,960,622,498	861,110,996	8,525,294	15,592,907	7,208,565,678	95,006,180,971
12/31/2082	95,006,180,971	888,713,359	6,829,516	16,060,694	7,873,504,114	103,745,508,233
12/31/2083	103,745,508,233	917,189,975	5,401,039	16,542,515	8,595,702,874	113,236,457,528
12/31/2084	113,236,457,528	946,500,455	4,215,925	17,038,791	9,379,934,180	123,541,637,447
12/31/2085	123,541,637,447	976,707,326	3,245,375	17,549,954	10,231,366,930	134,728,916,374
12/31/2086	134,728,916,374	1,007,854,985	2,463,067	18,076,453	11,155,603,121	146,871,834,960
12/31/2087	146,871,834,960	1,039,931,485	1,842,460	18,618,747	12,158,710,440	160,050,015,679
12/31/2088	160,050,015,679	1,073,046,423	1,358,612	19,177,309	13,247,263,179	174,349,789,360
12/31/2089	174,349,789,360	1,107,235,472	987,855	19,752,628	14,428,386,023	189,864,670,371
12/31/2090	189,864,670,371	1,142,548,690	708,477	20,345,207	15,709,796,805	206,695,962,182
12/31/2091	206,695,962,182	1,179,008,404	501,380	20,955,563	17,099,854,732	224,953,368,375
12/31/2092	224,953,368,375	1,216,628,069	350,276	21,584,230	18,607,611,546	244,755,673,484
12/31/2093	244,755,673,484	1,255,444,025	241,774	22,231,757	20,242,868,976	266,231,512,954
12/31/2094	266,231,512,954	1,295,464,691	164,794	22,898,710	22,016,240,230	289,520,154,371
12/31/2095	289,520,154,371	1,336,731,053	110,991	23,585,671	23,939,216,870	314,772,405,631
12/31/2096	314,772,405,631	1,379,304,181	73,933	24,293,241	26,024,243,273	342,151,585,910
12/31/2097	342,151,585,910	1,423,213,554	48,719	25,022,039	28,284,794,654	371,834,523,360
12/31/2098	371,834,523,360	1,468,539,863	31,753	25,772,700	30,735,462,737	404,012,721,507
12/31/2099	404,012,721,507	1,515,341,155	20,448	26,545,881	33,392,049,007	438,893,545,340
12/31/2100	438,893,545,340	1,563,675,903	13,009	27,342,257	36,271,663,508	476,701,529,484
12/31/2101	476,701,529,484	1,613,586,926	8,164	28,162,525	39,392,832,120	517,679,777,841
12/31/2102	517,679,777,841	1,665,105,161	5,040	29,007,401	42,775,612,195	562,091,482,756
12/31/2103	562,091,482,756	1,718,280,209	3,068	29,877,623	46,441,719,121	610,221,601,395
12/31/2104	610,221,601,395	1,773,162,334	1,842	30,773,951	50,414,663,907	662,378,651,842
12/31/2105	662,378,651,842	1,829,781,220	1,088	31,697,170	54,719,900,497	718,896,635,301
12/31/2106	718,896,635,301	1,888,213,015	628	32,648,085	59,384,987,069	780,137,186,672
12/31/2107	780,137,186,672	1,948,526,105	360	33,627,528	64,439,761,262	846,491,846,152
12/31/2108	846,491,846,152	2,010,778,856	202	34,636,353	69,916,527,499	918,384,515,951
12/31/2109	918,384,515,951	2,075,054,141	106	35,675,444	75,850,261,053	996,274,155,595
12/31/2110	996,274,155,595	2,141,419,802	55	36,745,707	82,278,828,822	1,080,657,658,456
12/31/2111	1,080,657,658,456	2,209,941,481	28	37,848,079	89,243,227,154	1,172,072,978,984

Section 3.5 – Supporting Exhibits (continued)

Actuarial Present Values of Projected Benefit Payments

Year	Projected Beginning Fiduciary Net Position	Projected Benefit Payments	Funded Portion of Projected Benefit Payments	Unfunded Portion of Projected Benefit Payments	Present Value of Funded Benefit Payments at 8.25%	Present Value of Unfunded Benefit Payments at 3.34%	Present Value of Benefit Payments Using Single Discount Rate of 8.25%
12/13/2013	$ 1,702,787,884	$ 238,731,582	$ 238,731,582	$ -	$ 238,731,582	$ -	238,731,582
12/31/2014	1,892,714,102	249,160,927	249,160,927	-	230,171,757	-	230,171,757
12/31/2015	1,855,912,051	252,042,518	252,042,518	-	215,088,901	-	215,088,901
12/31/2016	1,885,021,152	258,703,067	258,703,067	-	203,947,254	-	203,947,254
12/31/2017	1,910,732,332	265,014,533	265,014,533	-	193,000,338	-	193,000,338
12/31/2018	1,933,350,363	270,803,988	270,803,988	-	182,186,222	-	182,186,222
12/31/2019	1,954,036,389	276,436,849	276,436,849	-	171,802,114	-	171,802,114
12/31/2020	1,973,102,140	282,426,615	282,426,615	-	162,147,511	-	162,147,511
12/31/2021	1,990,164,858	288,807,960	288,807,960	-	153,174,305	-	153,174,305
12/31/2022	2,004,497,993	295,169,771	295,169,771	-	144,617,461	-	144,617,461
12/31/2023	2,015,833,138	301,275,200	301,275,200	-	136,359,165	-	136,359,165
12/31/2024	2,024,485,003	307,958,131	307,958,131	-	128,761,112	-	128,761,112
12/31/2025	2,029,667,142	314,841,655	314,841,655	-	121,606,650	-	121,606,650
12/31/2026	2,030,982,944	321,891,851	321,891,851	-	114,854,289	-	114,854,289
12/31/2027	2,028,031,274	328,960,386	328,960,386	-	108,430,867	-	108,430,867
12/31/2028	2,020,453,637	335,388,816	335,388,816	-	102,124,514	-	102,124,514
12/31/2029	2,008,853,431	341,162,398	341,162,398	-	95,965,400	-	95,965,400
12/31/2030	1,993,947,171	345,954,545	345,954,545	-	89,896,887	-	89,896,887
12/31/2031	1,976,743,151	349,175,931	349,175,931	-	83,818,910	-	83,818,910
12/31/2032	1,959,204,750	351,484,564	351,484,564	-	77,942,810	-	77,942,810
12/31/2033	1,942,725,927	352,946,682	352,946,682	-	72,302,115	-	72,302,115
12/31/2034	1,928,236,084	353,119,635	353,119,635	-	66,824,522	-	66,824,522
12/31/2035	1,917,598,294	351,519,583	351,519,583	-	61,451,942	-	61,451,942
12/31/2036	1,913,445,182	348,554,231	348,554,231	-	56,289,649	-	56,289,649
12/31/2037	1,918,192,054	344,558,993	344,558,993	-	51,403,639	-	51,403,639
12/31/2038	1,934,044,657	339,284,653	339,284,653	-	46,759,148	-	46,759,148
12/31/2039	1,963,640,466	332,686,046	332,686,046	-	42,355,426	-	42,355,426
12/31/2040	2,010,100,705	325,145,461	325,145,461	-	38,240,561	-	38,240,561
12/31/2041	2,076,246,313	316,923,174	316,923,174	-	34,432,825	-	34,432,825
12/31/2042	2,164,805,075	308,182,651	308,182,651	-	30,931,355	-	30,931,355
12/31/2043	2,278,460,563	298,938,635	298,938,635	-	27,716,915	-	27,716,915
12/31/2044	2,419,923,301	289,529,810	289,529,810	-	24,798,661	-	24,798,661
12/31/2045	2,591,894,644	279,853,438	279,853,438	-	22,143,062	-	22,143,062
12/31/2046	2,797,415,635	270,252,563	270,252,563	-	19,753,723	-	19,753,723
12/31/2047	3,039,116,189	260,465,491	260,465,491	-	17,587,391	-	17,587,391
12/31/2048	3,320,500,745	250,484,740	250,484,740	-	15,624,445	-	15,624,445
12/31/2049	3,645,369,093	240,366,812	240,366,812	-	13,850,643	-	13,850,643
12/31/2050	4,017,871,331	230,270,111	230,270,111	-	12,257,590	-	12,257,590
12/31/2051	4,442,303,335	220,055,527	220,055,527	-	10,821,112	-	10,821,112
12/31/2052	4,923,392,546	209,545,986	209,545,986	-	9,518,994	-	9,518,994
12/31/2053	5,466,487,678	199,079,123	199,079,123	-	8,354,289	-	8,354,289
12/31/2054	6,076,831,344	188,607,660	188,607,660	-	7,311,647	-	7,311,647
12/31/2055	6,760,248,990	178,163,784	178,163,784	-	6,380,393	-	6,380,393
12/31/2056	7,523,063,391	167,788,259	167,788,259	-	5,550,878	-	5,550,878
12/31/2057	8,371,763,050	157,533,714	157,533,714	-	4,814,439	-	4,814,439
12/31/2058	9,313,723,506	147,448,842	147,448,842	-	4,162,801	-	4,162,801
12/31/2059	10,356,882,419	137,562,077	137,562,077	-	3,587,692	-	3,587,692
12/31/2060	11,509,891,616	127,914,119	127,914,119	-	3,081,818	-	3,081,818
12/31/2061	12,782,032,137	118,524,146	118,524,146	-	2,637,955	-	2,637,955
12/31/2062	14,183,312,778	109,421,260	109,421,260	-	2,249,751	-	2,249,751

Section 3.5 – Supporting Exhibits (continued)

Actuarial Present Values of Projected Benefit Payments (continued)

Year	Projected Beginning Fiduciary Net Position	Projected Benefit Payments	Funded Portion of Projected Benefit Payments	Unfunded Portion of Projected Benefit Payments	Present Value of Funded Benefit Payments at 8.25%	Present Value of Unfunded Benefit Payments at 3.34%	Present Value of Benefit Payments Using Single Discount Rate of 8.25%
12/31/2063	15,724,551,988	100,635,597	$ 100,635,597	$ -	$ 1,911,421	$ -	$ 1,911,421
12/31/2064	17,417,446,303	92,186,218	92,186,218	-	1,617,495	-	1,617,495
12/31/2065	19,274,608,011	84,101,258	84,101,258	-	1,363,174	-	1,363,174
12/31/2066	21,309,698,132	76,398,276	76,398,276	-	1,143,944	-	1,143,944
12/31/2067	23,537,513,077	69,091,616	69,091,616	-	955,693	-	955,693
12/31/2068	25,974,076,648	62,192,578	62,192,578	-	794,701	-	794,701
12/31/2069	28,636,776,228	55,706,829	55,706,829	-	657,576	-	657,576
12/31/2070	31,544,483,247	49,642,824	49,642,824	-	541,335	-	541,335
12/31/2071	34,717,635,108	43,997,414	43,997,414	-	443,209	-	443,209
12/31/2072	38,178,349,882	38,760,657	38,760,657	-	360,699	-	360,699
12/31/2073	41,950,612,265	33,922,905	33,922,905	-	291,621	-	291,621
12/31/2074	46,060,399,103	29,477,012	29,477,012	-	234,089	-	234,089
12/31/2075	50,535,751,505	25,414,209	25,414,209	-	186,443	-	186,443
12/31/2076	55,407,115,699	21,725,093	21,725,093	-	147,232	-	147,232
12/31/2077	60,707,504,329	18,401,152	18,401,152	-	115,202	-	115,202
12/31/2078	66,472,629,044	15,432,145	15,432,145	-	89,251	-	89,251
12/31/2079	72,741,263,285	12,806,257	12,806,257	-	68,420	-	68,420
12/31/2080	79,555,420,989	10,510,698	10,510,698	-	51,875	-	51,875
12/31/2081	86,960,622,498	8,525,294	8,525,294	-	38,870	-	38,870
12/31/2082	95,006,180,971	6,829,516	6,829,516	-	28,765	-	28,765
12/31/2083	103,745,508,233	5,401,039	5,401,039	-	21,015	-	21,015
12/31/2084	113,236,457,528	4,215,925	4,215,925	-	15,153	-	15,153
12/31/2085	123,541,637,447	3,245,375	3,245,375	-	10,776	-	10,776
12/31/2086	134,728,916,374	2,463,067	2,463,067	-	7,555	-	7,555
12/31/2087	146,871,834,960	1,842,460	1,842,460	-	5,221	-	5,221
12/31/2088	160,050,015,679	1,358,612	1,358,612	-	3,556	-	3,556
12/31/2089	174,349,789,360	987,855	987,855	-	2,389	-	2,389
12/31/2090	189,864,670,371	708,477	708,477	-	1,583	-	1,583
12/31/2091	206,695,962,182	501,380	501,380	-	1,035	-	1,035
12/31/2092	224,953,368,375	350,276	350,276	-	668	-	668
12/31/2093	244,755,673,484	241,774	241,774	-	426	-	426
12/31/2094	266,231,512,954	164,794	164,794	-	268	-	268
12/31/2095	289,520,154,371	110,991	110,991	-	167	-	167
12/31/2096	314,772,405,631	73,933	73,933	-	103	-	103
12/31/2097	342,151,585,910	48,719	48,719	-	62	-	62
12/31/2098	371,834,523,360	31,753	31,753	-	38	-	38
12/31/2099	404,012,721,507	20,448	20,448	-	22	-	22
12/31/2100	438,893,545,340	13,009	13,009	-	13	-	13
12/31/2101	476,701,529,484	8,164	8,164	-	8	-	8
12/31/2102	517,679,777,841	5,040	5,040	-	4	-	4
12/31/2103	562,091,482,756	3,068	3,068	-	2	-	2
12/31/2104	610,221,601,395	1,842	1,842	-	1	-	1
12/31/2105	662,378,651,842	1,088	1,088	-	1	-	1
12/31/2106	718,896,635,301	628	628	-	0	-	0
12/31/2107	780,137,186,672	360	360	-	0	-	0
12/31/2108	846,491,846,152	202	202	-	0	-	0
12/31/2109	918,384,515,951	106	106	-	0	-	0
12/31/2110	996,274,155,595	55	55	-	0	-	0
12/31/2111	1,080,657,658,456	28	28	-	0	-	0

Section 4
Actuarial Funding Projections

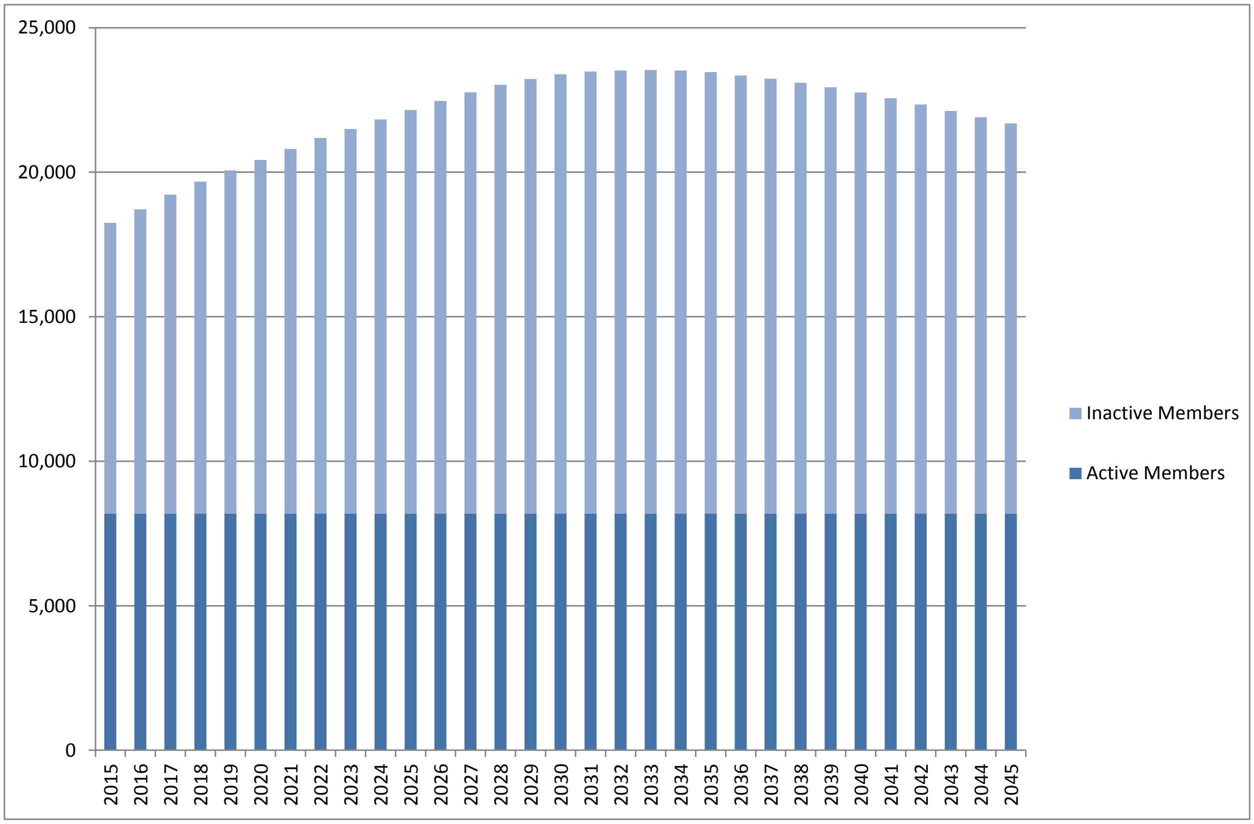
Section 4.1 - Projection Assumptions and Methods

Key Assumptions

- 8.25% investment return on the Fair Value of Assets in all future years.
- The Actuarial Value of Assets is the Market Value of Assets.
- Actuarial assumptions and methods as described in Section 6. All future demographic experience is assumed to be exactly realized.
- The actuarially calculated contribution is contributed each year.
- Projections assume a 0% increase in the total active member population. All new future members are expected to enter the plan after 12 months of continuous service and contribution rates are determined as a percent of total payroll.

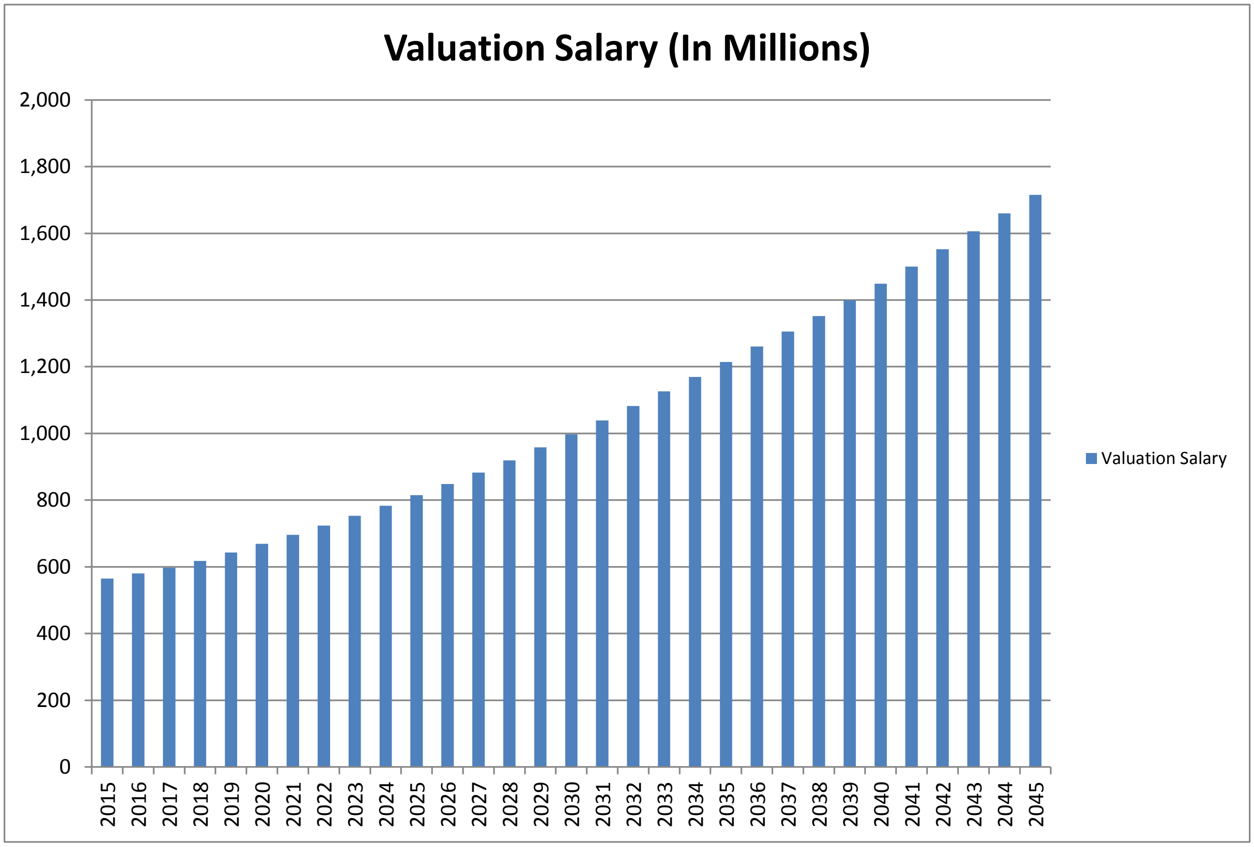
Section 4.2 - Membership Projection

Projected Member Count

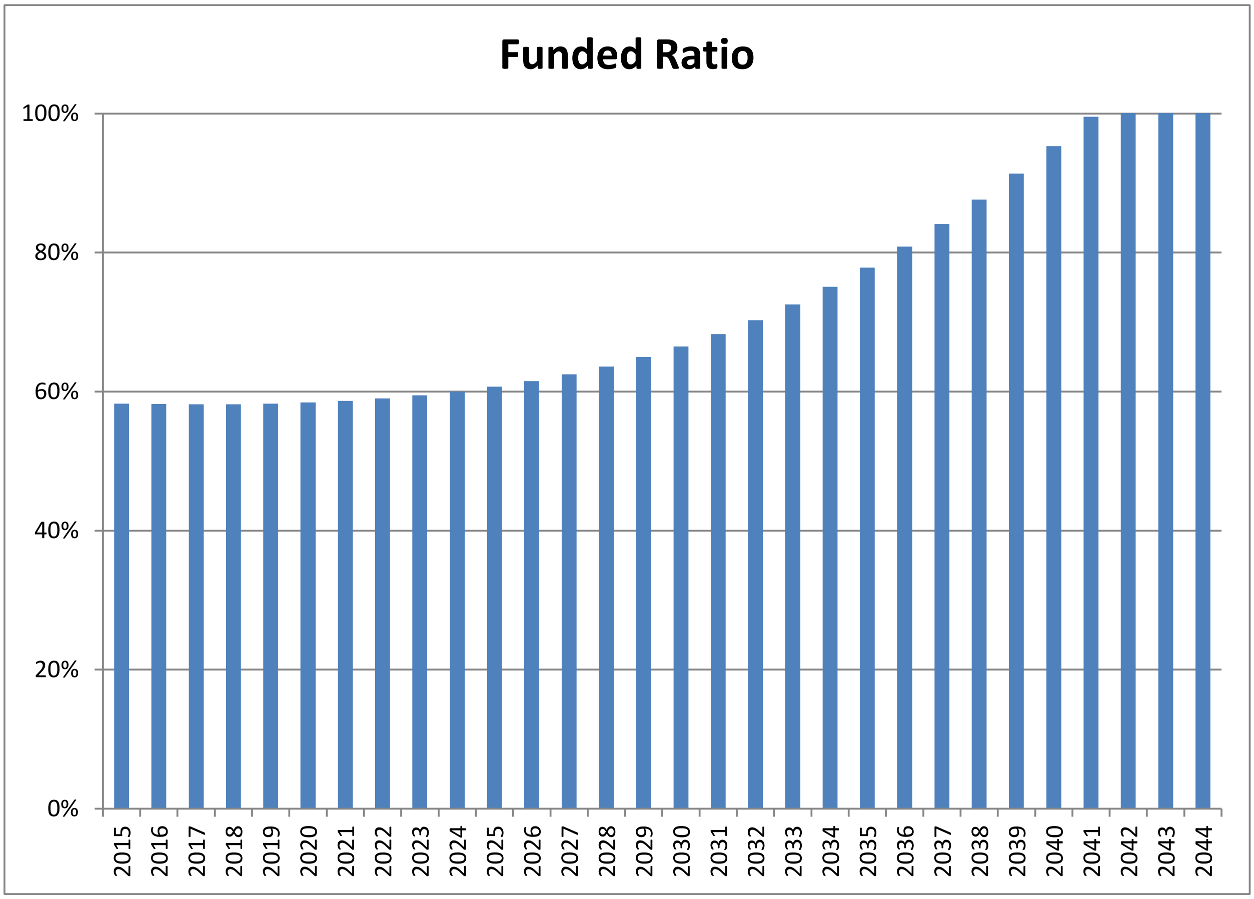


Section 4.2 – Continued
Membership Projection

Projected Current and New Member Payroll



Section 4.3 - Projection of Funded Status



Section 5
Member Data

Section 5.1 - Summary of Membership Data as of January 1, 2015

($ in 000's)

Active Employees

Item	Male	Female	Total
Number of Members [1]	5,760	2,491	8,251
Annual Salaries [2]	$415,631	$149,197	$564,828
Average Age [1]	48.50	47.48	48.24
Average Service [1]	14.30	12.77	13.84

Terminated Vested Employees

Item	Male	Female	Total
Number of Members	73	30	103
Annual Accrued Benefit	$1,899	$756	$2,655
Average Age	56.60	55.83	56.38

Retirees and Beneficiaries

Item	Male	Female	Total
Number of Members	6,598	2,190	8,788
Annual Retirement Benefit	$186,211	$42,324	$228,535
Average Age	70.30	71.22	70.53

Disabled Retirees

Item	Male	Female	Total
Number of Members	633	469	1,102
Annual Disability Benefit	$10,702	$6,728	$17,430
Average Age	63.65	62.27	63.06

[1] Active statistics include all participants who are actively employed which includes 18 participants who are on leave and 56 participants who have opted out of participating in the Plan and are only entitled to a return of their contributions.

[2] The salary information for the 56 participants who have opted out of participating in the Plan is not included.

Section 5.2 - Age and Service Distribution of Active Members as of January 1, 2015

Number of Participants

	Years of Service									
Age	**Under 5**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**Over 40**	**Total**
Under 25	19	-	-	-	-	-	-	-	-	19
25-29	143	56	1	-	-	-	-	-	-	200
30-34	264	236	96	7	-	-	-	-	-	603
35-39	218	225	289	104	4	-	-	-	-	840
40-44	270	233	390	312	92	3	-	-	-	1,300
45-49	214	189	407	386	339	100	1	-	-	1,636
50-54	161	171	357	331	311	205	38	2	-	1,576
55-59	121	116	243	248	239	187	62	18	4	1,238
60-64	63	63	118	144	121	80	20	24	13	646
Over 65	11	26	35	36	35	17	7	10	16	193
Total	1,484	1,315	1,936	1,568	1,141	592	128	54	33	8,251

Section 5.3 - Retirement Retiree and Beneficiary Data as of January 1, 2015

Number and Average Annual Allowance

Age Last Birthday	Number	Annual Allowance	Average Allowance
Retired Annuitants			
Under 50	30	$1,145,191	$38,173
50-54	206	$8,264,265	$40,118
55-59	591	$21,910,297	$37,073
60-64	1,302	$42,799,520	$32,872
65-69	2,140	$61,532,623	$28,754
70-74	1,698	$44,047,455	$25,941
75-79	1,007	$23,009,776	$22,850
Over 79	912	$15,840,750	$17,369
Total	7,886	$218,549,877	$27,714
Surviving Spouses			
Under 50	8	$90,135	$11,267
50-54	19	$321,325	$16,912
55-59	40	$531,089	$13,277
60-64	67	$1,017,115	$15,181
65-69	126	$1,858,040	$14,746
70-74	167	$1,957,044	$11,719
75-79	133	$1,347,437	$10,131
Over 79	342	$2,863,302	$8,372
Total	902	$9,985,487	$11,070
Disability Allowances			
Under 50	115	$1,859,316	$16,168
50-54	127	$2,387,874	$18,802
55-59	161	$2,949,181	$18,318
60-64	207	$3,546,964	$17,135
65-69	225	$3,304,759	$14,688
70-74	137	$1,824,273	$13,316
75-79	90	$1,091,372	$12,126
Over 79	40	$466,294	$11,657
Total	1,102	$17,430,033	$15,817

Section 5.4 - Inactive Vested Employee Data as of January 1, 2015

Number and Average Accrued Benefit

Age Last Birthday	Number	Annual Accrued Benefit	Average Accrued Benefit
Terminated Vested			
Under 35	-	-	-
35-39	-	-	-
40-44	4	$72,642	$18,161
45-49	9	$204,266	$22,696
50-54	20	$656,262	$32,813
55-59	38	$1,146,710	$30,177
60-64	32	$574,732	$17,960
65-69	-	-	-
Over 70	-	-	-
Total	103	$2,654,612	$25,773

Section 6
Basis of the Actuarial Valuation

Section 6.1 - Summary of Plan and Contribution Provisions

Eligibility—All full-time permanent employees of the Chicago Transit Authority are included in the Plan after completing 12 months of continuous service unless specifically excluded by the terms of a collective bargaining agreement. Exempt non-vested employees may opt out of the plan. Chicago Transit Authority Board members are not included.

Contributions—The Chicago Transit Authority will contribute a percent of compensation for all participating employees and each participating employee will contribute a percent of his compensation to the Plan:

Annual Contributions to the Plan (Percentage of Compensation)	
Authority	Employees
14.250%	10.125%

For years through 2040, the amount paid by the Authority with respect to debt service on bonds issued for contribution to the Retirement Plan shall be treated as a credit against the amount of required contribution up to an amount not to exceed six percent of compensation paid by the Authority in the following year. The amount paid in debt service is always greater than six percent of projected compensation.

In order to be eligible for the credit, the debt service payment may not be paid with the proceeds of bonds or notes issued by the CTA for any calendar year after 2008. Buck has confirmed that the debt service payment for the year triggering the credit was not paid with the proceeds of bonds or notes issued by the CTA for any calendar year after 2008.

Minimum contributions as set forth elsewhere in this report may also apply.

Normal Retirement—The normal retirement age is 65. For employees retiring on or after January 1, 2001 the annual normal retirement pension is equal to the sum of (a) and (b) below, but not greater than 70.0% of the employee's average annual compensation:

(a) 1% of the employee's past service compensation as of May 31, 1948, for each full year of continuous service prior to June 1, 1949, plus

(b) 2.15% of average annual compensation for each year (and fraction of completed calendar months) of continuous service after June 1, 1949.

Average annual compensation is equal to the highest average compensation over any four calendar years out of the final 10 calendar years prior to normal retirement (or actual retirement, if later). If an employee has at least 20 years of service, his minimum annual pension is $2,220.

Section 6.1 – Continued
Summary of Plan and Contribution Provisions

Early Retirement:

Employees hired before January 18, 2008: An employee may retire early after attaining age 55 and completing at least three years of continuous service, or after completion of 25 years of continuous service. The early retirement pension is equal to the accrued normal retirement pension based on compensation and service at early retirement, reduced by 5% for each year or fraction younger than age 65. The 5% per year reduction is not applied if the employee has at least 25 years of service. Employees hired after September 5, 2001 may retire early with unreduced benefits after attaining age 55 and completing at least 25 years of service.

Employees hired on and after January 18, 2008: An employee may retire with unreduced benefits upon attainment of age 64 with 25 years of service. An employee may retire with a benefit reduced as described above upon attainment of age 55 with 10 years of continuous service.

Disability Allowance:

An employee is eligible for a disability allowance if he becomes disabled after completing 10 years of service, or if his disability after completing five years of service is covered under the Workmen's Compensation Act. An employee is disabled if he either (a) is totally and permanently disabled or (b) is unable to return to work after receiving 26 weeks of benefits under the Authority's Group Accident and Sickness Insurance or from the Authority under the Workmen's Compensation Act. The disability allowance is equal to the normal retirement pension based on compensation and service at disability subject to a minimum annual pension of $4,800.

Death Benefits:

If an employee dies prior to retirement or disability and after one year of service, his contributions, accumulated with interest, are paid to his beneficiary. "Interest" is equal to the rate of interest earned by the Fund (to a maximum of 2%) prior to January 1, 1971, 1/2 of the rate of interest earned by the Fund (to a maximum of 3%) between January 1, 1971, and January 1, 1980, and 3% after December 31, 1979. If an employee dies after 90 days of service but prior to one year of service, his contributions, without interest, are paid to his beneficiary; and if he dies prior to 90 days of service, his contributions are not refunded.

If an employee is eligible for early retirement, he is automatically covered by a surviving spouse benefit, payable upon his death prior to retirement, in lieu of a return of his contributions. The spouse benefit is equal to 1/2 of the pension which would have been payable to the employee if he had retired on the first day of the month of his death and had elected an optional form of pension providing 1/2 of his reduced pension to his surviving spouse. Employees may elect not to be covered by this option and provide for the payment of their contributions with interest to their beneficiary in lieu thereof.

If an employee dies after his retirement pension has commenced, his beneficiary receives the excess, if any, of his contributions, accumulated with interest to his retirement date, over the sum of the pension payments made to him. However, if his surviving spouse is entitled to a pension after his death, such excess will not be paid to his beneficiary. At the death of the surviving spouse, the excess, if any, of the contributions accumulated with interest to his retirement date over the sum of the pension payments made to him and his surviving spouse will be paid.

Section 6.1 – Continued
Summary of Plan and Contribution Provisions

A retired employee's beneficiary will receive a death benefit equal to the amount from the following schedule according to the employee's age and service at retirement:

Age	Service	Age + Service	Death Benefit
65	20	N/A	$8,000
60	N/A	90	$8,000
N/A	25	N/A	$8,000
N/A	N/A	94	$8,000
60-64	20	N/A	$6,000
55-59	20	N/A	$5,000
All Others			$2,000

Termination Benefits:

If an employee terminates his employment prior to eligibility for retirement or disability and after completing one year of service, he receives a refund of his contributions plus interest (3% after December 31, 1979). If he terminates after 90 days but prior to one year, he receives his contributions without interest, and if he terminates less than 90 days after hire, he receives no refund. If an employee has completed 10 years of continuous service and elects to leave his contributions in the Plan, he remains entitled to his normal retirement pension beginning at age 65 but based on his compensation and service at termination.

Optional Benefit Forms:

In lieu of a normal pension, an employee may elect an optional annuity of equivalent actuarial value providing payments of 1/2, 2/3, or all of his reduced pension to his spouse after his death (Option A). Alternatively, an employee may elect an optional annuity of equivalent actuarial value providing payments of 1/2, 2/3, or all of his reduced pension to his spouse after his death with the further provision that his benefit will be restored to the full amount to him after the death of his spouse (Option B).

Retired Employees:

Benefits for retired employees have been valued according to benefits in effect at time of retirement as modified by subsequent amendments. Such benefits are kept on records maintained by the Authority.

Voluntary Early Retirement Incentive Program:

During 1997, the Plan was amended to offer enhanced retirement benefits to all employees who have at least 25 years of continuous service on or before December 31, 1999, and who have not retired prior to January 1, 1997. Those eligible on or before June 30, 1997 must elect to participate during the period March 1, 1997, to June 30, 1997. Employees eligible during the period July 1, 1997, to December 31, 1999, must elect to participate between July 1, 1997, and February 28, 1998. All eligible employees who elect to participate must retire no later than December 31, 1999. The benefit is determined based on a formula multiplier of 2.40% of average annual compensation with the benefit cap at 70.0% of such average annual compensation.

Section 6.1 – Continued
Summary of Plan and Contribution Provisions

Ad hoc increases in retiree benefits:

As part of the Arbitration Award ruling of November 13, 2003, the following ad hoc increases were given to retirees in payment status as of January 1, 2000:

(a) $75 per month for members retired before January 1,1980

(b) $50 per month for members who retired on or after January 1, 1980, but before January 1, 1991

(c) $40 per month for members who retired on or after January 1, 1991, but before January 1, 2000

As part of an Arbitration Award ruling of June 26, 2007, another ad hoc adjustment was made for participants.

Contribution Requirements Under P.A. 95-0708

Beginning January 18, 2008, the Authority shall make contributions to the Retirement Plan in an amount equal to 12 percent of compensation and participating employees shall make contributions in an amount equal to six percent of compensation. For years through 2040, the amount paid by the Authority with respect to debt service on bonds issued for contribution to the Retirement Plan shall be treated as a credit against the amount of required contribution, up to an amount not to exceed six percent of compensation paid by the Authority in the following year.

If the funded ratio is projected to decline below 60 percent in any year before 2040 using reasonable actuarial assumptions and the projected unit credit funding method, the contribution shall be increased so that the funded ratio is not projected to drop below 60 percent. If the funded ratio actually drops below 60 percent in any year before 2040, the contribution shall be increased so that the funded ratio is projected to reach 60 percent within 10 years. The increase in contributions shall be effective as of the January 1 following the determination, or 30 days following the determination, whichever is later. One-third of the increase in contributions shall be paid by participating employees and two-thirds by the Authority.

Beginning in 2040, the minimum contribution for each fiscal year shall be predetermined each year as the amount required to bring the total assets of the Retirement Plan up to 90 percent of the total actuarial liabilities by the end of 2059, using the projected unit credit funding actuarial cost method and reasonable actuarial assumptions. Participating employees shall be responsible for one-third of the required contribution and the Authority shall be responsible for two-thirds of the required contribution.

Beginning in 2060, the minimum contribution for each year shall be an amount needed to maintain the total assets of the Retirement Plan at 90 percent of the total actuarial liabilities of the Plan and the contribution shall be funded one-third by participating employees and two-thirds by the Authority.

Section 6.2 - Description of Actuarial Methods and Valuation Procedures

A. Actuarial Cost Method

Liabilities and contributions shown in this report are computed using the **Projected Unit Credit Cost Method** of funding.

Sometimes called a “funding method,” this is a particular technique used by actuaries for establishing the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily the annual contribution to the plan is comprised of (1) the normal cost and (2) an amortization payment on the unfunded actuarial accrued liability.

Under the Projected Unit Credit Cost Method, the **Normal Cost** for the given year is computed as the present value of the unit of benefit attributable to that year for each active Member. The Normal Cost for the Plan is determined by summing individual results for each active Member.

The **Actuarial Accrued Liability** under this method at any point in time is equal to the present value of benefits accrued to the measurement date using a service pro-rate method.

The **Unfunded Actuarial Accrued Liability** is the excess of the Actuarial Accrued Liability over the Actuarial Value of Plan Assets actually on hand on the valuation date. The Unfunded Actuarial Accrued Liability is amortized as a level dollar amount over a fixed period of 30 years.

Under this method experience gains or losses, i.e. decreases or increases in accrued liabilities attributable to deviations in experience from the actuarial assumptions, adjust the Unfunded Actuarial Accrued Liability.

Section 6.2 – Continued
Description of Actuarial Methods and Valuation Procedures

B. Asset Valuation Method

The actuarial value of assets equals the market value of assets.

C. Valuation Procedures

No actuarial liability is included for members who terminated non-vested prior to the valuation date, except those due a refund of contributions.

The compensation amounts used in the projection of benefits and liabilities were January 1, 2015 rates of pay provided by staff of the Retirement Board of Trustees.

No termination or retirement benefits were projected to be greater than the dollar limitation required by the Internal Revenue Code Section 415 for governmental plans.

Annual increases in salary were limited to the dollar amount defined under Internal Revenue Code Section 401(a)(17) for affected members.

Section 6.3 - Summary of Actuarial Assumptions and Changes in Assumptions

Retiree Benefits: The benefit amounts received for retirees were compared to information received from the Authority for the prior valuation.

Earnings on Plan Assets: 8.25% per annum, compounded annually.

Salary Inflation: 3.25%

Compensation Increases: According to the following table, compounded annually, assumed end of year (includes inflation):

Years of Service	Rate
1	9.00%
2	11.00%
3	16.00%
4	5.00%
>=5	4.00%

Mortality:

(a) *Active Members* — RP2000 Blue Collar Table, generational to 2016 based on Scale BB and then fully generational.

(b) *Retirees & Survivors* — RP2000 Blue Collar Table, generational to 2016 based on Scale BB and then fully generational.

(c) *Disabled Employees* — RP2000 Disabled Table, generational to 2016 based on Scale BB and then fully generational.

Section 6.3 – Continued
Summary of Actuarial Assumptions and Changes in Assumptions

Withdrawals from Service: According to the following table shown for illustrative ages:

Age	Rates of Termination for Reasons Other than Death or Disability
25	7.00%
30	5.10%
35	4.10%
40	2.90%
45	2.40%
50	1.90%
55 & Older	0.00%

If service is 25 or greater, no withdrawal is assumed.

Recovery from disability without returning to work: Disabled members are assumed to recover according to the following table as shown for illustrative ages:

Sample Attained Ages	Disabled Recovery [1]	
	Men	Women
30	0.412%	0.461%
35	0.406%	0.447%
40	0.382%	0.422%
45	0.326%	0.393%
50	0.216%	0.343%
55	0.013%	0.248%
60	0.000%	0.012%
65	0.000%	0.000%
70	0.000%	0.000%
75	0.000%	0.000%
80	0.000%	0.000%

1. Disability recovery after verification of the ability to return to work in the same position as determined by the Plan's Disability manager.

Section 6.3 – Continued
Summary of Actuarial Assumptions and Changes in Assumptions

Disability Allowance: According to the following table as shown for illustrative ages:

Age	Rate of Disability
25	0.10%
30	0.10%
35	0.20%
40	0.30%
45	0.40%
50	0.50%
55	0.60%
60	0.70%
65 & older	0.78%

Section 6.3 – Continued
Summary of Actuarial Assumptions and Changes in Assumptions

Service Retirements:

Age	Pre 1/19/2008 Hires Probability of Retirement		Post 1/18/2008 Hires Probability of Retirement	
	Service<25	Service>25	Service<25	Service>25
45-54	0.00%	20.00%	0.00%	0.00%
55	1.50%	20.00%	1.50%	1.50%
56	1.50%	22.50%	1.50%	1.50%
57	2.00%	25.00%	2.00%	2.00%
58	2.00%	27.50%	2.00%	2.00%
59	2.00%	30.00%	2.00%	2.00%
60	2.50%	32.50%	2.50%	2.50%
61	4.00%	35.00%	4.00%	4.00%
62	15.00%	37.50%	20.00%	20.00%
63	15.00%	40.00%	15.00%	15.00%
64	20.00%	42.50%	15.00%	15.00%
65	30.00%	45.00%	60.00%	60.00%
66	30.00%	45.00%	25.00%	25.00%
67	30.00%	45.00%	25.00%	25.00%
68	30.00%	45.00%	25.00%	25.00%
69	30.00%	45.00%	25.00%	25.00%
70-74	30.00%	45.00%	30.00%	30.00%
75	100.00%	100.00%	100.00%	100.00%

Spouse Data: 75% of employees eligible at retirement are assumed to be married, 50% of those married are assumed to elect a spouse option (Option A–50%) and the average equivalency factor to convert their accrued pension to a spouse option (Option A–50%) is assumed to be 85%. A wife is assumed to be 3 years younger than her husband. Actual dependent coverage data was used for participants retired as of the valuation date.

Section 6.3 – Continued
Summary of Actuarial Assumptions and Changes in Assumptions

Miscellaneous and Technical Assumptions:

Pay Increase Timing:	End of (Fiscal) year.
Decrement Timing:	Decrements of all types are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
Benefit Service:	Exact fractional service from date of participation is used to determine the amount of benefit payable.
Decrement Relativity:	Decrement rates are used directly based on assumptions, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and turnover do not operate after 25 years of service.

Summary of changes since January 1, 2014 Valuation

All assumptions and methods used for this valuation are unchanged from the prior valuation.

Glossary of Terms

Actuarial Accrued Liability	Total accumulated cost to fund pension benefits arising from service in all prior years.
Actuarial Cost Method	Technique used to assign or allocate, in a systematic and consistent manner, the expected cost of a pension plan for a group of plan members to the years of service that give rise to that cost.
Actuarial Present Value of Future Benefits	Amount which, together with future interest, is expected to be sufficient to pay all future benefits.
Actuarial Valuation	Study of probable amounts of future pension benefits and the necessary amount of contributions to fund those benefits.
Actuary	Person who performs mathematical calculations pertaining to pension and insurance benefits based on specific procedures and assumptions.
Annual Required Contribution	Disclosure measure of annual pension cost.
Normal Cost	That portion of the actuarial present value of benefits assigned to a particular year in respect to an individual participant or the plan as a whole.
Unfunded Actuarial Accrued Liability (UAAL)	The portion of the actuarial accrued liability not offset by plan assets.