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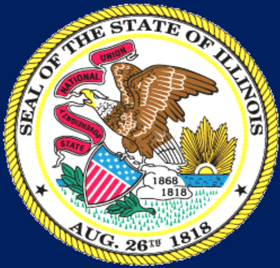

2023 Annual Review

Information Submitted by the Retirement Plan for Chicago Transit Authority Employees

November 29, 2023

Frank J. Mautino
Auditor General

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OFFICE OF THE AUDITOR GENERAL
FRANK J. MAUTINO

To the Legislative Audit Commission, the Speaker and Minority Leader of the House of Representatives, the President and Minority Leader of the Senate, the members of the General Assembly, and the Governor:

This is our 2023 Annual Review of Information Submitted by the Retirement Plan for Chicago Transit Authority Employees.

The review was conducted pursuant to Public Act 95-708 which amended the Illinois State Auditing Act by adding a requirement for the Auditor General to annually review and report on information submitted by the Board of Trustees of the Retirement Plan for Chicago Transit Authority Employees.

The report for this review is transmitted in conformance with Section 5/3-2.3(e) of the Illinois State Auditing Act.

SIGNED ORIGINAL ON FILE

FRANK J. MAUTINO
Auditor General

Springfield, Illinois
November 2023

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Office of the Auditor General

November 29, 2023
Annual Review

Report Highlights

Frank J. Mautino *Auditor General*
www.auditor.illinois.gov

Annual Review of the

Information Submitted by the Retirement Plan for Chicago Transit Authority Employees

Background:

Signed into law in 2008, Public Act 95-708 made sweeping changes to the Retirement Plan for CTA Employees. It required that the contributions from the CTA and employees must be at a level so that the funded ratio of the Retirement Plan does not decline below 60 percent in any year before 2040, and achieves 90 percent funding by the end of 2059.

The Retirement Plan is required to submit to the Auditor General an audit, an annual statement, and an actuarial statement by September 30 of each year. The Retirement Plan must determine the estimated funded ratio and must determine the employee and employer contribution rates needed to meet the requirements established by the Pension Code.

The Auditor General is required to review the documents and review the actuarial determination and assumptions to determine whether they are unreasonable in the aggregate.

Key Findings:

- The Retirement Plan submitted the required documents by the September 30 deadline.
- The OAG and our consultant, Aon, reviewed the Retirement Plan's assumptions contained in the January 1, 2023 Actuarial Valuation and concluded that they were not unreasonable in the aggregate. However, we believe that two of the assumptions, investment return and inflation, should continue to be monitored and justified on an annual basis.
- The 8.25 percent investment return assumption used by the Plan continues to be higher than most public plans but is supported by an investment return analysis conducted by the Plan's Investment Consultant and a high underlying inflation assumption. The underlying inflation assumption is on the upper end of the reasonable range based on current and recent historical capital market assumptions.
- The funded ratio of the Retirement Plan decreased from 54.99 percent in the January 1, 2022 Valuation to 54.20 percent in the January 1, 2023 Valuation. When the funded ratio declines below 60 percent, the Pension Code requires that contribution rates be increased so that the funded ratio is projected to reach 60 percent within 10 years. The contribution rates certified by the Retirement Plan Board of Trustees for 2024 were **increased** from the 2023 contribution rates. For 2024, the employer contribution rate was increased from 20.647 percent to 21.590 percent (which is net of the employer debt service credit of 6% of pay) and the employee contribution rate was increased from 13.324 percent to 13.795 percent. The January 1, 2023 Actuarial Valuation concluded that the contribution rates applicable for Plan year 2024 would result in the Plan's funded ratio reaching the statutorily required 60 percent level within 10 years (i.e., by 2033).

Key Recommendations:

- We recommend that the investment return and inflation assumptions continue to be monitored and justified on an annual basis.

This Annual Review was conducted by OAG staff with the assistance of our consultant, Aon.

Report Digest

Statutory Requirements

The Illinois State Auditing Act (30 ILCS 5/3-2.3(e)) requires the Retirement Plan for Chicago Transit Authority Employees (Retirement Plan or Plan) to submit to the Office of the Auditor General (OAG) an audit, an annual statement, and an actuarial statement by September 30 of each year.

- On September 28, 2023, the Auditor General received these documents from the Retirement Plan.
- The OAG reviewed these documents and concluded that they met the requirements of the Auditing Act.

In addition, the Illinois Pension Code (40 ILCS 5/22-101(e)(3)) requires the Retirement Plan to determine, based on a report prepared by an enrolled actuary, the estimated funded ratio of the Retirement Plan's total assets to its total actuarially determined liabilities. The Plan is also required to determine the employee and employer contribution rates needed to meet funding requirements established by the Pension Code. The Auditor General is required to review the determination and the assumptions on which it is based and determine whether they are "unreasonable in the aggregate".

The January 1, 2023 Actuarial Valuation was presented to the Retirement Plan Board of Trustees at its August 24, 2023 meeting. At that meeting, the Board of Trustees accepted the January 1, 2023 Actuarial Valuation and certified the employer and employee contribution rates for 2024. (pages 1-4)

Review of Actuarial Assumptions Used

The OAG and our consultant, Aon, reviewed the Retirement Plan's assumptions contained in the January 1, 2023 Actuarial Valuation and concluded that they were not unreasonable in the aggregate. The investment return assumption continues to be higher than most public plans but is supported by an investment return analysis conducted by the Plan's Investment Consultant and a high underlying inflation assumption. The underlying inflation assumption is on the upper end of the reasonable range based on current and recent historical capital market assumptions.

Key Retirement Plan Information	
Plan investment return assumption	8.25%
10-year historical rate of return	6.9%
Plan actuarial value of assets	$2.076 billion
Plan liabilities	$3.830 billion
Funded ratio	54.20%
Employee contribution rate (2023)	13.324%
Employee contribution rate (2024)	13.795%
Authority contribution rate (2023)	20.647%
Authority contribution rate (2024)	21.590%

While we recognize the Plan's policy of completing an experience study every five years, we believe that **these two assumptions, investment return and inflation, should continue to be**

monitored and justified on an annual basis. Additionally, we suggest the latest mortality improvement scale be considered for future valuations.

In 2019, the Plan's actuary completed an experience study for the five year period ending December 31, 2017. An experience study assesses how well assumptions used by the Plan align with the actual experience of the Plan. If past experience differs from the assumptions used, then the actuary may recommend revisions to the assumptions used in future valuations. As a result of the experience study, several of the assumptions used in the Plan's January 1, 2019 Actuarial Valuation were revised. However, the investment return assumption remained unchanged at 8.25 percent. In the Plan's January 1, 2023 Actuarial Valuation, there were no changes in actuarial assumptions compared to the prior year.

The Retirement Plan's active participant headcount decreased from the prior year. Additionally, the ratio of active participants to annuitants continued to decrease. The *Public Fund Survey Summary of Findings for FY 2021* states "*When combined with an unfunded liability, however, a low or declining ratio of actives to annuitants can cause fiscal distress for a pension plan sponsor….*" (pages 4-11)

Contribution Rates

The Pension Code requires the Chicago Transit Authority (CTA) to contribute 12 percent of pay, less up to a 6 percent credit for debt service paid on the bonds used to fund the Plan; employees are required to pay 6 percent of pay. The Pension Code further requires that contribution rates be increased if the funded ratio is projected to decline below 60 percent prior to 2040, with the CTA paying two-thirds and employees paying one-third of the required contribution.

The funded ratio of the Retirement Plan decreased from 54.99 percent in the January 1, 2022 Valuation to 54.20 percent in the January 1, 2023 Valuation. At January 1, 2023, the actuarial value of assets was reported at $2.076 billion and the actuarial accrued liability was $3.830 billion.

Since the funded ratio of the Plan was below 60 percent in the January 1, 2023 Valuation, the Pension Code requires the Plan to *"...determine the increased contribution required each year as a level percentage of payroll during the years after the then current year…so the funded ratio is projected to reach at least 60% no later than 10 years after the then current year and include that determination in its report.*" (40 ILCS 5/22-101(e)(3)) The contribution rates certified by the Retirement Plan Board of Trustees for 2024 were increased from the 2023 contribution rates. For 2024, the employer contribution rate was increased from 20.647 percent to 21.590 percent (which is net of the employer debt service credit of 6 percent of pay) and the employee contribution rate was increased from 13.324 percent to 13.795 percent.

The January 1, 2023 Actuarial Valuation concluded that the contribution rates applicable for Plan year 2024 would result in the Plan's funded ratio reaching the statutorily required 60 percent level within 10 years (i.e., by 2033). (pages 11-12)

Agency Review

A draft of this Review was provided to the Retirement Plan for their review.

This report does not constitute an audit as that term is defined in generally accepted government auditing standards.

This annual review was conducted by OAG staff with the assistance of our consultant, Aon.

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JOE BUTCHER
Division Director

This report is transmitted in accordance with Sections 3-14 of the Illinois State Auditing Act.

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FRANK J. MAUTINO
Auditor General

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Introduction

The Illinois State Auditing Act (30 ILCS 5/3-2.3(e)), as amended by Public Act 95-708, requires the Auditor General to review certain documents submitted by the Board of Trustees of the Retirement Plan for Chicago Transit Authority (CTA) Employees (Retirement Plan or Plan). In addition, the Illinois Pension Code (40 ILCS 5/22-101(e)(3)) requires:

- The Retirement Plan to determine, based on a report prepared by an enrolled actuary, the estimated funded ratio of the Retirement Plan's total assets to its total actuarially determined liabilities.
- The Retirement Plan to determine the employee and employer contribution rates needed to meet funding requirements established by the Pension Code.
- The Auditor General to review the determination and the assumptions on which it is based and determine whether they are "unreasonable in the aggregate".

Background

The Retirement Plan for CTA Employees was significantly underfunded, with a funded ratio of 34 percent as of January 1, 2006. In addition, the Plan was responsible for administering the retirement benefits and paying for the retiree health care benefits. Public Act 94-839 required the CTA to separate the funding for retiree health care benefits from the funding of the retirement system by January 1, 2009.

Public Act 95-708 made sweeping changes to the Retirement Plan for CTA Employees. Public Act 95-708 gave the CTA the authority to issue bonds to help fund both the retirement and retiree health care plans. Public Act 95-708 also established the Retiree Health Care Trust to administer and subsidize the retiree health care benefits. The Retiree Health Care Trust was established in May 2008.

The legislation also required that the contributions from the CTA and employees must be at a level so that the funded ratio of the Retirement Plan does not decline below 60 percent in any year before 2040, and achieves 90 percent funding by the end of 2059. If the Plan's funded ratio declines below 60 percent, the Pension Code requires the Board of Trustees to "... *determine the increased contribution required each year as a level percentage of payroll during the years after the then current year ... so the funded ratio is projected to reach at least 60% no later than 10 years after the then current year and include that determination in its report.*" (40 ILCS 5/22-101(e)(3)) It also stipulates that employees are required to pay one-third of the annual required contribution and the CTA is required to pay two-thirds of the required contribution. During the time period 2009 through 2040, the amount paid by the CTA 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 the compensation paid by the CTA in the following year.

Key Retirement Plan Information	
Plan investment return assumption	8.25%
10-year historical rate of return	6.9%
Plan actuarial value of assets	$2.076 billion
Plan liabilities	$3.830 billion
Funded ratio	54.20%
Employee contribution rate (2023)	13.324%
Employee contribution rate (2024)	13.795%
Authority contribution rate (2023)	20.647%
Authority contribution rate (2024)	21.590%

Review of Retirement Plan Submissions

The Retirement Plan is required to submit to the Auditor General an audit, an annual statement, and an actuarial statement by September 30 of each year. On September 28, 2023, the Auditor General received these documents from the Retirement Plan. The Auditor General reviewed these documents and concluded that the documents complied with the requirements established in the Auditing Act. The January 1, 2023 Actuarial Valuation was presented to the Retirement Plan Board of Trustees at its August 24, 2023 meeting. At that meeting, the Board of Trustees accepted the January 1, 2023 Actuarial Valuation and certified the employer and employee contribution rates for 2024.

The Illinois State Auditing Act (30 ILCS 5/3-2.3(e)) requires the Retirement Plan to submit certain specific documents to the Auditor General by September 30 of each year:

1. **Audit.** The most recent audit or examination of the Retirement Plan;
2. **Annual Statement.** An annual statement containing the information specified in Section 1A-109 of the Illinois Pension Code (see inset); and
3. **Actuarial Statement.** A complete actuarial statement applicable to the prior plan year, which may be the annual report of an enrolled actuary retained by the Retirement Plan specified in Section 22-101(e) of the Illinois Pension Code.

Illinois Pension Code Requirements

The Auditing Act requires the CTA Retirement Plan to annually file with the Auditor General the following information specified in Section 1A-109 of the Pension Code:

(1) a financial balance sheet as of the close of the fiscal year;
(2) a statement of income and expenditures;
(3) an actuarial balance sheet;
(4) statistical data reflecting age, service, and salary characteristics concerning all participants;
(5) special facts concerning disability or other claims;
(6) details on investment transactions that occurred during the fiscal year covered by the report;
(7) details on administrative expenses; and
(8) such other supporting data and schedules as in the judgement of the Division may be necessary for a proper appraisal of the financial condition of the pension fund and the results of its operations. The annual statement shall also specify the actuarial and interest tables used in the operation of the pension fund.

Source: Pension Code (40 ILCS 5/1A-109) and Auditing Act (30 ILCS 5/3-2.3(e))

On September 28, 2023, the Auditor General received the three documents listed below from the Retirement Plan. We reviewed the documents and concluded the information required by Section 5/3-2.3(e) of the Auditing Act was contained in these reports:

- Audited Financial Statements for the Retirement Plan for the year ended December 31, 2022;
- An Investment Report dated December 31, 2022; and
- The January 1, 2023 Actuarial Valuation for the Retirement Plan.

The Illinois Pension Code (40 ILCS 5/22-101(e)(3)) requires that the Retirement Plan:

> By September 15 of each year beginning in 2009 and ending on December 31, 2039, on the basis of a report prepared by an enrolled actuary retained by the Plan, the Board of Trustees of the Retirement Plan shall determine the estimated

> funded ratio of the total assets of the Retirement Plan to its total actuarially determined liabilities. A report containing that determination and the actuarial assumptions on which it is based shall be filed with the … Auditor General ….

The Pension Code requires the Auditor General to review the determination and the assumptions on which it is based to determine whether they are unreasonable in the aggregate.

The January 1, 2023 Actuarial Valuation was presented to the Retirement Plan Board of Trustees at its August 24, 2023 meeting. At that meeting, the Board of Trustees accepted the January 1, 2023 Actuarial Valuation and certified the employer and employee contribution rates for 2024. The 2024 rates were increased from the 2023 contribution rates. In 2023, the employer contribution rate was 20.647 percent (which is net of the employer debt service credit of 6 percent of pay) and the employee contribution rate was 13.324 percent. The January 1, 2023 Actuarial Valuation concluded that the funded ratio did not meet the standards set for the in 40 ILCS 5/22-101(e) and therefore, there was a need to increase the authority and employee contribution rates. For 2024, the rates were increased so that the employer contribution rate will become 21.590 percent (which is net of the employer debt service credit of 6 percent of pay) and the employee contribution rate will become 13.795 percent.

Contribution Rates

	Authority	Employees
2023 rate (old rate)	20.647%	13.324%
2024 rate (new rate)	21.590%	13.795%

Review of Actuarial Assumptions Used

The Office of the Auditor General and our consultant, Aon, reviewed the Retirement Plan's assumptions contained in the January 1, 2023 Actuarial Valuation and concluded that they were not unreasonable in the aggregate. The investment return assumption continues to be higher than most public plans but is supported by an investment return analysis conducted by the Plan's Investment Consultant and a high underlying inflation assumption. The underlying inflation assumption is on the upper end of the reasonable range based on current and recent historical capital market assumptions.

While we recognize the Plan's policy of completing an experience study every five years, we believe that **these two assumptions, investment return and inflation, should continue to be monitored and justified on an annual basis**. Additionally, we suggest the latest mortality improvement scale be considered for future valuations.

Since the funded ratio of the Plan was below 60 percent in the January 1, 2023 Valuation, the Pension Code requires the Plan to "*…determine the increased contribution required each year as a level percentage of payroll during the years after the then current year…so the funded ratio is projected to reach at least 60% no later than 10 years after the then current year and include that determination in its report.*" (40 ILCS 5/22-101(e)(3)) The contribution rates certified by the Board of Trustees for 2024 were increased from the 2023 contribution rates. In 2023, the employer contribution rate was 20.647 percent (which is net of the employer debt service credit of 6 percent of pay) and the employee contribution rate was 13.324 percent. For 2024, the rates were increased so that the employer contribution rate will become 21.590 percent (which is net of the employer debt service credit of 6 percent of pay) and the employee contribution rate will become 13.795 percent.

In 2019, the Plan's actuary completed an experience study evaluating the demographic and economic assumptions of the Plan. An experience study assesses how well assumptions used by the Plan align with the actual experience of the Plan. If past experience differs from the assumptions used, then the actuary may recommend revisions to the assumptions used in future valuations. The study examined five years of Plan history, from January 1, 2013 to December 31, 2017. Several of the assumptions used in the Plan's January 1, 2019 Actuarial Valuation were revised based on the results of the experience study. However, the investment return assumption was unchanged and remained at 8.25 percent. In the Plan's January 1, 2023 Actuarial Valuation, there were no changes in actuarial assumptions compared to the prior year.

Our consultant, Aon, reviewed the assumptions used in the Retirement Plan's January 1, 2023 Actuarial Valuation and found that the assumptions used were not unreasonable in the aggregate. While the assumptions used in the January 1, 2023 Actuarial Valuation were not unreasonable in the aggregate, two assumptions – the investment return assumption and the inflation assumption – should be monitored and justified on an annual basis.

Investment Return Assumption

The investment return assumption has not changed from the prior valuation and is set at 8.25 percent. Our prior reviews have concluded that the investment return assumption used by the Plan was at the upper range of investment return assumptions for comparable plans.

- In our 2009 and 2010 Annual Reviews, we noted that the Retirement Plan's investment return assumption of 8.75 percent, while selected using established standards for pension plans, was an optimistic assumption. In the January 1, 2011 Actuarial Valuation, the Plan's actuary recommended, and the Board of Trustees approved, a reduction in the investment return assumption to 8.50 percent.
- In the January 1, 2014 Valuation, the investment return assumption was reduced from 8.50 percent to 8.25 percent. As part of the experience study performed for the January 1, 2014 Valuation, the Plan's actuary examined the reasonableness of the 8.50 percent investment return assumption and recommended that the Board of Trustees adopt the 8.25 percent investment return assumption.

In the January 1, 2023 Actuarial Valuation prepared by the Plan's actuary, the investment return assumption used is 8.25 percent. This investment return assumption is unchanged from the previous valuation and is based on the Target Asset Allocation for the Plan's investments last updated in January 2022 as recommended by the Plan's Investment Consultant.

The Plan's actuary prepared an analysis of the 8.25 percent discount rate assumption based on the underlying target allocation and capital market assumptions and spreadsheet tool for the actuary's Financial Risk Management practice. Based on the Plan's actuary's model and an underlying inflation of 2.72 percent, the analysis found expected return assumptions of 8.59 percent over 30 years and 8.61 percent over 10 years. The Plan's actuary concluded the 8.25 percent assumption is reasonable for the purpose of the measurement as it is within their expected 35th to 65th percentile range of 7.81 percent to 9.37 percent over a 30-year horizon.

The Plan's Investment Consultant prepared an analysis and found an expected 10-year return of 8.48 percent.

Aon recommends the Plan, the Plan's actuary, and the Plan's Investment Consultant continue to justify the investment return assumption annually.

Our consultant, Aon, noted the following:

- The highest investment return assumption found in the 2021 Public Funds Survey is 8.25 percent. Specifically, the *Public Funds Survey Summary of Findings for FY 2021* highlights the fact that "*Following the sharp decline in global capital markets in 2008-09 and the decline in interest rates and projected returns on most major asset classes that followed the Great Financial Crisis, every plan in the survey reduced its assumed investment*

return, some more than once. This trend resulted in a reduction to the median return assumption to 7.0 percent in FY21."

- Only 1 plan out of the 228 plans found in the most recent Public Plans Data used an investment return assumption of 8.25 percent or greater (0.44 percent of plans).
- Actuarial Standard of Practice No. 27 provides guidance on the selection of economic assumptions for measuring pension obligations and dictates that "*the actuary should select reasonable economic assumptions,*" and should have "*no significant bias.*" It does recognize that "*different actuaries will apply different professional judgment and may choose different reasonable assumptions. As a result, a range of reasonable assumptions may develop… across actuarial practice.*"

Comparison with Rates of Returns for Other Pension Plans

The *Public Fund Survey Summary of Findings for FY 2021* reflects data compiled by the Center for Retirement Research at Boston College as part of the Public Plans Data. The Public Plans Data available online was reviewed as of October 16, 2023 and reflects valuation dates ending on or before December 31, 2021. For certain plans, annual valuations are not performed in which case the data is older than 2021. The *Public Fund Survey Summary of Findings for FY 2021* which surveyed 128 public pension plans with estimated combined assets of $4.82 trillion, found a median investment return assumption of 7.00 percent.

The most recent Public Plans Data included 228 plans with investment return assumptions ranging from 4.50 percent to 8.25 percent. Further, the data indicates that the median assumed *real rate of return*, which accounts for inflation, is 4.50 percent. According to the valuation report, the underlying inflation assumption used by the Plan's actuary in the actuarial valuation is 3.10 percent. Therefore, the assumed real rate of return for 2022 is 5.15 percent.

In comparing the Public Plans Data currently available online data with the data from last year, we note that 1 plan (out of 219 plans) reported using an 8.25 percent investment return or higher in data pulled as of October 18, 2022, and this is unchanged (1 plan out of 228) in data pulled as of October 16, 2023. The highest real return in the current data is 5.35 percent (1 plan). The Retirement Plan's investment assumption of 8.25 percent is at the upper edge of the Public Fund Survey data range, due solely to one outlier plan with a return assumption of 8.25 percent.

In their *2022 Report on City & County Retirement Systems: Funding Levels and Asset Allocation*, Wilshire Consulting examined the asset allocation for 107 city and county retirement systems, 73 of which reported actuarial values on or after June 30, 2021. The Wilshire study estimates that the average city and county pension fund has an expected return of 4.70 percent. The 4.70 percent return is:

- higher than the 4.40 percent noted in Wilshire's comparable 2021 Report.
- lower than median actuarial interest rate of 7.00 percent for plans in the study.

- lower than the 8.25 percent selected for the Retirement Plan.

Wilshire Consulting also published their *2023 Report on State Retirement Systems: Funding Levels and Asset Allocation*. Wilshire Consulting examined the asset allocation and funding levels for 134 state retirement systems, 96 of which reported actuarial values on or after June 30, 2022. The Wilshire study estimates that the average state pension fund has an expected return of 7.10 percent. This is based on the aggregate asset allocation for State Pension Plans. The 7.10 percent return is:

- higher than the 5.10 percent noted in the 2022 Report.
- higher than the current median actuarial interest rate of 7.00 percent used by the plans in the study.
- lower than the 8.25 percent assumption selected for the Retirement Plan.

The National Conference on Public Employee Retirement Systems and Cobalt Community Research released the *2023 NCPERS Public Retirement Systems Study* in 2023. NCPERS is a trade association for public sector pension funds, representing approximately 500 funds in the United States and Canada. The 2023 study includes responses from 195 state and local government pension funds with assets exceeding $3 trillion.

According to the study, the average investment return assumption decreased 0.21 percent from the 2021 assumption of 7.07 percent to 6.86 percent in 2022, despite minimal changes in the average asset allocation. The average inflation assumption was 2.60 percent, down 0.1 percent from last year's 2.70 percent. The 2023 NCPERS Study found that there was reduced interest in changing the actuarial assumed rate of return during the year with 74 percent of all responding funds having implemented, or considering implementing, a reduction in the assumed rate of return, down from 82 percent in the 2021 study (released in 2022).

Aon Analysis

Using Aon's Expected Return Tool (as of the 1st Quarter of 2023) and the target asset allocation, Aon determined that the 35th to 65th percentile range of the CTA Retirement Plan's investment returns to be 8.76 percent to 6.84 percent, with the 50th percentile rate equal to 7.80 percent. The Retirement Plan's investment return assumption of 8.25 percent represented the 42.8 percentile in Aon's tool.

The underlying inflation assumption used in Aon's Expected Return Tool is 2.30 percent, representing Aon's best estimate of future inflation over the next 30 years as of the 1st Quarter of 2023. The Retirement Plan's inflation assumption of 3.10 percent is 80 basis points higher. This assumption was supported as part of the most recent experience study with a 30-year GEMS estimate of the U.S. consumer price inflation which trends towards historical averages, reflecting inflation and interest rate environments different than those currently observed. We recognize there is a wide range of expectations concerning long-term inflation, but we

would still consider the Plan's current assumption on the upper end of what is reasonable based on recent history and current capital market assumptions.

If we adjust the results of the tool for this difference in the inflation assumption, the resulting 35th to 65th percentile range would be 9.66 percent to 7.74 percent with the 50th percentile rate equal to 8.70 percent. The Retirement Plan's investment return assumption of 8.25 percent represents the 57.1 percentile when adjusted to use an inflation assumption of 3.10 percent. The Aon Expected Return Tool calculates the expected portfolio growth rate (50th percentile, geometric return) before any value added from active management. The Plan's current investment return assumption is within a reasonable range of the 50th percentile based on Aon's capital market assumptions and the underlying plan inflation of 3.1 percent. Given the Plan's underlying inflation assumption and assumption support provided by the Plan's investment advisor, the 8.25 percent investment return assumption is within the reasonable range, but the inflation assumption continues to be on the upper end of the reasonable range.

Conclusion: Investment Return Assumption

The 8.25 percent investment return assumption is at the upper end of investment return assumptions used by other retirement plans in the United States. The Retirement Plan's inflation assumption of 3.10 percent is 80 basis points higher than Aon's best estimate of future inflation over the next 30 years of 2.30 percent. **We recommend that the investment return and inflation assumptions continue to be monitored and justified on an annual basis.**

Mortality Assumption

The Actuarial Valuation as of January 1, 2023 states the mortality assumption as follows:

(a) Active members and healthy retirees: The Society of Actuaries (SOA) Public Mortality General Below Median generational with Improvement Scale MP-2018 with a 13 percent increase adjustment for female participants.

(b) Survivors: The SOA Public Survivor Mortality General Below Median generational with Improvement Scale MP-2018. Beneficiaries of current retirees are assumed to have the same mortality as active members & healthy retirees prior to the death of the member retiree.

(c) Disabled Retirees: The SOA Public Disability Mortality General Below Median generational with Improvement Scale MP-2018.

The Society of Actuaries conducted a review of public sector mortality experience in 2018 and released new "Pub-2010" mortality tables January 22, 2019. As part of the 2019 experience study, this assumption was updated to reflect the most recently available information from the Society of Actuaries. During the 2019 experience study conducted by the Plan's actuary, the actuary found that the "below-median" mortality table was the best fit with the actual plan experience, despite the differences in plan participant average salary ($57,493) and the median General salaries from the SOA study ($34,686 for females and $45,773 for males). The new Pub-2010 mortality table report states that experience

studies should be conducted on a benefits-weighted basis, which appears to be what the Plan's actuary has done. Actuarial Standard of Practice No. 35 (ASOP No. 35) provides guidance with respect to the factors that should be considered when selecting a mortality assumption: 1) different assumptions before and after retirement; 2) different assumptions for disabled lives; and 3) differences for different subgroups. Overall, the mortality assumption appears to be reasonable based on the data provided and available at the time of the last assumption study, the benefits provided in the plan, and the population demographics.

ASOP No. 35 provides guidance with respect to mortality improvement before and after the measurement date. After the 2014 experience study, the plan adopted generational mortality tables to account for future mortality improvements. The 2019 experience study confirmed the continued use of generational mortality tables to account for future mortality improvements. The SOA has since released seven updates to MP-2014, and has further indicated their intention to provide annual updates to their mortality model. In 2022 and 2023, the SOA did not release an update to the latest MP-2021 model due to the challenges of incorporating pandemic data without adjustment into the model.

The current assumption for mortality improvement in the valuation is the MP-2019 mortality improvement scale, which reflects mortality data through 2017. More recent mortality improvement scale releases from the SOA reflect additional years of mortality data that result in slightly lower (MP-2020) or slightly higher (MP-2021) mortality improvement rates relative to the preceding scale. We believe the MP-2019 mortality improvement scale could still fall within the ASOP No. 35 reasonable assumption universe.

The mortality assumption has not been adjusted to incorporate the impact of the COVID-19 pandemic on anticipated future mortality experience. Increases in mortality due to the COVID-19 pandemic are reflected in actual plan mortality experience and the CTA believes "it is too early to determine how COVID-19 will impact future mortality". We believe this is a reasonable approach based on the Retirement Plans Experience Committee of the Society of Actuaries Research Institute (RPEC) 2022 Mortality Improvement Update which states "the 'MP' improvement scales are intended for use in valuing liabilities where it is assumed that past experience is already reflected in the participant or member data at the measurement date. There does not appear to be consensus within the actuarial community on the extent of the near and long-term future impacts, direct or indirect, of the pandemic on pensioner mortality." Additionally, the RPEC 2023 Mortality Improvement Update states "based on CDC information, [the data] indicates lower excess mortality in 2022 compared to 2020 and 2021 and further declining excess mortality in 2023, with no excess mortality in total for ages 65 and older." This is further supported by the SSA assuming "very little future mortality impact from COVID-19" and UK Insurers "generally assuming no COVID impact".

We have not otherwise performed an independent analysis of mortality improvement.

Active Participant Assumption

The Retirement Plan's active participant headcount decreased from the prior year. Additionally, the ratio of active participants to annuitants continued to decrease. The *Public Fund Survey Summary of Findings for FY 2021* states, "*When combined with an unfunded liability, however, a low or declining ratio of actives to annuitants can cause financial distress for a pension plan sponsor…A lower ratio of actives to annuitants results in applying costs to amortize a plan's unfunded liability over a relatively smaller payroll base, which increases the cost of the plan as a percentage of employee payroll.*"

In the January 1, 2023 Actuarial Valuation, the Retirement Plan's actuary has assumed a steady future level of active members of 7,409 through the projection period of 2053. To the extent future participation differs from this assumption, the future contribution levels will be impacted. The headcount decreased from 8,159 in the 2019 Actuarial Valuation to 7,409 in the most recent 2023 Actuarial Valuation. Although the assumption in recent years has kept the active headcounts level, the active population has trended downwards, with a decrease of 2.38 percent on average over this time period and a 4.09 percent decrease in 2023. The active to annuitant ratio has declined from 0.77 in the 2019 Valuation to 0.68 in the 2023 Valuation.

The Plan's active to annuitant ratio of 0.68 is significantly lower than the average result from the Public Fund Survey of 1.26, and indicates the importance of this ratio to the Plan's finances. The Plan's actuary has confirmed the reasonableness of the level headcount assumption with the CTA.

Funded Ratio

The funded ratio of the Retirement Plan as of January 1, 2023, was 54.20 percent, which is a decrease of 0.79 percent from the funded ratio of 54.99 percent in the January 1, 2022 Actuarial Valuation. At January 1, 2023, the actuarial value of assets was reported at $2.076 billion and the actuarial accrued liability was $3.830 billion.

The Illinois Pension Code (40 ILCS 5/22-101(e)(3)) contains specific requirements regarding the funded ratio of the CTA Retirement Plan. The Code states that:

> (3) "…If the actual funded ratio declines below 60% in any year prior to 2040, the Board of Trustees shall also determine the increased contribution required each year as a level percentage of payroll during the years after the then current year using the projected unit credit actuarial cost method so the funded ratio is projected to reach at least 60% no later than 10 years after the then current year and include that determination in its report …."

The Pension Code requires the CTA to contribute 12 percent of pay, less up to a 6 percent credit for debt service paid on the bonds used to fund the Plan; employees are required to pay 6 percent of pay. If the funded ratio is projected to decline below 60 percent prior to 2040, the Pension Code requires the CTA to pay two-thirds and employees to pay one-third of the required contribution.

The funded ratio of the Plan remained under 60 percent in the January 1, 2023 Actuarial Valuation. The Plan's actuary determined that there was a need to increase contribution rates. For 2024, the employer contribution rate was increased from 20.647 percent to 21.590 percent (which is net of the employer debt service credit of 6 percent of pay) and the employee contribution rate was increased from 13.324 percent to 13.795 percent. These rates result in the Plan's funded ratio reaching the statutorily required 60 percent level within 10 years of 2023 (i.e., by 2033).

Projected Funded Status

Year	Projected Funded Ratio
2023	54.20%
2024	54.18%
2025	53.76%
2026	53.53%
2027	52.47%
2028	53.34%
2029	54.32%
2030	55.45%
2031	56.75%
2032	58.25%
2033	60.00%
2034	62.02%
2035	64.36%
2036	67.05%
2037	70.14%
2038	73.65%
2039	77.60%
2040	81.99%
2041	86.82%
2042	93.56%
2043	100.83%

Source: January 1, 2023 Actuarial Valuation Report.

The January 1, 2023 Actuarial Valuation notes that differences between the expected experience based on the actuarial assumptions and the actual experience create changes in the actuarial accrued liability, the 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 $99.8 million during 2022. The Valuation notes that this net gain is a combination of two principal factors: demographic experience and investment performance.

The January 1, 2023 Actuarial Valuation discloses that the Plan's demographic assumptions (such as mortality, turnover, retirement, pay increases, etc.) experienced a loss of $49.5 million during 2022. The rate of return on the actuarial value of Plan assets was 5.75 percent for the year ending December 31, 2022, compared to the rate of return assumption of 8.25 percent. The lower than assumed rate of return in 2022 resulted in a loss of $50.3 million.

The January 1, 2023 Actuarial Valuation projects the funded ratio of the Plan to be 81.99 percent in year 2040. This is a decrease from last year's projected funded ratio in year 2040 of 115.96 percent.

Funding Policy

Although not required by law, the Plan's actuary recommended in the January 1, 2023 Valuation, and past valuations, that the Board of Trustees consider moving towards contributing based on a more actuarially sound funding policy which they refer to as the "Actuarial Math Funding Policy". This would include: 1) funding 100 percent of the entry age normal cost method; 2) fund the expected administrative expenses for the fiscal year; and 3) pay off the unfunded liability over a period of 20 years and as a level percentage of payroll. The Valuation notes that complying with this methodology would result in a total contribution of 33.51 percent which is similar to the current contribution total of 35.385 percent [21.590 percent paid by the CTA (net of the 6 percent credit for bond repayment) and 13.795 percent paid by employees].

Scope of Annual Review

The Office of the Auditor General conducted an annual review of information submitted by the Retirement Plan pursuant to the Illinois State Auditing Act and the Illinois Pension Code. This report does not constitute an audit as that term is defined in generally accepted government auditing standards. Consequently, while we reviewed the information provided by the CTA Retirement Plan for reasonableness and consistency, we did not conduct an audit of the accuracy of the information provided as that is the responsibility of the Plan.

The scope of our work included reviewing the information submitted by the Retirement Board of Trustees on September 28, 2023. This information included: the Audited Financial Statements for the Plan for the year ended December 31, 2022; an Investment Report for the period ending December 31, 2022; and the January 1, 2023 Actuarial Valuation for the Retirement Plan. We conducted follow-up with the Retirement Plan on various questions we had based upon our review of these documents. The Retirement Plan was provided a draft of this report for its review.

Our consultant, Aon, reviewed the reasonableness of the actuarial assumptions used by the CTA Retirement Plan in their January 1, 2023 Actuarial Valuation.

In prior years, we reported that the Plan's Executive Director noted that the Williams Case (Williams v. Retirement Plan for CTA Employees, CTA Retiree Health Care Trust, et al., No. 11 CH 15446 (Circuit Court of Cook County, Illinois)) could have a significant impact on either the Retirement Plan or the Retiree Health Care Trust in the magnitude of $100 million or more. The plaintiffs were current and former employees of the CTA who argued that after years of fully paid health care benefits for retired CTA employees, they were being asked to pay for a portion of their health care benefits and were no longer entitled to the same level of health care coverage as active CTA employees. The changes to their coverage occurred as a result of an arbitration award and related amendments to the Pension Code made by Public Act 95-708. On October 27, 2023, the Executive Director provided an update on the status of the case.

> The Williams litigation was a Class Action lawsuit against the CTA Retirement Plan and the CTA Health Care Trust. It has been settled. The Court approved the settlement by a court order on October 23, 2023. By the terms of the Settlement Agreement there is no finding of liability against the Retirement Plan and there is no money impact on the Retirement Plan. The entire settlement amount was paid by the CTA Retiree Health Care Trust.

The Auditor General performed this Review with assistance from our consultant, Aon. Aon's review concluded that:

(A) The required documents have been submitted and meet the statutory requirements of Section 5/3-2.3(e)(1), (2), and (3) of the Illinois State Auditing Act.

(B) The assumptions stated in the actuarial report submitted pursuant to 40 ILCS 5/22-101(e)(3) are not unreasonable in the aggregate. The investment return assumption of 8.25 percent continues to be higher than most public plans but is supported by investment return analysis conducted by the Plan investment advisor and a high

underlying inflation assumption. The underlying inflation assumption of 3.10 percent is on the upper end of the reasonable range based on current and recent historical capital market assumptions as of the valuation date. While we recognize the plan's policy of completing an experience study every five years, we believe that two of the assumptions, investment return and inflation, should be monitored and justified on an annual basis. Additionally, we suggest the latest mortality improvement scale be considered for future valuations.

(C) The Pension Code (40 ILCS 5/22-101(e)(3)) indicates that if the plan's funded ratio is projected to fall below 60 percent in any year before 2040, minimum contribution rates are to be determined on a level percentage of payroll basis over the years remaining until 2040 that keep the projected funded ratio above 60 percent in all years through 2039, based on assumptions which are not unreasonable in the aggregate. The Pension Code also indicates that if the actual funded ratio declines below 60 percent in any year prior to 2040, the actuarial report shall also show an increased contribution rate that is determined on a level percentage of payroll basis during the years after the current year such that the funded ratio is projected to reach at least 60 percent no later than 10 years after the then current year. The funded ratio remained below 60 percent for the January 1, 2023 valuation. The contribution rates of 13.795 percent for employees and 21.590 percent for the employer (after reflecting the 6 percent credit for debt service) were increased from the 2022 contribution rates to bring the funded status to 60 percent (or higher) by 2033 (i.e., 10 years after the current year). The contribution rates of 13.795 percent for employees and 21.590 percent for the employer (after reflecting the 6 percent credit for debt service) are the Statutory Minimum Contribution Rates.

Appendix A
Statutory Authority

Illinois State Auditing Act

30 ILCS 5/3-2.3(e) and (f)

(e) Annual Retirement Plan Submission to Auditor General. The Board of Trustees of the Retirement Plan for Chicago Transit Authority Employees established by Section 22-101 of the Illinois Pension Code shall provide the following documents to the Auditor General annually no later than September 30:

(1) the most recent audit or examination of the Retirement Plan;

(2) an annual statement containing the information specified in Section 1A-109 of the Illinois Pension Code; and

(3) a complete actuarial statement applicable to the prior plan year, which may be the annual report of an enrolled actuary retained by the Retirement Plan specified in Section 22-101(e) of the Illinois Pension Code.

The Auditor General shall annually examine the information provided pursuant to this subsection and shall submit a report of the analysis thereof to the General Assembly, including the report specified in Section 22-101(e) of the Illinois Pension Code.

(f) The Auditor General shall annually examine the information submitted pursuant to Section 22-101B(b)(3)(iii) of the Illinois Pension Code and shall prepare the determination specified in Section 22-101B(b)(3)(iv) of the Illinois Pension Code.

(Source: P.A. 95-708, eff. 1-18-08.)

Illinois Pension Code

40 ILCS 5/1A-109

Annual statements by pension funds. Each pension fund shall furnish to the Division an annual statement in a format prepared by the Division.

The Division shall design the form and prescribe the content of the annual statement and, at least 60 days prior to the filing date, shall furnish the form to each pension fund for completion. The annual statement shall be prepared by each fund, properly certified by its officers, and submitted to the Division within 6 months following the close of the fiscal year of the pension fund.

The annual statement shall include, but need not be limited to, the following:

(1) a financial balance sheet as of the close of the fiscal year;

(2) a statement of income and expenditures;

(3) an actuarial balance sheet;

(4) statistical data reflecting age, service, and salary characteristics concerning all participants;

(5) special facts concerning disability or other claims;

(6) details on investment transactions that occurred during the fiscal year covered by the report;

(7) details on administrative expenses; and

(8) such other supporting data and schedules as in the judgement of the Division may be necessary for a proper appraisal of the financial condition of the pension fund and the results of its operations. The annual statement shall also specify the actuarial and interest tables used in the operation of the pension fund.

For pension funds under Article 3 or 4 of this Code, after the conclusion of the transition period, the Consolidated Fund shall furnish directly to the Division the information described in items (1) and (6) of this Section and shall otherwise cooperate with the pension fund in the preparation of the annual statement.

A pension fund that fails to file its annual statement within the time prescribed under this Section is subject to the penalty provisions of Section 1A-113.

(Source: P.A. 101-610, eff. 1-1-20.)

40 ILCS 5/22-101

Sec. 22-101(e). Retirement Plan for Chicago Transit Authority Employees.

(1) Beginning January 1, 2009 the Authority shall make contributions to the Retirement Plan in an amount equal to twelve percent (12%) of compensation and participating employees shall make contributions to the Retirement Plan in an amount equal to six percent (6%) of compensation. These contributions may be paid by the Authority and participating employees on a payroll or other periodic basis, but shall in any case be paid to the Retirement Plan at least monthly.

(2) For the period ending December 31, 2040, the amount paid by the Authority in any year with respect to debt service on bonds issued for the purposes of funding a contribution to the Retirement Plan under Section 12c of the Metropolitan Transit Authority Act, other than debt service paid with the proceeds of bonds or notes issued by the Authority for any year after calendar year 2008, shall be treated as a credit against the amount of required contribution to the Retirement Plan by the Authority under subsection (e)(1) for the following year up to an amount not to exceed 6% of compensation paid by the Authority in that following year.

(3) By September 15 of each year beginning in 2009 and ending on December 31, 2039, on the basis of a report prepared by an enrolled actuary retained by the Plan, the Board of Trustees of the Retirement Plan shall determine the

estimated funded ratio of the total assets of the Retirement Plan to its total actuarially determined liabilities. A report containing that determination and the actuarial assumptions on which it is based shall be filed with the Authority, the representatives of its participating employees, the Auditor General of the State of Illinois, and the Regional Transportation Authority. If the funded ratio is projected to decline below 60% in any year before 2040, the Board of Trustees shall also determine the increased contribution required each year as a level percentage of payroll over the years remaining until 2040 using the projected unit credit actuarial cost method so the funded ratio does not decline below 60% and include that determination in its report. If the actual funded ratio declines below 60% in any year prior to 2040, the Board of Trustees shall also determine the increased contribution required each year as a level percentage of payroll during the years after the then current year using the projected unit credit actuarial cost method so the funded ratio is projected to reach at least 60% no later than 10 years after the then current year and include that determination in its report. Within 60 days after receiving the report, the Auditor General shall review the determination and the assumptions on which it is based, and if he finds that the determination and the assumptions on which it is based are unreasonable in the aggregate, he shall issue a new determination of the funded ratio, the assumptions on which it is based and the increased contribution required each year as a level percentage of payroll over the years remaining until 2040 using the projected unit credit actuarial cost method so the funded ratio does not decline below 60%, or, in the event of an actual decline below 60%, so the funded ratio is projected to reach 60% by no later than 10 years after the then current year. If the Board of Trustees or the Auditor General determine that an increased contribution is required to meet the funded ratio required by the subsection, effective January 1 following the determination or 30 days after such determination, whichever is later, one-third of the increased contribution shall be paid by participating employees and two-thirds by the Authority, in addition to the contributions required by this subsection (1).

(4) For the period beginning 2040, the minimum contribution to the Retirement Plan for each fiscal year shall be an amount determined by the Board of Trustees of the Retirement Plan to be sufficient to bring the total assets of the Retirement Plan up to 90% of its total actuarial liabilities by the end of 2059. 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. In making these determinations, the Board of Trustees shall calculate the required contribution each year as a level percentage of payroll over the years remaining to and including fiscal year 2059 using the projected unit credit actuarial cost method. A report containing that determination and the actuarial assumptions on which it is based shall be filed by September 15 of each year with the Authority, the representatives of its participating employees, the Auditor General of the State of Illinois and the Regional Transportation Authority. If the funded ratio is projected to fail to reach 90% by December 31, 2059, the Board of Trustees shall also determine

the increased contribution required each year as a level percentage of payroll over the years remaining until December 31, 2059 using the projected unit credit actuarial cost method so the funded ratio will meet 90% by December 31, 2059 and include that determination in its report. Within 60 days after receiving the report, the Auditor General shall review the determination and the assumptions on which it is based and if he finds that the determination and the assumptions on which it is based are unreasonable in the aggregate, he shall issue a new determination of the funded ratio, the assumptions on which it is based and the increased contribution required each year as a level percentage of payroll over the years remaining until December 31, 2059 using the projected unit credit actuarial cost method so the funded ratio reaches no less than 90% by December 31, 2059. If the Board of Trustees or the Auditor General determine that an increased contribution is required to meet the funded ratio required by this subsection, effective January 1 following the determination or 30 days after such determination, whichever is later, one-third of the increased contribution shall be paid by participating employees and two-thirds by the Authority, in addition to the contributions required by subsection (e)(1).

(5) Beginning in 2060, the minimum contribution for each year shall be the amount needed to maintain the total assets of the Retirement Plan at 90% of the total actuarial liabilities of the Plan, and the contribution shall be funded two-thirds by the Authority and one-third by the participating employees in accordance with this subsection.

(Source: P.A. 97-442, eff. 8-19-11; P.A. 97-609, eff. 1-1-12; P.A. 97-813, eff. 7-13-12.)

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