## RETIREMENT PLAN FOR CTA EMPLOYEES

# Actuarial Valuation Report as of January 1, 2013 

August 2013

## RETIREMENT PLAN FOR CTA EMPLOYEES

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August 12, 2013

Board of Trustees and Executive Director
Retirement Plan for CTA Employees
10 S. LaSalle, Suite 1100
Chicago, IL 60602

## 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, 2013, prepared in accordance with 40 ILCS 5/22-101(e). In addition it includes disclosure information as of December 31, 2012, as required under GASB Statements No. 25 and 27. The actuarial valuation of the Plan is performed annually and Buck Consultants was retained to perform the valuation as of January 1, 2013. 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 94-839, effective June 6, 2006, requires that the Plan's pension and retiree health care programs be separated into two distinct trusts by December 31, 2008. This January 1, 2013 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 (2012) 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 2022 and through fiscal year end 2039, 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.

| Fiscal Year | Annual Contributions to the Plan (Percentage of Compensation) |  |
| :---: | :---: | :---: |
|  | Authority | Employees |
| 2014 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.

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While not required by 40 ILCS 5/22-101(e)(3), GASB 25 suggests an annual required contribution ("ARC") of approximately $27.56 \%$ (total contribution). Buck has recommended that the Board of Trustees consider, as appropriate, moving towards a contribution of the ARC 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 tenyear 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 adopted 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. We will explore this issue in more detail during the experience review to be conducted before the January 1, 2014 valuation. The most recent study of the plan's experience, used in developing the current actuarial assumptions, was based on a period from January 1, 2001 - December 31, 2007 and first used with the January 1, 2009 actuarial valuation; the next review will cover the period from January 1, 2008 through December 31, 2013. In our opinion, the actuarial assumptions used in the valuation are, in the aggregate, reasonable

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

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.

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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.

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

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, 2013.

Respectfully submitted,
BUCK CONSULTANTS, LLC


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


Emily Urbaniak
Senior Consultant, Retirement
cc: Paul Wilkinson Emily Urbaniak
Kevin Peng

## RETIREMENT PLAN FOR CTA EMPLOYEES

## 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, 2013.

## 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 2013, 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, 2013, there were 8,317 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, 2013 | January 1, 2012 |
| :--- | ---: | ---: |
| Number of active members | 8,317 | 8,751 |
| Average age | 47.8 | 47.4 |
| Average years of service | 14.3 | 13.8 |
| Total annual valuation salary | $548,515,157$ | $541,353,693$ |
| Average annual salary | 66,142 | 62,132 |
| Total accumulated contributions | $306,193,043$ | $271,327,054$ |
| Average accumulated contributions | 36,922 | 31,140 |

Note - Salary information does not include participants who have opted out of participation and are only entitled to a refund of contributions. These participants number 38 and 24 for 2012 and 2013, respectively.

## RETIREMENT PLAN FOR CTA EMPLOYEES

The number of active members decreased by $5.0 \%$ from the previous valuation date. The average age of the active members increased by 0.4 years, and the average service increased by 0.5 years. The total annual valuation salary increased by $1.3 \%$. The average salary increased by $6.5 \%$ 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 81 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, 2013 | January 1, 2012 |
| :--- | ---: | ---: |
| Number of inactive members | 81 | 84 |
| Average age | 55.2 | 55.1 |
| Average annual benefit payments | 25,716 | 25,223 |

The number of inactive vested members decreased by $3.6 \%$ from the previous valuation. The average age of the inactive vested members increased by 0.1 years. The Average Monthly Pension Benefit for these members increased by $2.0 \%$ 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 8,811 retired members and 780 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, 2013
January 1, 2012

| Number of members receiving payments |  |  |
| :---: | ---: | ---: |
| $>$ Retirees | 8,811 | 8,638 |
| $>$ Beneficiaries | 780 | 780 |
| $>$ Total | 9,519 | 9,418 |
| Average age | 69.4 | 68.9 |
| Annual benefit amounts |  |  |
| $>$ Retirees | $223,965,930$ | $216,315,908$ |
| $>$ Beneficiaries | $7,947,970$ | $7,734,087$ |
| $>$ Total | $231,913,900$ | $224,049,995$ |
| Average annual benefit payments | 24,180 | 23,790 |

The number of retired members and beneficiaries increased by $1.8 \%$ from the previous valuation date. The average age of these members increased by 0.5 years. The total annual benefit payments for these members increased by $3.5 \%$ 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.

## RETIREMENT PLAN FOR CTA EMPLOYEES

## 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 $\$ 1,702.8$ million as of January 1, 2013. This includes an increase of $\$ 40.6$ million over the Net Assets Available for Benefits of $\$ 1,662.2$ million as of January 1, 2012. During the prior year, the investment return was $11.27 \%$ 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 gain of $\$ 18.4$ million during the prior year. This net gain is about $0.7 \%$ of the plan's prior year actuarial accrued liability. The net gain 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 $\$ 9.7$ million during the year ending December 31, 2012. This loss increased the unfunded actuarial accrued liability by $\$ 9.7$ million and decreased the funded ratio by $0.2 \%$.

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 gain on an actuarial value of assets basis. The actual rate of return on the actuarial value of plan assets was $11.27 \%$ for the year ending December 31, 2012 compared to the assumption of $8.5 \%$, resulting in an asset gain of $\$ 28.1$ million. This gain decreased the unfunded actuarial accrued liability by $\$ 28.1$ million and increased the funded ratio by $1.0 \%$.

A summary of the actuarial gains and losses experienced during the prior year is shown in Section 1.2 .

## RETIREMENT PLAN FOR CTA EMPLOYEES

## GASB 25 Actuarial 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 (2012) 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), GASB 25 suggests a funding policy be sufficient to pay the normal cost and amortize the unfunded actuarial accrued liability over a fixed period of 30 years. Buck has recommended that the Board of Trustees consider, as appropriate, moving towards a contributions of the ARC 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.

The normal cost represents the cost of the benefits that accrue during the year for active members under the Projected Unit Credit Cost Method. It is determined as the present value of the unit of benefit attributable to the respective plan year. The normal cost for 2013 has been determined to be $\$ 51.3$ million, or $9.35 \%$ of pay. This represents a decrease in the normal cost rate of $0.07 \%$ of pay from last year's normal cost rate of $9.42 \%$.

The cost method under which the actuarial accrued liability is determined is the projected unit credit cost method. Under the projected unit credit cost method, the actuarial accrued liability (AAL) is equal to the present value of benefits accrued to the measurement date using a service pro-rate method. The normal cost is equal to the difference between the AAL at the end of the plan year, including one year of expected salary increases, and the AAL at the beginning of the plan year, adjusted for interest. This 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 GASB 25.

The unfunded actuarial accrued liability as of January 1,2013 is $\$ 1,164.5$ million. This represents an increase of $\$ 18.5$ million in the unfunded actuarial accrued liability from last year's amount of $\$ 1,146.0$ million. The annual payment required to amortize the unfunded actuarial accrued liability of $\$ 1,164.5$ million as of January 1,2013 is $\$ 99.9$ million, or $18.21 \%$ of pay.

The ARC for 2013 is $\$ 157.6$ million, or $28.73 \%$ of pay. This represents an increase of $\$ 2.0$ million in the contribution amount of $\$ 155.6$ million for 2012, or a decrease of $0.01 \%$ of pay from last year's contribution rate of $28.74 \%$.

The actuarial liabilities and development of the ARC 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.

## RETIREMENT PLAN FOR CTA EMPLOYEES

## 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, 2013 the funded ratio of the Plan is 59.4\%. This represents an increase of 0.2\% from last year's funded ratio of 59.2\% as of January 1, 2012.

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

## 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. 25 can be found in Section 3.

## 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, 2012.

## 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, 2012.

## RETIREMENT PLAN FOR CTA EMPLOYEES

## Comparative Summary of Key Actuarial Valuation Results

|  | January 1, 2013 | January 1, 2012 |
| :---: | :---: | :---: |
| 1. Investment Return Assumption | 8.50 \% | 8.50 \% |
| 2. Membership Data <br> a. Active Members Number Annualized Salaries (in thousands) Average Pay <br> b. Terminated Participants with Vested Benefits Number Total Monthly Accrued Benefit Average Monthly Accrued Benefit <br> c. Retirees and Beneficiaries Number Total Monthly Pension Average Monthly Pension <br> d. Disabled Recipients Number Total Monthly Pension Average Monthly Pension | $\begin{array}{r} 8,317 \\ 548,515 \\ 66,142 \\ 81 \\ 173,585 \\ 2,143 \\ \\ 8,574 \\ 18,061,170 \\ 2,107 \\ \\ 1,017 \\ 1,264,988 \\ 1,244 \end{array}$ | $\begin{array}{r} 8,751 \\ 541,354 \\ 62,132 \\ \\ 84 \\ 176,558 \\ 2,102 \\ \\ 8,474 \\ 17,511,669 \\ 2,067 \\ \\ 944 \\ 1,159,164 \\ 1,228 \end{array}$ |
| 3. Statutory Minimum Contribution Rates Minimum Contribution Rates (as a percentage of Payroll) ${ }^{1}$ <br> a. Employer Contribution Rate Gross Employer Rate Credit for Debt Repayment Net Employer Rate <br> b. Employee Contribution Rate | $\begin{array}{r} 20.250 \% \\ 6.000 \% \\ 14.250 \% \\ 10.125 \% \end{array}$ | $\begin{array}{r} 19.966 \% \\ 6.000 \% \\ 13.966 \% \\ 9.983 \% \\ \hline \end{array}$ |
| 4. GASB Annual Required Contribution <br> a. Amortization Payment for UAAL <br> i. Amount <br> ii. As a $\%$ of pay <br> b. Normal Cost <br> i. Amount <br> ii. As a \% of pay <br> c. Interest Adjustment to Mid-Year <br> i. Amount <br> ii. As a \% of pay <br> d. Actuarial Contribution <br> i. Amount <br> ii. As a $\%$ of pay | $\begin{array}{r} 99,872,539 \\ 18.21 \% \\ \\ 51,297,024 \\ 9.35 \% \\ 6,424,706 \\ 1.17 \% \\ \\ 157,594,269 \\ 28.73 \% \end{array}$ | $\begin{array}{r} 98,280,959 \\ 18.15 \% \\ 50,976,090 \\ 9.42 \% \\ 6,343,425 \\ 1.17 \% \\ 155,600,474 \\ 28.74 \% \end{array}$ |

## RETIREMENT PLAN FOR CTA EMPLOYEES

| 5. Actuarial Funded Status (\$ in thousands) |  |  |
| :--- | :---: | :---: |
| a. Actuarial Accrued Liability | $2,867,335$ | $2,808,183$ |
| b. Actuarial Value of Assets (AVA) | $1,702,788$ | $1,662,196$ |
| c. Unfunded Accrued Liability | $1,164,547$ | $1,145,988$ |
| d. Funded Ratio | $59.4 \%$ | $59.2 \%$ |
| e. Market Value of Assets (MVA) | $1,702,788$ | $1,662,196$ |
| f. Return on MVA (prior year) | $11.3 \%$ | $(0.9) \%$ |
| g. Return on AVA (prior year) | $11.3 \%$ | $(0.9) \%$ |

${ }^{1}$ Contribution rate applicable for the plan year following the year of valuation.

## Section 1

## Actuarial Funding Results

## RETIREMENT PLAN FOR CTA EMPLOYEES

Section 1.1
Actuarial Liabilities and Normal Cost

| Actuarial Accrued Liability | January 1, 2013 | January 1, 2012 |
| :---: | :---: | :---: |
| 1. Active Members <br> a. Retirement Benefits <br> b. Withdrawal Benefits <br> c. Disability Benefits <br> d. Death Benefits <br> Total | $\begin{array}{r} 806,591,328 \\ 25,642,598 \\ 33,869,206 \\ 13,314,787 \\ 879,417,919 \\ \hline \end{array}$ | $\begin{array}{r} 789,663,133 \\ 25,989,952 \\ 33,636,547 \\ 12,935,804 \\ 862,225,436 \\ \hline \end{array}$ |
| 2. Inactive Members with Deferred Benefits | 8,660,053 | 7,989,433 |
| 3. Retired Members and Beneficiaries Receiving Benefits | 1,979,257,341 | 1,937,968,715 |
| 4. Total Actuarial Accrued Liability (1. + 2. + 3.) | 2,867,335,313 | 2,808,183,584 |


| Normal Cost | January 1, 2013 | January 1, 2012 |
| :--- | ---: | ---: |
| 1. Active Members |  |  |
| a. Retirement Benefits | $44,986,911$ | $44,563,615$ |
| b. Withdrawal Benefits | $2,529,493$ | $2,589,021$ |
| c. Disability Benefits | $2,838,914$ | $2,892,080$ |
| d. Death Benefits | 941,706 | 931,374 |
| 2. Employer Normal Cost (Dollar amount) | $\mathbf{5 1 , 2 9 7 , 0 2 4}$ | $\mathbf{5 0 , 9 7 6 , 0 9 0}$ |
| 3. Total Normal Cost (As a \% of pay) | $\mathbf{9 . 3 5 \%}$ | $\mathbf{9 . 4 2 \%}$ |

## Section 1.2

## Actuarial (Gain) / Loss

| Development of Actuarial (Gain) / Loss | Amount |
| :---: | :---: |
| 1. Expected Actuarial Accrued Liability <br> a. Actuarial Accrued Liability at January 1, 2012 <br> b. Normal Cost at January 1, 2012 <br> c. Interest on a. + b. to End of Year <br> d. Benefit Payments and Administrative Expenses for 2012, with Interest to End of Year <br> e. Expected Actuarial Accrued Liability Before Changes (a. + b. + c. - d.) <br> f. Change in Actuarial Accrued Liability at January 1, 2013 due to Change in Actuarial Assumptions <br> g. Change in Actuarial Accrued Liability at January 1, 2013 due to Change in Plan Provisions <br> h. Expected Actuarial Accrued Liability at January 1, 2013 (e. + f. + g.) | $\begin{array}{r} 2,808,183,584 \\ 50,976,090 \\ 243,028,572 \\ 244,524,192 \\ 2,857,664,054 \\ 0 \\ 0 \\ 2,857,664,054 \end{array}$ |
| 2. Actuarial Accrued Liability at January 1, 2013 | 2,867,335,313 |
| 3. Liability (Gain) / Loss (2. - 1.h.) | 9,671,259 |
| 4. Expected Actuarial Value of Assets <br> a. Actuarial Value of Assets at January 1, 2012 <br> b. Interest on a. to End of Year <br> c. Contributions Made for 2012 <br> d. Interest on c. to End of Year <br> e. Benefit Payments and Administrative Expenses for 2012, with Interest to End of Year <br> f. Change in Actuarial Value of Assets at January 1, 2013 due to Change in Method <br> g. Expected Actuarial Value of Assets at January 1, 2013 (a. + b. + c. + d. - e. - f.) | $\begin{array}{r} 1,662,195,612 \\ 141,286,627 \\ 111,130,436 \\ 4,626,730 \\ 244,524,192 \\ \underline{0} \\ 1,674,715,213 \end{array}$ |
| 5. Actuarial Value of Assets as of January 1, 2013 | 1,702,787,884 |
| 6. Actuarial Asset (Gain) / Loss (4.g. - 5.) | $(28,072,671)$ |
| 7. Actuarial (Gain) / Loss (3. + 6.) | $(18,401,412)$ |

Section 1.3

## Actuarial Balance Sheet

| Financial Resources | January 1, 2013 | January 1, 2012 |
| :--- | ---: | ---: |
| 1. Actuarial Value of Assets (market) | $1,702,787,884$ | $1,662,195,612$ |
| 2. Present Value of Future Contributions | $485,887,087$ | $496,188,060$ |
| 3. Unfunded Actuarial Accrued Liability/(Reserve) | $\underline{1,164,547,429}$ | $\mathbf{1 , 1 4 5 , 9 8 7 , 9 7 2}$ |
| 4. Total Assets (1+2+3) | $3,353,222,400$ | $3,304,371,644$ |


| Benefit Obligations | January 1, 2013 | January 1, 2012 |
| :--- | ---: | ---: |
| 1. Present Value of Future Benefits |  |  |
| a. Active Members | $1,365,305,006$ | $1,358,413,496$ |
| b. Inactive Members | $8,660,053$ | $7,989,433$ |
| c. Retirees, disabilities and beneficiaries | $\underline{1,979,257,341}$ | $\underline{1,937,968,715}$ |
| d. Total | $3,353,222,400$ | $3,304,371,644$ |

## Analysis of Financial Experience

Analysis of Actuarial (Gains) and Losses

## Resulting From Differences Between Assumed Experience and Actual Experience

|  |  | As a \% of |
| :--- | ---: | ---: |
| Type of (Gain) or Loss | Year End <br> December 31, 2012 | Last Year's <br> AAL |
| (1) COLA Experience | 0 | $0.00 \%$ |
| (2) Salary Experience | $8,779,671$ | $0.31 \%$ |
| (3) Investment Experience | $(28,072,671)$ | $-1.00 \%$ |
| (4) Retiree Mortality Experience | $4,314,526$ | $0.15 \%$ |
| (5) Contribution Shortfall | 0 | $0.00 \%$ |
| (6) (Gain) or Loss During Year From Experience, |  |  |
| (1) + (2) + (3) + (4) + (5) | $(14,978,474)$ | $-0.53 \%$ |
| (7) Asset Valuation Method | 0 | $0.00 \%$ |
| (8) Past Service Amortization Change | 0 | $0.00 \%$ |
| (9) Assumption and Method Changes | 0 | $0.00 \%$ |
| (10) Benefit Changes | 0 | $0.00 \%$ |
| (11) Other (turnover, retirement ages, service purchase, etc.) | $(3,422,938)$ | $-0.12 \%$ |
| (12) Total (Gain) or Loss During Year, | $(18,401,412)$ | $-0.66 \%$ |

$(6)+(7)+(8)+(9)+(10)+(11)$

## History of UAAL and Funded Ratio

 (\$'s in 000's)| Valuation Date | Actuarial <br> Accrued <br> Liability (AAL) | Actuarial Value <br> of Assets (AVA) | Funded <br> Ratio (AVA <br> as of <br> AAL) | Unfunded <br> Actuarial Accrued <br> Liability (UAAL) |
| :---: | ---: | ---: | ---: | ---: |
| January 1, 2013 | $2,867,335$ | $1,702,788$ | $59.4 \%$ | $1,164,547$ |
| January 1, 2012 | $2,808,184$ | $1,662,196$ | $59.2 \%$ | $1,145,988$ |
| January 1, 2011 | $2,724,191$ | $1,909,967$ | $70.1 \%$ | 814,224 |
| January 1, 2010 | $2,588,462$ | $1,936,849$ | $74.8 \%$ | 651,613 |
| January 1, 2009 | $2,632,356$ | $1,995,953$ | $75.8 \%$ | 636,403 |
| January 1, 2008 | $2,531,440$ | 941,864 | $37.2 \%$ | $1,589,576$ |
| January 1, 2007 | $2,466,106$ | $1,007,305$ | $40.8 \%$ | $1,458,801$ |
| January 1, 2006 | $2,354,125$ | 810,336 | $34.4 \%$ | $1,543,789$ |
| January 1, 2005 | $2,291,162$ | 902,117 | $39.4 \%$ | $1,389,045$ |
| January 1, 2004 | $2,189,666$ | $1,062,399$ | $48.5 \%$ | $1,127,267$ |

## RETIREMENT PLAN FOR CTA EMPLOYEES

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 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { Valuation } \\ \text { as of } \\ \text { January } \\ 1 \\ \hline \end{gathered}$ | (1) <br> Active Member Contributions | (2) <br> Retirees, Beneficiaries, TVRs and Disabled | (3) <br> Active Member (Employer Financed Portion) | Actuarial Value of Assets ${ }^{1}$ | (1) | (2) | (3) |
| 2013 | 306,193,043 | 1,987,917,394 | 573,224,876 | 1,702,787,884 | 100 \% | 70.25 \% | 0.00 \% |
| 2012 | 271,327,054 | 1,945,958,148 | 590,898,382 | 1,662,195,612 | 100 \% | 71.47 \% | 0.00 \% |
| 2011 | 242,723,521 | 1,866,770,851 | 594,696,243 | 1,909,967,120 | 100 \% | 88.36 \% | 0.00 \% |

${ }^{1 .}$ Excludes health care assets.

# Projected Actuarial Results 

Board Adopted Contribution Rates


## Year

| Employee <br> Contribution <br> Percent | Employer <br> Contribution <br> Percent | Total <br> Percent |
| :---: | :---: | :---: |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |
| $10.125 \%$ | $14.250 \%$ | $24.375 \%$ |


| Employee <br> Contribution | Employer <br> Contribution | Total <br> Contribution |
| :---: | ---: | :---: |
| $56,215,107$ | $79,117,557$ | $135,332,664$ |
| $57,845,789$ | $81,412,591$ | $139,258,380$ |
| $59,711,865$ | $84,038,921$ | $143,750,786$ |
| $61,728,593$ | $86,877,279$ | $148,605,872$ |
| $63,898,897$ | $89,931,780$ | $153,830,677$ |
| $66,165,534$ | $93,121,862$ | $159,287,396$ |
| $68,485,514$ | $96,387,020$ | $164,872,534$ |
| $70,807,948$ | $99,655,630$ | $170,463,578$ |
| $73,115,820$ | $102,903,747$ | $176,019,567$ |
| $75,712,576$ | $106,558,440$ | $182,271,016$ |
| $78,340,832$ | $110,257,467$ | $188,598,299$ |
| $81,052,272$ | $114,073,569$ | $195,125,841$ |
| $83,885,601$ | $118,061,217$ | $201,946,818$ |
| $86,803,686$ | $122,168,151$ | $208,971,837$ |
| $89,862,742$ | $126,473,489$ | $216,336,231$ |
| $93,201,580$ | $131,172,594$ | $224,374,174$ |
| $113,463,281$ | $159,689,063$ | $273,152,344$ |
| $118,234,897$ | $166,404,670$ | $284,639,567$ |
| $123,379,301$ | $173,644,942$ | $297,024,243$ |
| $128,729,272$ | $181,174,531$ | $309,903,803$ |
| $134,394,274$ | $189,147,497$ | $323,541,771$ |
| $140,410,002$ | $197,614,076$ | $338,024,078$ |

Actuarial Accrued
Liability
$2,867,335,313$
$2,943,941,267$
$3,020,158,006$
$3,082,672,751$
$3,148,337,607$
$3,216,996,546$
$3,288,646,960$
$3,362,618,679$
$3,437,796,430$
$3,512,701,994$
$3,586,447,503$
$3,659,823,074$
$3,731,865,549$
$3,802,572,147$
$3,871,771,476$
$3,938,487,303$
$4,002,727,921$
$4,345,301,200$
$4,430,237,525$
$4,525,835,068$
$4,634,827,695$
$4,759,306,866$
$4,903,071,249$

| Actuarial Value of <br> Assets (Market) | Funded <br> Ratio |
| :---: | :---: |
| 1,702,787,884 | $59.39 \%$ |
| $1,736,958,952$ | $59.00 \%$ |
| $1,771,932,847$ | $58.67 \%$ |
| $1,809,448,686$ | $58.70 \%$ |
| $1,850,340,901$ | $58.77 \%$ |
| $1,895,115,430$ | $58.91 \%$ |
| $1,944,182,025$ | $59.12 \%$ |
| $1,997,416,641$ | $59.40 \%$ |
| $2,054,101,534$ | $59.75 \%$ |
| $2,113,392,729$ | $60.16 \%$ |
| $2,174,954,004$ | $60.64 \%$ |
| $2,240,355,504$ | $61.21 \%$ |
| $2,309,209,517$ | $61.88 \%$ |
| $2,381,611,271$ | $62.63 \%$ |
| $2,457,891,271$ | $63.48 \%$ |
| $2,538,075,422$ | $64.44 \%$ |
| $2,623,402,834$ | $65.54 \%$ |
| $3,215,729,066$ | $74.00 \%$ |
| $3,386,438,059$ | $76.44 \%$ |
| $3,582,417,228$ | $79.15 \%$ |
| $3,807,685,577$ | $82.15 \%$ |
| $4,065,543,520$ | $85.42 \%$ |
| $4,361,039,921$ | $88.95 \%$ |

## Section 2

## Plan Assets

Section 2.1

## Statement of Net Plan Assets (\$'s in 000's)

|  | As of December 31 |  |
| :--- | ---: | ---: |
|  | $\mathbf{2 0 1 2}$ | $\mathbf{2 0 1 1}$ |
| ASSETS |  |  |
| 1. Total investments, at fair value | $1,695,644$ | $1,657,097$ |
| 2. Invested securities lending cash collateral | 250,856 | 234,653 |
| 3. Receivables: |  |  |
| a. Employer contributions | 4,874 | 5,019 |
| b. Employee contributions | 3,667 | 3,924 |
| c. Securities sold, but not received | 12,957 | 10,706 |
| d. Accrued interest and dividends | 1,926 | 2,153 |
| e. Other | 1,347 | $8,971,270$ |

Section 2.2

## Changes in Net Plan Assets <br> (\$'s in 000's)

|  | As of December 31 |  |
| :---: | :---: | :---: |
|  | 2012 | 2011 |
| ADDITIONS |  |  |
| 1. Net investment (loss) income | 168,235 | $(12,976)$ |
| 2. Employer contributions | 62,788 | 60,318 |
| 3. Employee contributions | 48,342 | 47,169 |
| 4. Other income | 0 | 4 |
| Total additions | 279,365 | 94,515 |
| DEDUCTIONS |  |  |
| 1. Benefit payments | 232,639 | 222,198 |
| 2. Contribution refunds, including interest | 4,022 | 2,879 |
| 3. Administrative expenses | 2,112 | 1,984 |
| Total liabilities | 238,773 | 227,061 |
| NET ASSETS HELD IN TRUST FOR PLAN BENEFITS |  |  |
| 1. Beginning of year | 1,662,196 | 1,794,742 |
| 2. Net (decrease) increase | 40,592 | $(132,546)$ |
| End of year | 1,702,788 | 1,662,196 |

## RETIREMENT PLAN FOR CTA EMPLOYEES

Section 2.3

## Actuarial Value of Assets

The actuarial value of assets is the market value as of January 1, 2013 of $\$ 1,702,787,884$.

## RETIREMENT PLAN FOR CTA EMPLOYEES

Section 2.4

## Historical Asset Rate of Return

| Year Ending December 31 | Actuarial Value Annual <br> Recognized Rate of Return | Fair Value Annual Market Rate <br> of Return |
| :---: | :---: | :---: |
| 2012 | $11.27 \%^{1}$ | $11.27 \%^{1}$ |
| 2011 | $3.13 \%^{1}$ | $3.13 \%^{1}$ |
| 2010 | $4.80 \%$ | $11.80 \%$ |

[^0]
## Forecast of Expected Benefit Payments

| Year Ending <br> December 31 | Active Members | Inactive Members | Total Payments |
| :---: | :---: | :---: | :---: |
| 2013 | 7,971,255 | 231,226,470 | 239,197,725 |
| 2014 | 16,947,201 | 226,396,135 | 243,343,336 |
| 2015 | 26,014,199 | 221,448,298 | 247,462,498 |
| 2016 | 35,110,749 | 216,238,569 | 251,349,318 |
| 2017 | 44,425,317 | 210,732,293 | 255,157,610 |
| 2018 | 54,045,575 | 205,007,656 | 259,053,231 |
| 2019 | 64,474,585 | 198,957,292 | 263,431,877 |
| 2020 | 75,954,430 | 192,810,923 | 268,765,354 |
| 2021 | 88,704,948 | 186,289,153 | 274,994,101 |
| 2022 | 101,943,708 | 179,625,380 | 281,569,088 |
| 2023 | 115,406,422 | 172,677,056 | 288,083,479 |
| 2024 | 129,610,165 | 165,609,134 | 295,219,299 |
| 2025 | 144,231,130 | 158,425,844 | 302,656,974 |
| 2026 | 159,407,504 | 150,852,310 | 310,259,814 |
| 2027 | 175,060,874 | 143,203,445 | 318,264,319 |
| 2028 | 190,293,138 | 135,377,576 | 325,670,715 |
| 2029 | 204,472,988 | 127,527,974 | 332,000,962 |
| 2030 | 217,467,109 | 119,548,108 | 337,015,217 |
| 2031 | 228,890,057 | 111,628,697 | 340,518,754 |
| 2032 | 239,595,992 | 103,682,784 | 343,278,776 |
| 2033 | 249,506,663 | 95,816,726 | 345,323,389 |
| 2034 | 258,064,533 | 88,085,892 | 346,150,425 |
| 2035 | 264,827,836 | 80,535,262 | 345,363,098 |
| 2036 | 270,295,251 | 73,209,112 | 343,504,363 |
| 2037 | 274,966,568 | 66,164,306 | 341,130,875 |
| 2038 | 277,613,341 | 59,413,513 | 337,026,855 |
| 2039 | 278,082,288 | 53,007,623 | 331,089,911 |
| 2040 | 277,025,279 | 46,978,187 | 324,003,466 |
| 2041 | 274,445,192 | 41,349,999 | 315,795,191 |
| 2042 | 270,563,057 | 36,140,527 | 306,703,584 |
| 2043 | 265,368,362 | 31,359,982 | 296,728,344 |
| 2044 | 259,212,082 | 27,011,503 | 286,223,586 |
| 2045 | 251,997,194 | 23,091,360 | 275,088,555 |
| 2046 | 244,170,935 | 19,589,202 | 263,760,137 |
| 2047 | 235,642,863 | 16,488,684 | 252,131,547 |
| 2048 | 226,385,579 | 13,768,566 | 240,154,145 |
| 2049 | 216,681,202 | 11,403,949 | 228,085,152 |
| 2050 | 206,638,217 | 9,367,427 | 216,005,644 |
| 2051 | 196,183,500 | 7,630,088 | 203,813,588 |
| 2052 | 185,338,733 | 6,162,335 | 191,501,068 |
| 2053 | 174,358,526 | 4,934,546 | 179,293,073 |
| 2054 | 163,303,476 | 3,917,721 | 167,221,198 |
| 2055 | 152,278,030 | 3,084,071 | 155,362,101 |
| 2056 | 141,342,208 | 2,407,491 | 143,749,699 |
| 2057 | 130,571,263 | 1,863,929 | 132,435,192 |
| 2058 | 120,064,055 | 1,431,619 | 121,495,674 |
| 2059 | 109,869,309 | 1,091,196 | 110,960,505 |
| 2060 | 100,047,426 | 825,741 | 100,873,167 |
| 2061 | 90,634,141 | 620,720 | 91,254,861 |
| 2062 | 81,675,338 | 463,835 | 82,139,174 |
| 2063 | 73,201,866 | 344,841 | 73,546,707 |
| 2064 | 65,236,920 | 255,330 | 65,492,250 |
| 2065 | 57,796,727 | 188,510 | 57,985,238 |

Section 2.5 (cont'd)
Forecast of Expected Benefit Payments

| Year Ending December 31 | Active Members | Inactive Members | Total Payments |
| :---: | :---: | :---: | :---: |
| 2066 | 50,890,424 | 138,982 | 51,029,406 |
| 2067 | 44,520,517 | 102,508 | 44,623,025 |
| 2068 | 38,683,631 | 75,803 | 38,759,433 |
| 2069 | 33,371,005 | 56,348 | 33,427,353 |
| 2070 | 28,569,037 | 42,238 | 28,611,275 |
| 2071 | 24,260,050 | 32,042 | 24,292,091 |
| 2072 | 20,423,082 | 24,694 | 20,447,776 |
| 2073 | 17,034,525 | 19,405 | 17,053,931 |
| 2074 | 14,068,597 | 15,593 | 14,084,191 |
| 2075 | 11,497,604 | 12,834 | 11,510,438 |
| 2076 | 9,292,173 | 10,818 | 9,302,991 |
| 2077 | 7,421,591 | 9,324 | 7,430,915 |
| 2078 | 5,854,128 | 8,190 | 5,862,317 |
| 2079 | 4,557,493 | 7,299 | 4,564,792 |
| 2080 | 3,499,506 | 6,573 | 3,506,079 |
| 2081 | 2,648,742 | 5,955 | 2,654,697 |
| 2082 | 1,975,068 | 5,406 | 1,980,475 |
| 2083 | 1,450,148 | 4,901 | 1,455,049 |
| 2084 | 1,047,907 | 4,421 | 1,052,328 |
| 2085 | 744,922 | 3,958 | 748,880 |
| 2086 | 520,689 | 3,508 | 524,198 |
| 2087 | 357,712 | 3,073 | 360,785 |
| 2088 | 241,423 | 2,656 | 244,078 |
| 2089 | 159,996 | 2,261 | 162,256 |
| 2090 | 104,068 | 1,893 | 105,961 |
| 2091 | 66,406 | 1,557 | 67,963 |
| 2092 | 41,552 | 1,257 | 42,808 |
| 2093 | 25,484 | 993 | 26,477 |
| 2094 | 15,312 | 768 | 16,080 |
| 2095 | 9,011 | 580 | 9,590 |
| 2096 | 5,192 | 426 | 5,619 |
| 2097 | 2,929 | 305 | 3,235 |
| 2098 | 1,618 | 212 | 1,830 |
| 2099 | 875 | 143 | 1,018 |
| 2100 | 464 | 94 | 557 |
| 2101 | 241 | 59 | 300 |
| 2102 | 123 | 36 | 159 |
| 2103 | 62 | 21 | 83 |
| 2104 | 30 | 12 | 42 |
| 2105 | 15 | 7 | 21 |
| 2106 | 7 | 4 | 11 |
| 2107 | 3 | 2 | 5 |
| 2108 | 2 | 1 | 2 |
| 2109 | 1 | 0 | 1 |
| 2110 | 0 | 0 | 0 |

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

## Section 3

## Accounting Information

Section 3.1

## Schedule of Funding Progress <br> (\$'s in 000's)

The GASB Statement No. 25 liabilities and assets resulting from the last ten actuarial valuations are as follows:

| Actuarial |  | Actuarial Value | Actuarial Accrued Liability (AAL) Projected | Unfunded AAL | Funded | Covered | UAAL as a Percentage of Covered |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Valuation Date |  | of Assets <br> (a) | Unit Credit <br> (b) | (UAAL) (b-a) | Ratio (a/b) | Payroll <br> (c) | Payroll $[(b-a) / c]$ |
| January 1, 2013 |  | 1,702,788 | 2,867,335 | 1,164,546 | 59.39\% | 548,515 | 212.31\% |
| January 1, 2012 | 1 | 1,662,196 | 2,808,184 | 1,145,988 | 59.19\% | 541,354 | 211.69\% |
| January 1, 2011 | 2 | 1,909,967 | 2,724,191 | 814,224 | 70.11\% | 528,288 | 154.13\% |
| January 1, 2010 |  | 1,936,849 | 2,588,462 | 651,613 | 74.83\% | 567,173 | 114.89\% |
| January 1, 2009 |  | 1,995,953 | 2,632,356 | 636,403 | 75.82\% | 594,139 | 107.11\% |
| January 1, 2008 | 3 | 941,864 | 2,531,440 | 1,589,576 | 37.21\% | 571,314 | 278.23\% |
| January 1, 2007 | 4 | 1,007,305 | 2,466,106 | 1,458,801 | 40.85\% | 562,567 | 259.31\% |
| January 1, 2006 |  | 810,336 | 2,354,125 | 1,543,789 | 34.42\% | 547,532 | 281.95\% |
| January 1, 2005 |  | 902,117 | 2,291,162 | 1,389,045 | 39.37\% | 544,442 | 255.13\% |
| January 1, 2004 |  | 1,062,399 | 2,189,666 | 1,127,267 | 48.52\% | 486,626 | 231.65\% |

${ }^{1}$ Effective January 1, 2012, the actuarial value of assets was changed to market value.
${ }^{2}$ Effective January 1, 2011, the rate of return for disclosure purposes was changed to 8.50 percent.
${ }^{3}$ Effective January 1, 2008, the rate of return for disclosure purposes was changed to 8.75 percent. Prior year's information is based on a rate of 9.00 percent as defined in the terms of the bargaining agreement.
${ }^{4}$ Effective January 1, 2007, retiree healthcare assets have been marked to the market value of the retiree healthcare account, and are disclosed under GASB No. 43. Previously, retiree healthcare assets disclosed under GASB No. 25 were allocated in proportion to actuarial accrued liabilities. Note that the increase in funded ratio is predominantly due to this change and without this change the funded ratio would have declined.

## RETIREMENT PLAN FOR CTA EMPLOYEES

Section 3.2

## Schedule of Employer Contributions (\$'s in 000's)

The GASB Statement No. 25 required contributions and actual percentages contributed over the last ten years are as follows:

| Fiscal Year <br> Ended <br> December 31 | Valuation <br> Date <br> December 31 | Authority <br> Contribution | Annual <br> Required <br> Contribution | Percentage <br> Contributed |
| :---: | :---: | ---: | ---: | ---: |
| 2012 | 2012 | 62,788 | 155,600 | $40.4 \%$ |
| 2011 | 2011 | 60,318 | 123,158 | $49.0 \%$ |
| 2010 | 2010 | 56,216 | 108,478 | $51.8 \%$ |
| 2009 | 2009 | 41,448 | 118,717 | $34.9 \%$ |
| 2008 | 2008 | $1,165,947$ | 206,670 | $564.2 \%$ |
| 2007 | 2007 | 25,038 | 198,457 | $12.6 \%$ |
| 2006 | 2006 | 23,931 | 194,926 | $12.3 \%$ |
| 2005 | 2005 | 19,850 | 180,227 | $11.0 \%$ |
| 2004 | 2004 | 20,210 | 153,253 | $13.2 \%$ |
| 2003 | 2003 | 19,570 | 117,305 | $16.7 \%$ |

## RETIREMENT PLAN FOR CTA EMPLOYEES

Section 3.3

## Notes to Trend Data

## Actuarial Assumptions, Method and Additional Information under GASB No. 25

Valuation Date:
January 1, 2013
Actuarial Cost Method:
Projected Unit Credit
Amortization Method:
Level Dollar
Amortization Period: 30
Asset Valuation Method: Market Value
Investment Rate of Return 8.50\%
Salary Increases (including merit increases 1.5\% for 2013-2014, and service graded table with and wage inflation)
5\% ultimate rate after 5 years of service

## Section 4

## Actuarial Funding Projections

## Projection Assumptions and Methods

## Key Assumptions

- $8.5 \%$ 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.

Membership Projection
Projected Member Count


Membership Projection
Projected Current and New Member Payroll


Projection of Funded Status


## Section 5

## Member Data

## Summary of Membership Data as of January 1, 2013 (\$ in thousands)

## Active Members

| Item | Male | Female | Total |
| :--- | ---: | ---: | ---: |
|  |  |  |  |
| Number of Members $^{1}$ | 5,801 | 2,516 | 8,317 |
| Annual Salaries $^{2}$ | $\$ 400,469$ | $\$ 148,046$ | $\$ 548,515$ |
| Average Age $^{1}$ | 48.19 | 46.84 | 47.78 |
| Average Service $^{1}$ | 14.83 | 12.90 | 14.25 |

Terminated Vested Members

| Item | Male | Female | Total |
| :--- | ---: | ---: | ---: |
|  |  |  |  |
| Number of Members | 61 | 20 | 81 |
| Annual Accrued | $\$ 1,550$ | $\$ 533$ | $\$ 2,083$ |
| Benefit | 55.10 | 55.43 | 55.18 |
| Average Age |  |  |  |

Retirees and Beneficiaries

| Item | Male | Female | Total |
| :--- | ---: | ---: | ---: |
|  |  |  |  |
| Number of Members | 6,602 | 1,972 | 8,574 |
| Annual Retirement | $\$ 179,828$ | $\$ 36,906$ | $\$ 216,734$ |
| Benefit | 69.59 | 72.28 | 70.21 |
| Average Age |  |  |  |

## Disabled Retirees

| Item | Male | Female | Total |
| :--- | ---: | ---: | ---: |
|  |  |  |  |
| Number of Members | 606 | 411 | 1,017 |
| Annual Disability | $\$ 9,622$ | $\$ 5,558$ | $\$ 15,180$ |
| Benefit | 63.46 | 61.95 | 62.85 |
| Average Age |  |  |  |

[^1]Section 5.2

Age and Service Distribution of Active Members as of January 1, 2013 Number of Participants

|  | Years <br> of <br> Service |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | Under <br> $\mathbf{5}$ | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5 - 3 9}$ | Over 40 | Total |
| Under <br> $\mathbf{2 5}$ | 16 | 3 | - | - | - | - | - | - | - | 19 |
| $\mathbf{2 5 - 2 9}$ | 134 | 77 | 3 | - | - | - | - | - | - | 214 |
| $\mathbf{3 0 - 3 4}$ | 141 | 308 | 139 | 1 | - | - | - | - | - | 589 |
| $\mathbf{3 5 - 3 9}$ | 139 | 265 | 326 | 96 | 2 | - | - | - | - | 828 |
| $\mathbf{4 0 - 4 4}$ | 160 | 360 | 453 | 364 | 84 | 4 | - | - | - | 1,425 |
| $\mathbf{4 5 - 4 9}$ | 114 | 277 | 454 | 385 | 381 | 85 | 2 | - | - | 1,698 |
| $50-54$ | 78 | 234 | 439 | 305 | 314 | 190 | 35 | - | - | 1,595 |
| $55-59$ | 59 | 161 | 248 | 221 | 231 | 142 | 65 | 30 | 2 | 1,159 |
| $\mathbf{6 0 - 6 4}$ | 28 | 73 | 143 | 118 | 112 | 65 | 27 | 25 | 14 | 605 |
| Over 65 | 7 | 26 | 41 | 33 | 25 | 18 | 10 | 7 | 18 | 185 |
| Total | 876 | 1,784 | 2,246 | 1,523 | 1,149 | 504 | 139 | 62 | 34 | 8,317 |

Section 5.3

## Retiree and Beneficiary Data as of January 1, 2013

 Number and Average Annual Allowance| Age Last Birthday | Number | Annual Allowance | Average Allowance |
| :---: | :---: | :---: | :---: |
| Retired Annuitants |  |  |  |
| Under 50 | 35 | \$1,367,128 | \$39,061 |
| 50-54 | 209 | \$8,186,370 | \$39,169 |
| 55-59 | 713 | \$25,879,983 | \$36,297 |
| 60-64 | 1,524 | \$46,996,681 | \$30,838 |
| 65-69 | 2,100 | \$57,830,357 | \$27,538 |
| 70-74 | 1,497 | \$37,119,404 | \$24,796 |
| 75-79 | 816 | \$16,931,824 | \$20,750 |
| Over 79 | $\underline{900}$ | \$14,474,330 | \$16,083 |
| Total | 7,794 | \$208,786,077 | \$26,788 |
| Surviving Spouses |  |  |  |
| Under 50 | 7 | \$83,754 | \$11,965 |
| 50-54 | 20 | \$293,620 | \$14,681 |
| 55-59 | 35 | \$344,502 | \$9,843 |
| 60-64 | 64 | \$1,054,387 | \$16,475 |
| 65-69 | 98 | \$1,193,594 | \$12,180 |
| 70-74 | 115 | \$1,209,413 | \$10,517 |
| 75-79 | 120 | \$1,164,585 | \$9,705 |
| Over 79 | 321 | \$2,604,115 | \$8,112 |
| Total | 780 | \$7,947,970 | \$10,190 |
| Disability Allowances |  |  |  |
| Under 50 | 98 | \$1,511,593 | \$15,424 |
| 50-54 | 114 | \$1,943,859 | \$17,051 |
| 55-59 | 147 | \$2,535,543 | \$17,249 |
| 60-64 | 216 | \$3,264,076 | \$15,111 |
| 65-69 | 218 | \$3,174,981 | \$14,564 |
| 70-74 | 125 | \$1,563,731 | \$12,510 |
| 75-79 | 77 | \$964,907 | \$12,531 |
| Over 79 | $\underline{22}$ | \$221,163 | \$10,053 |
| Total | 1,017 | \$15,179,853 | \$14,926 |

## RETIREMENT PLAN FOR CTA EMPLOYEES

Section 5.4

## Terminated Vested Member Data as of January 1, 2013 <br> Number and Average Accrued Benefit

| Age Last Birthday | Number | Annual Accrued <br> Benefit | Average Accrued <br> Benefit |
| :---: | ---: | ---: | ---: |
| Terminated Vested |  |  |  |
| Under 35 | - | - | - |
| $35-39$ | - | - | - |
| $40-44$ | 1 | $\$ 15,592$ | $\$ 15,592$ |
| $45-49$ | 9 | $\$ 241,259$ | $\$ 26,807$ |
| $50-54$ | 28 | $\$ 837,471$ | $\$ 29,910$ |
| $55-59$ | 23 | $\$ 627,330$ | $\$ 27,275$ |
| $60-64$ | 19 | $\$ 348,493$ | $\$ 18,342$ |
| $65-69$ | 1 | $\$ 12,880$ | $\$ 12,880$ |
| Over 70 | - | $\$ 2,083,025$ | - |
| Total |  |  | $\$ 25,716$ |
|  | 81 |  |  |

## Section 6

Basis of the<br>Actuarial Valuation

## 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 according to the following schedule:

|  | Contribution Percentage |  |
| :--- | :---: | :---: |
| Dates | Authority | Employees |
| July 1, 1997 until January 18, 2008 | $6 \%$ | $3 \%$ |
| January 18, 2008 and thereafter | $12 \%$ | $6 \%$ |

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.

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 $\$ 2,220$.

# 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.

## 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 | $\mathrm{~N} / \mathrm{A}$ | $\$ 8,000$ |
| 60 | $\mathrm{~N} / \mathrm{A}$ | 90 | $\$ 8,000$ |
| N/A | 25 | $\mathrm{~N} / \mathrm{A}$ | $\$ 8,000$ |
| N/A | $\mathrm{N} / \mathrm{A}$ | 94 | $\$ 8,000$ |
| $60-64$ | 20 | $\mathrm{~N} / \mathrm{A}$ | $\$ 6,000$ |
| $55-59$ | 20 | $\mathrm{~N} / \mathrm{A}$ | $\$ 5,000$ |
| 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(cont'd)

## 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. Onethird 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.

## RETIREMENT PLAN FOR CTA EMPLOYEES

## 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, 2013, 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.

## Summary of Actuarial Assumptions and Changes in Assumptions

Rate of Covered Pay: The rate of covered pay for participants has been estimated at \$548,515,157 for 2013. The following adjustments were made to the actual covered earnings for 2012 supplied by the Authority:
(a) No earnings or a fractional year of earnings were submitted for employees with a work status date in 2012 who were hired during 2011. We have annualized the 2012 earnings and assumed minimum earnings of $\$ 25,000$ per year for this group.
(b) For employees on layoff, extended leave of absence, or inactive status, we have assumed minimum earnings of $\$ 25,000$ per year.
(c) For employees whose 2012 earnings were less than \$20,000, we have assumed an annual rate of $\$ 25,000$ per year.
(d) For all employees, 2013 salary was assumed to increase 1.50\% from 2012.

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

Earnings on Plan Assets: 8.50\% per annum, compounded annually.

| Salary Inflation: | 2013-2014: | $1.50 \%$ |
| :--- | :--- | :--- |
|  | 2015 and after: | $4.00 \%$ |

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

| Years of | Year-over-year Compensation Increases |  |
| :---: | :---: | :---: | :---: |
| Service | $\mathbf{2 0 1 3 - 1 4}$ | $\mathbf{2 0 1 5}$ and after |
| 1 | $1.50 \%$ | $15.00 \%$ |
| 2 | $1.50 \%$ | $13.00 \%$ |
| 3 | $1.50 \%$ | $11.00 \%$ |
| 4 | $1.50 \%$ | $9.00 \%$ |
| $>=5$ | $1.50 \%$ | $5.00 \%$ |

## Mortality:

(a) Active Members -The 1994 Group Annuity Mortality Table for males and females multiplied by 90 percent.
(b) Retirees \& Survivors - The 1994 Group Annuity Mortality Table for males and females.
(c) Disabled Employees - The 1994 Group Annuity Mortality Table for males and females multiplied by 110 percent.

## 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 <br> than Death or Disability |
| :---: | :---: |
| 25 | $7.50 \%$ |
| 30 | $5.60 \%$ |
| 35 | $4.60 \%$ |
| 40 | $3.40 \%$ |
| 45 | $2.90 \%$ |
| 50 | $2.40 \%$ |
| 55 \& Older | $0.50 \%$ |

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

In addition, active headcount was assumed to remain flat for all years in the future.

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

| Sample <br> Attained <br> Ages | Disabled Recovery ${ }^{\mathbf{1}}$ |  |
| :---: | :---: | :---: |
|  | Men | Women $^{2}$ |
| 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.

## 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 | $0.78 \%$ |

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

Section 6.3 (cont'd)

## Summary of Actuarial Assumptions and Changes in Assumptions

Service Retirements ${ }^{1,2}$ :

| Age | Pre 9/5/2001 Hires Probability of Retirement |  | Hired 9/5/2001-1/18/2008 Probability of Retirement |  | Post 1/18/2008 Hires Probability of Retirement |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Service<25 | Service>25 | Service<25 | Service>25 | Service<25 | Service>25 |
| 55 | 1.50\% | 25.00\% | 1.50\% | 25.00\% | 1.50\% | 1.50\% |
| 56 | 1.50\% | 27.50\% | 1.50\% | 27.50\% | 1.50\% | 1.50\% |
| 57 | 2.00\% | 30.00\% | 2.00\% | 30.00\% | 2.00\% | 2.00\% |
| 58 | 2.00\% | 32.50\% | 2.00\% | 32.50\% | 2.00\% | 2.00\% |
| 59 | 2.00\% | 35.00\% | 2.00\% | 35.00\% | 2.00\% | 2.00\% |
| 60 | 2.50\% | 37.50\% | 2.50\% | 37.50\% | 2.50\% | 2.50\% |
| 61 | 4.00\% | 40.00\% | 4.00\% | 40.00\% | 4.00\% | 4.00\% |
| 62 | 15.00\% | 42.50\% | 15.00\% | 42.50\% | 20.00\% | 20.00\% |
| 63 | 15.00\% | 45.00\% | 15.00\% | 45.00\% | 15.00\% | 15.00\% |
| 64 | 20.00\% | 47.50\% | 20.00\% | 47.50\% | 15.00\% | 15.00\% |
| 65 | 30.00\% | 50.00\% | 30.00\% | 50.00\% | 60.00\% | 60.00\% |
| 66 | 30.00\% | 50.00\% | 30.00\% | 50.00\% | 25.00\% | 25.00\% |
| 67 | 30.00\% | 60.00\% | 30.00\% | 60.00\% | 25.00\% | 25.00\% |
| 68 | 50.00\% | 70.00\% | 50.00\% | 70.00\% | 25.00\% | 25.00\% |
| 69 | 50.00\% | 80.00\% | 50.00\% | 80.00\% | 25.00\% | 25.00\% |
| 70 | 100.00\% | 100.00\% | 100.00\% | 100.00\% | 100.00\% | 100.00\% |

1. Rates apply only for members with greater than 10 years of service. Members with less than 10 years of service are assumed to defer retirement until eligible for retiree healthcare benefits. For all ages 55 and above, $10 \%$ is added to the rate at 10 years of service.
2. For ages under 65, the above rates are multiplied by $75 \%$ if service is between 22 and 23 years, $50 \%$ if service is between 23 and 24 years, and $25 \%$ if service is between 24 and 25 years.

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.

## RETIREMENT PLAN FOR CTA EMPLOYEES

Section 6.3 (cont'd)

## 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 <br> 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 <br> amount of benefit payable. |
| Decrement Relativity: | Decrement rates are used directly based on assumptions, without adjustment <br> for multiple decrement table effects. |
| Decrement Operation: | Disability and turnover do not operate after 25 years of service. |

## RETIREMENT PLAN FOR CTA EMPLOYEES

## Glossary of Terms

| Actuarial Accrued Liability | Total accumulated cost to fund pension benefits arising from <br> service in all prior years. |
| :--- | :--- |
| Actuarial Cost Method | Technique used to assign or allocate, in a systematic and <br> consistent manner, the expected cost of a pension plan for a <br> group of plan members to the years of service that give rise to <br> that cost. |
| Actuarial Present Value <br> of Future Benefits | Amount which, together with future interest, is expected to be <br> sufficient to pay all future benefits. |
| Actuarial Valuation | Study of probable amounts of future pension benefits and the <br> necessary amount of contributions to fund those benefits. |
| Actuary | Person who performs mathematical calculations pertaining to <br> pension and insurance benefits based on specific procedures <br> and assumptions. |
| Annual Required Contribution | Disclosure measure of annual pension cost. |
| GASB 25 | Governmental Accounting Standards Board Statement <br> Number 25 which specifies how the Annual Required <br> Contribution (ARC) is to be calculated. |
| Normal Cost | That portion of the actuarial present value of benefits assigned <br> to a particular year in respect to an individual participant or the <br> plan as a whole. |
| Unfunded Actuarial | The portion of the actuarial accrued liability not offset by plan <br> assets. |


[^0]:    ${ }^{1}$ As reported by the Plan.

[^1]:    ${ }^{1}$ Active statistics include all participants who are actively employed which includes 15 participants who are on leave and 24 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 24 participants who have opted out of participating in the Plan is not included.

