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STATE OF ILLINOIS

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OFFICE OF THE AUDITOR GENERAL

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**Review of Documents  
Related to the Proposed Sale of Bonds  
For the Chicago Transit Authority Retirement Plan  
And Retiree Health Care Trust**

Conducted Pursuant to 30 ILCS 5/3-2.3

*Prepared by*  
**Aon Consulting**

**July 17, 2008**

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**Cover Letter**

July 17, 2008

William G. Holland  
Auditor General  
State of Illinois  
Iles Park Plaza  
740 East Ash Street  
Springfield, Illinois 62703-3154

**Re:** Aon Report on Chicago Transit Authority Retirement Plan and Retiree Health Care Trust

Dear Mr. Holland:

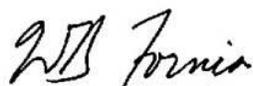
Aon Consulting presents the following report on the Retirement Plan for Chicago Transit Authority Employees and the Retiree Health Care Trust. We have examined information submitted by the Chicago Transit Authority (CTA) on May 19, 2008, pursuant to Sections 3-2.3(a)(1) through (8) of the Illinois State Auditing Act, as amended by Public Act 95-708. As required by that Act, we have issued this report within sixty days after receiving the information submitted by the CTA. Our responsibilities were limited to the specific conclusions required by Public Act 95-708. This report does not constitute an audit as that term is defined in generally accepted government auditing standards.

Specifically, Aon finds that:

- (i) the required certifications by the Authority, the Board of Trustees of the Retirement Plan and the Board of Trustees of the Retiree Health Care Trust have been made, and
- (ii) the actuarial reports have been provided, the reports include all required information, the assumptions underlying those reports are not unreasonable in the aggregate, and the reports appear to comply with all pertinent professional standards, including those issued by the Actuarial Standards Board.

We invite you, the General Assembly, the Legislative Audit Commission, the Governor, the Regional Transportation Authority and the Chicago Transit Authority to review the following pages which document our findings. We look forward to discussing this with you and other parties as appropriate.

Sincerely,



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William B. Fornia, FSA, EA, MAAA  
Senior Vice President  
Aon Consulting

## Section 1. Background

### **Purpose of Report**

Aon Consulting (Aon) has been engaged by the Illinois Office of the Auditor General (OAG) to provide expert assistance pursuant to Public Act 95-708. The Act requires the OAG to review information submitted by the Chicago Transit Authority (CTA), the Board of Trustees of the Retirement Plan for Chicago Transit Authority Employees (the Retirement Plan), and the Board of Trustees of the Retiree Health Care Trust. This information is related to proposed bond issuances. The Act requires the OAG to issue reports to the General Assembly, the Legislative Audit Commission, the Governor, the Regional Transportation Authority and the Chicago Transit Authority. The reports are required to address whether certifications have been made and whether actuarial reports have been provided, whether the reports contain all required information, whether the assumptions underlying those reports are not unreasonable in the aggregate, and whether the reports appear to comply with all professional standards. Aon has prepared this report addressing the limited and specific requirements of the Act pertaining to the Retirement Plan and the Retiree Health Care Trust. This report was not intended to, and does not, constitute an audit as that term is defined in generally accepted government auditing standards.

### **Chicago Transit Authority**

The CTA operates the nation's second largest public transportation system and covers the City of Chicago and surrounding suburbs. As of January 1, 2008, CTA employed 9,635 full-time workers covered under the Retirement Plan.

For the past several years, the CTA has incurred severe funding shortfalls. Public Act 95-708, effective January 18, 2008, made numerous changes to address the funding shortfall, including additional revenue for the CTA and certain pension and healthcare reform.

### **Retirement Plan for Chicago Transit Authority Employees**

The Retirement Plan for Chicago Transit Authority Employees is a single-employer contributory defined benefit public pension plan covering all full-time permanent employees of the CTA. The Retirement Plan is administered by a Board of Trustees. The Retirement Plan is classified as a "governmental plan" and is, therefore, exempt from certain provisions of the Employee Retirement Income Security Act of 1974 (ERISA).

The following table illustrates coverage under the Retirement Plan:

Participant Group	As of January 1, 2007	As of January 1, 2008
Active Employees	9,710	9,635
Terminated Vested Employees	41	47
Retired Employees & Survivors:		
▪ Age/Service Retirements	7,358	7,427
▪ Disability Retirements	912	917
▪ Surviving Spouses	846	871
Total Retired Employees & Survivors	9,116	9,215
<b>Total Plan Participants</b>	<b>18,867</b>	<b>18,897</b>

Source: Gabriel, Roeder, Smith & Company Actuarial Valuation under Public Act 95-708 relating to the Pension Trust May 16, 2008 p. 12

Employees are entitled to annual pension benefits upon normal retirement at age 65, at an amount generally based on a percentage (2.15%) of the employees' average annual compensation multiplied by the number of years of service. The Retirement Plan permits early retirement at age 55, with reduced benefits for those who do not have 25 years of service.

P.A. 95-708 requires all participating employees to contribute to the Retirement Plan in an amount not less than 6% of compensation, and the CTA to contribute to the Retirement Plan in an amount not less than 12% of compensation, through December 31, 2008.

### **The Chicago Transit Authority Retiree Health Care Trust**

The Chicago Transit Authority Retiree Health Care Trust is established under Public Act 95-708. The Retirement Plan currently reimburses the CTA for healthcare benefits provided to retired members and their dependents. Following the establishment of the Retiree Health Care Trust, the Trust will be responsible for providing health benefits by no later than July 1, 2009 but no earlier than January 1, 2009.

Retiree health benefits are to be funded through a combination of active contributions, retiree self-pay contributions, proceeds from a sale of bonds, and investment return on assets.

### **Actuaries' Role in Retirement Plans**

The Retirement Plan and Retiree Health Care Trust engage actuaries to determine the funded position of the plans and provide other financial cost and liability calculations.

The primary function of the actuary is to conduct annual actuarial valuations of the plan. These valuations consider various components:

- Census data of plan participants (age, salary, service, sex)
- Plan assets (market value)
- Benefit provisions (eligibilities, benefit formulas)
- Actuarial assumptions (investment return, longevity, timing and likelihood of retirement, salary growth)

Based on these inputs, the actuary calculates a variety of actuarial values as of the date of the actuarial valuation. These calculations include:

- Funded status of the Plan
- Reporting requirements mandated by bargaining agreements
- Disclosure requirements under Government Accounting Standards Board Statements Number 25, 27, 43 and 45 (GASB 25, 27, 43 and 45)
- Potential additional required contribution, subject to P.A. 95-708

The actuary is also required to perform certain additional calculations under P.A. 95-708 pertaining to the potential issuance of debt to help finance the plans. This report is to be prepared by an Enrolled Actuary. An Enrolled Actuary is one qualified to perform actuarial calculations under ERISA. The signing actuaries from Gabriel, Roeder, Smith & Company (GRS) are Enrolled Actuaries. An Enrolled Actuary also signed the Segal Company actuarial valuation report of the Retiree Health Care Trust.

The P.A. 95-708 actuarial report for the Retirement Plan is required to set forth:

- (A) the method of valuation and the underlying assumptions;
- (B) a comparison of the debt service schedules of the bonds or notes proposed to be issued to the Retirement Plan's current unfunded actuarial accrued liability amortization schedule, as required by Section 22-101(e) of the Illinois Pension Code, using the projected interest cost of the bond or note issue as the discount rate to calculate the estimated net present value savings;
- (C) the amount of the estimated net present value savings comparing the true cost of the bonds or notes with the actuarial investment return assumption of the Retirement Plan; and
- (D) a certification that the net proceeds of the bonds or notes, together with anticipated earnings on contributions and deposits, will be sufficient to reasonably conclude on an actuarial basis that the total retirement assets of the Retirement Plan will not be less than 90% of its liabilities by the end of fiscal year 2059.

The P.A. 95-708 actuarial report for the Retiree Health Care Trust is required to set forth:

- (A) the method of valuation and the underlying assumptions;
- (B) a comparison of the projected interest cost of the bonds or notes proposed to be issued with the actuarial investment return assumption of the Retiree Health Care Trust; and
- (C) a certification that the net proceeds of the bonds or notes, together with anticipated earnings on contributions and deposits, will be sufficient to adequately fund the actuarial present value of the projected benefits expected to be paid under the Retiree Health Care Trust, or a certification of the increases in contribution levels and decreases in benefit levels that would be required in order to cure any funding shortfall over a period of not more than 10 years.

The Retirement Plan is in a weak funded position. As of the January 1, 2007 actuarial valuation, the ratio of plan assets to actuarial liabilities was 30%. At this time the Retirement Plan liabilities included the health care liabilities which are to be transferred to the Retiree Health Care Trust.

### **Proposed Bond Sale**

The CTA is considering alleviating its funding shortfall through the issuance of pension obligation bonds (POB) and Retiree Health Care Obligation Bonds. The POB proceeds would be deposited into the Retirement Plan fund and the Retiree Health Care Obligation Bond proceeds would be deposited into the Retiree Health Care Trust. This would immediately improve the funded position of the two funds. The POB issuance is anticipated to provide net deposits to the Retirement Plan fund of no less than \$1,110,500,000, which would improve the funded position to more than 80%. The Retiree Health Care Bond issuance is anticipated to provide net deposits of \$528,800,000, which would also substantially improve the Retiree Health Care Trust funded position. Of course, the bond issuance merely shifts liability from the Retirement Plan and Retiree Health Care Trust to the CTA.

Pension Obligation Bonds have been used by other public entities, including the State of Illinois. The POB transaction is essentially borrowing in the debt market for investment in a pension fund, which is invested in both debt and equities. If the net investment return from the pension fund exceeds the net borrowing costs, then the transaction will have resulted in cost savings. But if net pension fund investment return does not exceed the borrowing cost, the POB transaction will not have resulted in cost savings.

The public will not know whether this transaction was advantageous until many years into the future. One purpose of the analysis required by P.A. 95-708 is to ascertain as well as can be determined whether the POB transaction "is in the best interest of the Retirement Plan for Chicago Transit Authority Employees [or the Retiree Health Care Trust] and the Chicago Transit Authority". To accomplish this purpose, the Act required the CTA to submit a financial analysis prepared by an independent financial advisor to make that determination. The Independent Financial Advisors to the CTA made determinations that the two bond transactions were in the best interest of the CTA, the Retirement Plan and the Retiree Health Care Trust.

### **Requirements of Public Act 95-708**

P.A. 95-708 requires several items from the OAG. The statutes are clear and succinct, and are reproduced below, first pertaining to the Retirement Plan:

*The Auditor General shall examine the information submitted pursuant to Section 3-2.3(a)(1) through (4) and submit a report to the General Assembly, the Legislative Audit Commission, the Governor, the Regional Transportation Authority and the Authority indicating whether:*

- (i) the required certifications by the Authority and the Board of Trustees of the Retirement Plan have been made, and*
- (ii) the actuarial reports have been provided, the reports include all required information, the assumptions underlying those reports are not unreasonable in the aggregate, and the reports appear to comply with all pertinent professional standards, including those issued by the Actuarial Standards Board.*

And second, pertaining to the Retiree Health Care Trust:

*The Auditor General shall examine the information submitted pursuant to Section 3-2.3(a)(5) through (8) and submit a report to the General Assembly, the Legislative Audit Commission, the Governor, the Regional Transportation Authority and the Authority indicating whether:*

- (i) the required certifications by the Authority and the Board of Trustees of the Retiree Health Care Trust have been made, and*
- (ii) the actuarial reports have been provided, the reports include all required information, the assumptions underlying those reports are not unreasonable in the aggregate, and the reports appear to comply with all pertinent professional standards, including those issued by the Actuarial Standards Board.*

Because so much of the analysis is parallel for the Retirement Plan and Retiree Health Care Trust, we address many of them jointly. Issues pertaining solely to either Retirement or Retiree Health are noted. All items are addressed in the following sections of this report:

- Section 2 is our examination of the information submitted.
- Section 3 is our confirmation that the required certifications have been made.
- Section 4 contains our discussion that the actuarial report has been provided.
- Section 5 reports on whether the actuarial assumptions underlying those reports are not unreasonable in the aggregate.
- Section 6 addresses professional actuarial standards.
- Section 7 contains additional observations.
- Section 8 is the summary.

## Section 2. Examination of Information Submitted

In order to make our determinations, Aon examined the following materials:

### Submittal

On May 19, 2008, the CTA provided its formal submittal to the Office of the Auditor General as required by Public Act 95-708. This was received by Aon on May 20, 2008. The submittal included:

- Section One Retirement Plan Documentation
  - Tab A CTA Certification that it is legally authorized to issue bonds
  - Tab B CTA Certification of anticipated principal and interest payments
  - Tab C Bond Maturity Schedule
  - Tab D CTA Certification of Bond Proceeds
  - Tab E Intergovernmental Agreement
  - Tab F Retirement Board Certifications
  - Tab G Actuarial Report
  - Tab H Independent Financial Advisors Report
  
- Section Two Retiree Health Care Trust Documentation
  - Tab A CTA Certification that it is legally authorized to issue bonds
  - Tab B CTA Certification of anticipated principal and interest payments
  - Tab C Bond Maturity Schedule
  - Tab D CTA Certification of Bond Proceeds
  - Tab E Intergovernmental Agreement
  - Tab F Retiree Health Care Trust Board Certifications
  - Tab G Actuarial Report
  - Tab H Independent Financial Advisors Report
  
- Section Three Bond Transaction Details
  - Tab A Term Sheets and Transaction Description
  - Tab B Transaction Cashflows
  - Tab C Key Legal Documents
  - Tab D Key Sales Documents
  - Tab E Transaction Calendar
  - Tab F Transaction Distribution List

## **Discussions and Meetings with CTA**

Aon and the Office of the Auditor General staff met with the CTA on March 18, 2008 to discuss the potential format of the submittals. Subsequent to this meeting, the CTA provided a 4 page draft outline of the reports on April 2. On April 7, we informed the CTA that based on our review of the draft outlines, it wasn't clear whether the actuarial report would use only a 9.00% percent rate of return, or whether a range would be used.

Following the CTA's formal submittal of the required documents on May 19, 2008, we had further concerns regarding the submittal and met with the CTA on May 29. In particular, we were concerned that projections were based solely on the actuarial investment return assumptions of 8.75% and 9.00%. The actuary calculated that the 8.75% assumption had only a 30% probability of being met or exceeded. Although the projections based on 8.75% showed the POB transaction in a favorable light, we felt that it was important to consider outcomes which did not fall into the 30% most favorable investment return outcomes.

GRS had performed a stochastic model of potential investment return outcomes. They found that the median investment return likely was 7.70%. If investments returned 7.70%, this would result in different outcomes in the POB comparison. We encouraged the CTA to ask that the actuary perform the projections at this rate of return as well as a rate of return comparable to the bond costs.

As a result of these discussions, on June 6, 2008, the CTA provided a supplemental submittal to the Office of the Auditor General. This submittal addressed the issues discussed above, and included:

- Revised Actuarial Report of the CTA Retirement Plan
- Revised Independent Financial Advisors Report for the Retirement Plan
- Bond Ordinance

On June 27, 2008, we communicated additional questions to the CTA regarding some of the certifications submitted. Also, during the course of our review, we had other questions concerning both the Retirement Plan and Retiree Health Care Trust actuarial reports. These questions were addressed in a timely manner by the CTA, GRS, and Segal.

### Section 3. Certifications

After review of the Chicago Transit Authority's formal submittal to the Office of the Auditor General pursuant to Public Act 95-708, we attest that the following certifications are present.

#### **Retirement Plan Documentation**

The Chicago Transit Authority has completed all of the required certifications. Included are the following:

- Certification that the CTA is legally authorized to issue bonds
- Certification that the annual payments of the anticipated principal and interest payments on bonds meet the requirements of Section 12c(b)(5) of the Metropolitan Transit Authority Act
- Schedule confirming that no bond shall mature later than December 31, 2040
- Certification that the net proceeds will be deposited into the Retirement Plan and used only for the purposes required by Section 22-101 of the Illinois Pension Code
- Certified copy of the intergovernmental agreement with the City of Chicago

#### **Retirement Board Certification**

The Board of Trustees has provided the required certification that the Retirement Plan for Chicago Transit Authority Employees is operating in accordance with all applicable and legal contractual requirements.

#### **Retiree Health Care Trust Documentation**

The Chicago Transit Authority has completed all of the required certifications. Included are the following:

- Certification that the CTA is legally authorized to issue bonds
- Certification that the annual payments of the anticipated principal and interest payments on bonds meet the requirements of Section 12c(b)(5) of the Metropolitan Transit Authority Act
- Schedule confirming that no bond shall mature later than December 31, 2040
- Certification that the net proceeds will be deposited into the Retiree Health Care Trust and used only for the purposes required by Section 22-101B of the Illinois Pension Code
- Certified copy of the intergovernmental agreement with the City of Chicago

### **Retiree Health Care Trust Board Certification**

The Board of Trustees of the Retiree Health Care Trust has provided the required certification that the Trust has been established in accordance with all of the legal requirements.

### **Retirement Plan Financial Analysis**

The Chicago Transit Authority has submitted a report of the Independent Financial Advisors including a determination that the issuance of bonds is in the best interest of the Chicago Transit Authority and the Retirement Plan.

### **Retiree Health Care Trust Financial Analysis**

The Chicago Transit Authority has submitted a report of the Independent Financial Advisors including a determination that the issuance of bonds is in the best interest of the Chicago Transit Authority and the Retiree Health Care Trust.

## Section 4. Actuarial Report

### Retirement Actuarial Report

The Board of Trustees of the Retirement Plan for Chicago Transit Authority Employees has provided an Actuarial Report as of January 1, 2008 prepared by an Enrolled Actuary. The information required under P.A. 95-708 is included in the given report:

- (A) the method of valuation and the underlying assumptions;
- (B) a comparison of the debt service schedules of the bonds or notes proposed to be issued to the Retirement Plan's current unfunded actuarial accrued liability amortization schedule, as required by Section 22-101(e) of the Illinois Pension Code, using the projected interest cost of the bond or note issue as the discount rate to calculate the estimated net present value savings;
- (C) the amount of the estimated net present value savings comparing the true cost of the bonds or notes with the actuarial investment return assumption of the Retirement Plan; and
- (D) a certification that the net proceeds of the bonds or notes, together with anticipated earnings on contributions and deposits, will be sufficient to reasonably conclude on an actuarial basis that the total retirement assets of the Retirement Plan will not be less than 90% of its liabilities by the end of fiscal year 2059.

### Retiree Health Actuarial Report

The Board of Trustees of the Retiree Health Care Trust has provided an Actuarial Report as of January 1, 2008 prepared by an Enrolled Actuary. The information required under P.A. 95-708 is included in the given report:

- (A) the method of valuation and the underlying assumptions;
- (B) a comparison of the projected interest cost of the bonds or notes with the actuarial investment return assumption of the Retiree Health Care Trust;
- (C) in addition to the above requirements, the report included both
  - a. a certification that the net proceeds of the bonds or notes, together with anticipated earnings on contributions and deposits, will be sufficient to adequately fund the actuarial present value of the projected benefits expected to be paid under the Retiree Health Care Trust, and
  - b. a certification of the increases in contribution levels and decreases in benefit levels that would be required in order to cure any funding shortfall over a period of not more than 10 years.

## Section 5. Actuarial Assumptions

### Background on Actuarial Assumptions

Actuarial assumptions are a critical component of the actuarial valuation and actuarial decision making process. Long term costs are dependent on the actual benefits paid, the investment income earned and the administrative expenses paid. Short term costs, cost allocations, and many decisions are made based on what the actuary assumes will happen and when. Consequently, strong actuarial assumptions enhance the decision making and budgeting process.

When analyzing actuarial assumptions for reasonableness, we looked at the assumptions from three different points of view.

First, we compared the assumptions with past experience, typically measured using an actuarial experience study. Second, we compared the assumptions with those used by peers. The concept is that if other plans are using similar assumptions, some credibility exists in the use of those assumptions. If the assumptions are different, an explanation should be sought as to why they differ. Finally, we analyzed the assumptions in a forward looking empirical manner. This can be thought of as an analysis of what we expect for the future.

### Retirement Plan Experience Study

The most recent review of actuarial assumptions and plan experience for the Retirement Plan for Chicago Transit Authority Employees (“Retirement Plan”) was conducted by Watson Wyatt (Wyatt) in October 2001. This study relied on demographic experience for the period 1996 through 2000. The assumptions reviewed were:

- withdrawal,
- disability,
- retirement incidence, and
- mortality.

In the case of the withdrawal and disability assumptions, actual experience indicated the need for a change in the current assumptions in use. For withdrawal, rates were increased at all ages. For disability, rates were lowered for ages under 40 and increased for age 60 and above.

In the case of the retirement assumption, the study indicates that an early retirement window was offered during 1997 through 1999 to retirees with at least 25 years of service. Since the impact of this event could not be factored out of the results, the retirement assumption analysis was conducted based on data for those retirees with less than 25 years of service. The analysis found that the current assumptions tracked actual experience fairly well such that only rates for ages 65 and older were revised.

In the case of the mortality assumption, it was noted that the number of covered lives in the Retirement Plan was not adequate “to do a credible mortality assumption analysis”. However, it

was noted that the actuarial valuations performed for 1996 to 2000 consistently indicated mortality losses for the plan. A mortality loss is when fewer members die than expected, meaning that benefits are paid longer than expected. As a result of the losses, new mortality tables were adopted for healthy and disabled lives.

The review concluded with a 10-year projection of the funded ratio and expected benefit payments using both current and revised assumptions which indicated an increase in actuarial liability and a decrease in funded ratio.

In preparing the actuarial analysis called for under Public Act 95-708, GRS notes their reliance on this experience study in maintaining the assumptions used. However, they note an update to the retirement assumption due to a change in the eligibility for unreduced benefits for employees hired after January 18, 2008.

We believe that reliance on the Wyatt experience study by GRS and the assumptions used in their analysis are not unreasonable. Further, we concur with the GRS statement in its actuarial report that an updated experience study should be conducted as soon as possible. Any change in assumptions from those used in the current analysis should be noted in future actuarial reports.

### **Investment Return Experience**

The following table presents the CTA Retirement Plan net investment return experience on a market value basis for the past six years.

<b>Year</b>	<b>Rate of Net Investment Return of Market Value of Retirement Plan Assets</b>
2002	-12.7%
2003	20.7%
2004	10.1%
2005	7.9%
2006	12.2%
2007	10.6%

Source: Gabriel, Roeder, Smith & Company 2007 and 2008 Actuarial Valuation Reports

### **Peer Analysis**

We compared the actuarial assumptions used for the CTA plans with those recorded in the Public Fund Survey. The Public Fund Survey is an online compendium of key characteristics of 102 public retirement systems that administer pension and other benefits for 12.8 million active public employees and 5.9 million retirees and other annuitants, and that hold more than \$2.1 trillion in trust for these participants. The membership and assets of systems included in the survey represent more than 85% of the nation's total public retirement system community.

The survey is sponsored by the National Association of State Retirement Administrators (NASRA) and the National Council on Teacher Retirement and is maintained by NASRA.

Survey data is taken primarily from retirement system annual financial reports, and also comes from actuarial valuations, benefits guides, and interviews with retirement system staff members.

According to the 2007 Public Fund Survey, the median investment return assumption is 8.00%, the median inflation assumption is 3.50%, and median assumed real rate of investment return is 4.50%. A *real* rate of investment return is defined as the rate of investment return over and above the inflation rate. The following table summarizes the returns from the 2007 Public Fund Survey and those used by CTA.

Component of Investment Return	Public Fund Survey Median	CTA Retirement
Total (or nominal) Return Assumption	8.00%	8.75%
Inflation Assumption	3.50%	3.25%
Real Return (nominal minus inflation) Assumption	4.50%	5.50%

CTA's investment return assumption of 8.75% is higher than any of the systems in the survey, which is a concern. However, the CTA inflation assumption of 3.25% is in the 36th percentile, implying this is not an outlying assumption. A *percentile* ranking gives an indication of where a statistic ranks compared to the peer group. For example, the CTA inflation assumption being in the 36th percentile means that 36% of the systems surveyed had an inflation rate at or below CTA's 3.25% rate.

The CTA real investment return assumption of 5.5% is higher than all but five of the systems surveyed, placing it in the 96th percentile. This is high, but not completely out of line with the other systems. Also, the GRS projections were performed not only on the 8.75% assumption, but also on their median assumption of 7.70% as well as an assumption of 6.00%. We also believe that the real return assumption of 5.5% (which placed in the 96th percentile) is much more important than the nominal return assumption of 8.75% (which placed in the 100th percentile).

In 1996, the Society of Actuaries (SOA) conducted a comprehensive compilation and review of the actuarial methods and assumptions used by public employee retirement systems. The study includes materials collected from more than 80 systems and 183 plans in total.

This is the only study of its kind. Although more than 10 years old, this study is helpful in analyzing other CTA actuarial assumptions and comparing them to those of their peers. Some actuarial assumptions have changed considerably since 1996, but others do not change significantly. Among those which have changed are mortality, where we have seen medical advances increase life expectancies, and inflation expectations, where a prolonged period of low inflation has caused the high inflation of the 1970's and 1980's to carry less weight in professional judgments.

The SOA study also looked at inflation rates, nominal investment return rates, and salary growth rates. Inflation remained low throughout the 1990's and first decade of the twenty-first century (so far), resulting in much lower inflation expectations and actuaries consistently reducing their inflation assumption. Consequently, we believe the inflation component of the 1996 SOA study is obsolete, so we did not compare the CTA inflation assumption with the SOA study. The CTA

real salary growth rate of 2.00% appears to be quite consistent with the SOA study, and perhaps a bit on the conservative (high) side. Nominal investment return was studied using the more current Public Fund Survey information discussed above.

The CTA actuarial assumed rates of disablement and rates of withdrawal are very consistent with the SOA study and also tend to be somewhat conservative. For example, the disability assumption falls in the 88th percentile for women and men. This means that CTA assumes higher disability incidence than 88% of the peers. The withdrawal assumption falls in the 26th percentile for women and 30th percentile for men. A plan with lower withdrawal assumptions is more conservative than one with higher withdrawal assumptions because withdrawals save the plan money. A plan with lower disability assumptions is less conservative because disabilities cost the plan money.

### **Retiree Health Claim Costs**

The most recent review of actuarial assumptions and plan experience for the Retiree Medical Plan for Chicago Transit Authority Employees (“Retiree Medical Plan”) was conducted by Segal Company in early 2008. The Retiree Medical Plan offers eligible retirees the choice of either a Preferred Provider Organization (PPO) plan or Health Maintenance (HMO) plan. Dental coverage is also offered to retirees.

Segal developed claim cost assumptions for the medical, prescription drug, and dental plans based on a claim experience study. The experience study used actual claim experience and enrollment counts for calendar years 2005, 2006, and 2007. PPO claim costs for 2008 were developed by applying medical inflation (trend) to the historical experience, adjusting for the change in claim reserves, and adjusting for historical plan design changes.

In our review of the Segal age-banded rates, we determined that Segal did not fully consider the effect of participant anti-selection when developing separate retiree and spouse rates. It is possible that the differential between the age banded pre-65 retiree and spouse claim costs does not match the actual claim cost differential between retirees and spouses. Segal advised us that the age banded rates in the aggregate are consistent with the actual claim experience. As a result, Segal holds that any differentials that may exist between retiree and spouse rates offset each other and do not have a material impact in the aggregate.

The actuarial methods used by Segal to develop health claim cost assumptions fall in the range of common professional practice and thus are not considered unreasonable in the aggregate.

### **Retiree Health Cost Inflation**

Segal performed their actuarial modeling assuming that the medical and pharmacy inflation rate would be 10% for 2008; inflation was assumed to decrease 1% per year until reaching 5% (ultimate rate) in 2013; and the inflation assumption stays at 5% for all future years.

The 2008 trend assumption of 10% and the ultimate trend rate of 5% are consistent with the trend rates used by other employers. However, it should be noted that recent studies from the

Society of Actuaries have projected significantly higher long-term trend rates. Moreover, Segal's assumption that the ultimate inflation rate will be reached in five years is within common actuarial practice; however, we do not view this inflation slope as conservative. There is a risk that medical inflation will decrease at a slower rate than assumed, which would result in actuarial losses, and thus higher liabilities in future years when the plan is revalued.

Overall, we find the trend rates on the optimistic side, but not unreasonable in the aggregate. Aon's conclusions are based on assumptions at this time. Actual experience can vary from projected experience and this difference may be material.

### **Other Retiree Health Plan Actuarial Assumptions**

For the most part, the assumptions used by Segal for the Retiree Health Plan are identical to those used by GRS for the Retirement Plan. This is common professional practice and appropriate in that the plans cover the same employees. For example, the Segal assumptions for withdrawal, disability and retirement are the same as those used by GRS.

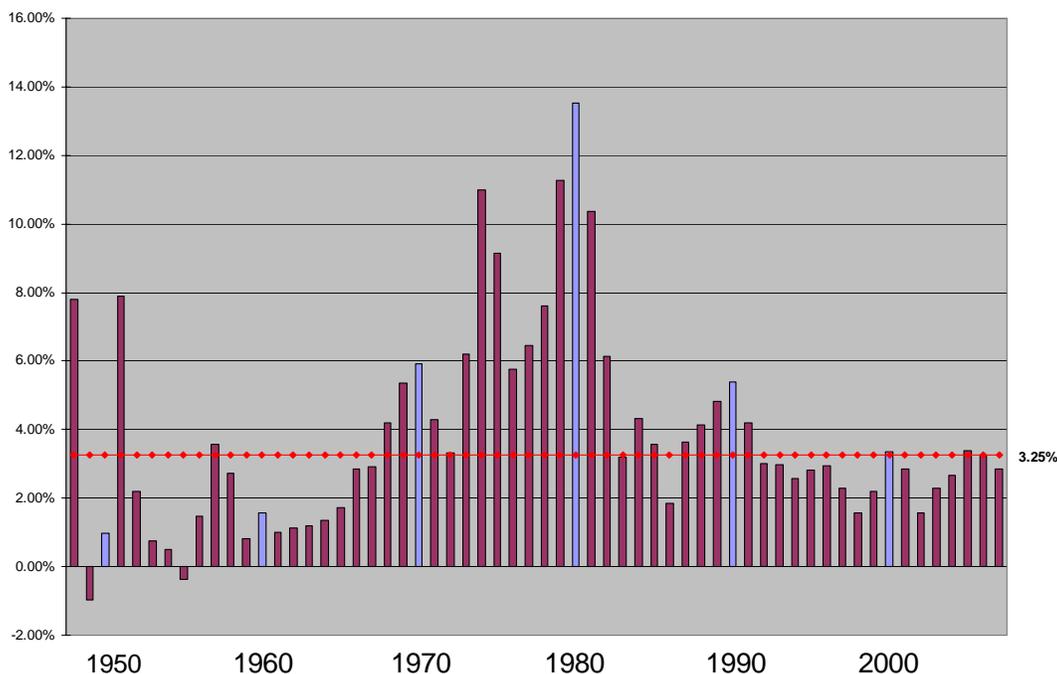
The one exception to the above is the rate of investment return. While GRS uses an 8.75% return assumption for the retirement trust, Segal uses 7.00% for the Retiree Health Care Trust. Using a lower return assumption is generally accepted practice for a health care trust which is not significantly funded and will have a shorter time horizon on its investments. This is common professional practice and not unreasonable in the aggregate.

Segal also conducted its analysis based on an average coupon rate of 6.10%. Segal indicated that this was based on analysis prepared by Morgan Stanley. This differs slightly from the GRS assumed average bond yield of 5.949%. We found that the Morgan Stanley bond summary statistics provided by CTA matched the GRS bond rates, and were lower than the rates used by Segal. Had Segal used the lower rates, the comparison of bond debt service with the actuarial assumed rate of return would have been even greater. Consequently, the Segal rate is not unreasonable in the aggregate.

## Inflation Assumption Analysis

We analyzed the inflation assumption on an empirical basis and historical basis. GRS is assuming a 3.25% inflation rate. The following graph shows annual rates of inflation over the past 50 years.

**Annual Inflation Rates in the US 1948-2007**



Source: U.S. Bureau of Labor and Statistics

As you can see, inflation exceeded 3.25% significantly during the 1970's and 1980's, but has been below that level for most of the remaining period. The average inflation rate varies by measurement period as shown below:

Averaging Period		Average Inflation over the Period
Sixty Years	1948-2007	3.8%
Fifty Years	1958-2007	4.1%
Forty Years	1968-2007	4.7%
Thirty Years	1978-2007	4.2%
Twenty Years	1988-2007	3.1%
Ten Years	1998-2007	2.6%

Another key consideration in developing an inflation assumption is the market for inflation indexed treasury bonds. On June 20, 2008 the yield on 30-year treasury bonds was 4.70%. At that date, the yield on 30-year treasury inflation protected securities (TIPS) was 2.18%. This implies that the inflation expectation is approximately 2.52% (4.70 minus 2.18). This is a strong indicator of expected inflation over the next 25 years, and a strong sign that the GRS assumption of 3.25% is not too low.

## **Investment Return and Salary Increase Assumption - Empirical Analysis**

The investment return and salary increase assumption were not included in the experience study analysis since they are dictated by the bargaining process. However, GRS did state that a wage inflation assumption of 3.0% to 5.0% falls within the best estimate range. The current assumption dictated by the bargaining process is 5.50%.

The investment return assumption used in the most recent actuarial valuation was 9.0%. However, the investment return assumption is a key assumption in assessing the pension obligation bond transaction. Therefore, it is necessary to consider more than one investment return scenario to “stress-test” the range of possible outcomes. To do this analysis, it is common to perform a stochastic simulation. In general terms, a stochastic simulation attempts to find the average value of some random variable (in this case, the investment return). To estimate it, you simply take samples (i.e., trials), independently, and average them. If you take enough samples, then the law of large numbers says your average must be close to the true value. The stochastic simulation also allows you to define confidence intervals, or probabilities, for the full range of possible outcomes from all the trials.

In the analysis performed by GRS, they used 10,000 trials of varying economic conditions affecting the investment return assumption. They used a Capital Asset Pricing Model, which analyzes the impact of changing economic variables on the asset classes which make up the investment return assumption. GRS determined from the stochastic analysis that:

- there is a 30% likelihood that the investment return will be 8.75% or greater
- there is a 50% likelihood that the investment return will be 7.70% or greater
- there is an 82% likelihood that the investment return will be 6.00% or greater

We find that the use of a stochastic simulation by GRS is a reasonable and appropriate method for determining probable future outcomes for the investment return assumption. The use of the Capital Asset Pricing Model as well as the testing of varying outcomes in the assessment of the pension obligation bond transaction satisfies the requirements of the Actuarial Standard of Practice. Further, we conclude that the assumptions developed in conjunction with the stochastic analysis performed by GRS are not unreasonable in the aggregate.

## **Conclusions**

We find that the actuarial assumptions utilized by GRS and Segal were not unreasonable in the aggregate.

## Section 6. Actuarial Standards of Practice

As part of the assessment of the reasonableness of the assumptions used, we look to the Actuarial Standards of Practice (ASOP). The Code of Professional Conduct requires that actuarial services performed by member actuaries satisfy the applicable standards of practice. Further, Public Act 95-708 requires that the underlying assumptions used to provide the required actuarial analysis “*are not unreasonable in the aggregate*” and “*the reports appear to comply with all pertinent professional standards, including those issued by Actuarial Standards Board*”.

The Actuarial Standards Board (ASB) was established in 1988, as an entity within the American Academy of Actuaries (Academy). It operates independently in establishing standards with Academy staff support. The ASB has the sole authority to prescribe its own operating procedures; to establish committees, subcommittees, and task forces it may deem necessary in carrying out its assigned functions; and to appoint individuals to positions on such committees, subcommittees, and task forces. The ASB also has the authority to approve exposure of proposed Actuarial Standards of Practice (ASOPs) and hold public hearings on them, and to adopt recommended ASOPs. The ASOPs that apply to the assumptions and analysis used by GRS for the Retirement Plan and Segal for the Retiree Health Care Trust are:

### **ASOP #4, Measuring Pension Obligations**

The purpose of ASOP#4 is to provide guidance to actuaries when performing professional service with respect to measuring pension obligations and determining plan costs or contributions. This standard addresses actuarial cost methods and provides guidance for coordinating and integrating all of these elements of an actuarial valuation of a plan. Section 3.2.1 of the standard indicates that “when evaluating a prescribed assumption or method selected by the plan sponsor, the actuary should consider whether the prescribed assumption or method significantly conflicts with what, in the actuary’s professional judgment, would be reasonable for the purpose of the measurement. If, in the actuary’s professional judgment, there is a significant conflict, the actuary should disclose this conflict.”

The general procedures called for by ASOP#4 when measuring pension obligations and determining plan costs or contributions are as follows:

- a. identify the purpose and nature of the measurement;
- b. identify the measurement date;
- c. identify plan provisions applicable to the measurement;
- d. gather data necessary for the measurement;
- e. select actuarial assumptions pertinent to the measurement, if applicable;
- f. select an asset valuation method, if applicable;
- g. consider the interrelationship among procedures, assumptions, and plan provisions;
- h. consider the relationship between procedures used for measuring assets and obligations;
- i. apply an actuarial cost method to produce a normal cost and actuarial accrued liability, if applicable;

- j. apply a procedure to allocate costs or contributions to past and future periods, if applicable;
- k. consider whether the actuarial cost method and amortization method are significantly inconsistent with the plan accumulating adequate assets to make benefit payments when due, if applicable

In section 3.15 of ASOP#4, it states “if the scope of the actuary’s assignment includes an analysis of the potential range of future pension obligations, cost, contributions, or funded status, the actuary should consider sources of volatility that, in the actuary’s professional judgment are significant.” The examples of potential sources of volatility provided in the standard include a) plan experience differing from that anticipated by the economic or demographic assumptions, as well as the effect of new entrants and b) changes in economic or demographic assumptions.

### **ASOP #6, Measuring Retiree Group Benefit Obligations**

The purpose of ASOP#6 is to give guidance to the actuary in the following:

- a. modeling the plan provisions of the applicable benefit plan(s);
- b. modeling the covered population;
- c. modeling initial per capita health care rates;
- d. modeling the cost of death benefits;
- e. reviewing data;
- f. reviewing benefit plan administration;
- g. developing projection assumptions;
- h. selecting a cost allocation policy;
- i. use of roll-forward techniques;
- j. use of prescribed assumptions;
- k. evaluating the reasonableness of results;
- l. understanding the sensitivity of results to chosen assumptions; and
- m. reliance on a collaborating actuary.

The standard provides guidance to the actuary in all of the above areas and specifies certain things the actuary should consider when setting assumptions. The standard notes that an actuary must be prepared to justify the use of any procedures that depart materially from those set forth in the standard. In addition, the standard addresses documentation requirements that should be adhered to by the actuary.

### **ASOP #23, Data Quality**

The purpose of ASOP#23 is to give guidance to the actuary in the following:

- a. selecting the data that underlie the actuarial work product;
- b. relying on data supplied by others;
- c. reviewing data;
- d. using data; and
- e. making appropriate disclosures with regard to data quality.

This standard does not require the actuary to

- a. determine whether the data or other information supplied by others are falsified or intentionally misleading;
- b. develop additional data complications solely for the purpose of searching for questionable or inconsistent data; or
- c. audit the data.

For purposes of data quality, data are appropriate if they are suitable for the intended purpose of an analysis and relevant to the system or process being analyzed. The actuary should consider what data to use by taking into account the scope of the assignment and the intended use of the analysis being performed in order to determine the nature of the data needed and the number of alternative data sets or data sources, if any, to consider.

### **ASOP #27, Selection of Economic Assumptions for Measuring Pension Obligations**

The purpose of ASOP#27 is to give guidance to the actuary in the following:

- a. selecting economic assumptions – primarily investment return, discount rate and compensation scale – for measuring obligations under defined benefit pension plans;
- b. amplifies the provisions of ASOP#4 as it relates to the selection and use of economic assumptions; and
- c. provides information to enhance understanding by non-actuaries of the process by which actuaries select economic assumptions.

The actuary is expected to use professional judgment to select the “best-estimate” for each assumption. The actuary’s best-estimate assumption is generally represented as a range rather than a single specific assumption. For each economic assumption, the actuary should determine the narrowest range within which the actual results are “more likely than not” to fall. A specific point is then selected from within the range.

The types of economic assumptions used to measure pension obligations may include:

- a. general economic inflation
- b. investment return
- c. discount rate
- d. salary scale
- e. Social Security
- f. cost of living adjustments

Just as was the case in ASOP#4, the actuary should consider the following factors when selecting the economic assumptions to be used:

- a. identify the purpose and nature of the measurement;
- b. characteristics of the obligation to be measured (e.g. measurement period, volatility);

- c. materiality of the assumption;
- d. appropriate recent and long-term historical economic data;

The actuary should not give undue weight to recent experience. Each economic assumption selected by the actuary should individually satisfy the standard and should be consistent with every other economic assumption selected by the actuary over the measurement period, unless the assumption, considered individually, is not material.

With respect to the investment return assumption, the actuary should review appropriate investment data including the following:

- a. current yields to maturity of fixed income securities;
- b. forecasts of inflation and of total returns for each asset class;
- c. historical investment data, including real risk-free returns, the inflation component of the return, and the real return or risk premium of each asset class; and
- d. historical plan performance

Historical data such as standard deviations, correlations and other statistical measures related to the historical returns of each asset class may also be considered. Stochastic simulation models may be used to develop expected investment return ranges.

### **ASOP #35, Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations**

The purpose of ASOP#35 is to give guidance to the actuary in the following:

- a. selecting (including giving advice on selecting) demographic and noneconomic assumptions for measuring obligations under defined benefit pension plans; and
- b. expand upon and, in some areas, modify the provisions of ASOP#4 that relate to the selection and use of demographic and other noneconomic assumptions.

The actuary is expected to use professional judgment to estimate possible future outcomes based on past experience and future expectations, and to select reasonable assumptions. A reasonable assumption is one that is expected to appropriately model the contingency being measured without producing significant cumulative actuarial gains or losses over the measurement period.

The types of demographic assumptions used to measure pension obligations may include:

- a. retirement
- b. mortality
- c. termination of employment
- d. disability and disability recovery
- e. election of optional forms of payment
- f. administration expenses
- g. assumptions regarding missing or incomplete data

The actuary should follow the following general process for selecting demographic assumptions:

- a. Identify the types of assumptions to be used (such as the purpose and nature of the measurement or the materiality of each assumption);
- b. Consider the relevant assumption universe taking into account such information as experience studies, relevant credible plan experience, or studies or reports of general trends;
- c. Consider the assumption format such as the degree to which the assumption format may affect the results and the availability of tables, data or information relevant to the assumption being selected;
- d. Select the specific assumption from the appropriate assumption universe considering the materiality of each assumption selected and the consequences of experience deviating significantly from the assumption selected; and
- e. Evaluate the reasonableness of the selected assumptions.

Each demographic assumption selected should individually satisfy this standard and should be consistent with the other assumptions selected by the actuary unless the assumption, considered individually, is not material.

#### **ASOP #41, Actuarial Communications**

The purpose of ASOP#41 is to provide guidance to the actuary with respect to written, electronic, or oral actuarial communications.

The requirements of this standard include:

- a. The actuarial communication should identify the principal(s) for whom the actuarial findings are made and should make clear the scope of the assignment, including any limitations or constraints;
- b. The actuary should take appropriate steps to ensure that the form and content of the actuarial communication is clear and appropriate to the circumstances, taking into account the intended audience. Factors to consider in making this determination include the complexity of the assignment, the actuary's perception of the significance of the actuarial findings, and relevant communication guidance in other ASOPs;
- c. The actuarial communication should be issued within a reasonable period of time following completion of the actuarial analysis;
- d. The actuary or actuaries issuing the communication and who are responsible for it should be clearly identified;
- e. The actuary should disclose any pertinent relationship when the actuary is not financially and organizationally independent from the subject matter;
- f. The actuary should disclose information that is being relied upon from other sources and define the extent of the reliance;
- g. The actuary should disclose the nature of the relationship to the principal when the actuary is acting as an advocate for the principal;
- h. The actuary should disclose any methods or assumptions that have been prescribed by the principal; and

- i. The actuary should disclose methods or assumptions that have been prescribed by law, regulation or another profession's requirements unless apparent from the form and content of the communication.

This standard establishes minimum requirements for actuarial communications. If other ASOPs contain communications requirements that are additional to or inconsistent with this standard, the requirements of such other ASOPs supersede this standard. Oral communications should not conflict with written or electronic communications. Actuarial findings that are deemed by the actuary to be significant should be in written or electronic form, and when appropriate, should be incorporated into an actuarial report. An actuarial report should identify the data, assumptions and methods used by the actuary with sufficient clarity that another actuary qualified in the same practice area could make an objective appraisal of the reasonableness of the work presented in the actuary's report.

### **Findings**

We believe that the assumptions used by GRS and Segal have been selected, used, and communicated in compliance with the required actuarial standards of practice and as such are not unreasonable in the aggregate.

## Section 7. Additional Observations

### Recent Theory Relating to Pension Obligation Bonds

Although not required under the specifics of Public Act 95-708, we felt it was important to mention some recent academic theory pertaining to POBs.

Pension obligation bonds (POB) have been considered by several government entities in the past two decades as a potential solution to under-funded retirement systems. They have been successful in some cases and less successful in other instances. Much has been written on the appropriateness of POBs.

As mentioned in Section 1, the POB transaction is essentially borrowing in the debt market for investment in a pension fund, which is invested in both debt and equities. If the net investment return from the pension fund exceeds the net borrowing costs, then the transaction will have resulted in cost savings. But if net pension fund investment return does not exceed the borrowing cost, the POB transaction will not have resulted in cost savings.

The public will not know whether this transaction was financially advantageous until many years into the future. One purpose of the analysis required by P.A. 95-708 is to ask the Independent Financial Advisors to determine whether the POB transaction "is in the best interest of the Retirement Plan for Chicago Transit Authority Employees [or the Retiree Health Care Trust] and the Chicago Transit Authority". This determination was made by the CTA's Independent Financial Advisors.

There have been strong critiques of the use of POBs from many respected academics, financial experts, and government officials. The developing field of Financial Economics dismisses POBs as creating no real value. This philosophy contends that the risk/reward tradeoff is implicit in the market price of risky and riskless securities, so it is inappropriate to discount public pension liabilities at a rate higher than that of riskless bonds. Although virtually all public pension funds disagree with this reasoning, the emerging thought is gaining traction and may be considered "conventional wisdom" in the next decades when we know more accurately whether the POB transaction was worthwhile.

In a May 20, 2008 speech by the Federal Reserve Vice Chairman to the National Conference on Public Employee Retirement Systems, the viewpoint that it is inappropriate to discount public pension liabilities at a higher rate was expressed. In this speech, the Vice Chairman stated that:

*This practice makes little sense from an economic perspective. If they shift their portfolio into even riskier assets, does the value of the liabilities backed by their taxpayers go down? Financial economists would say no, but the conventional approach to pension accounting says yes. Unfortunately, the measure of liabilities that results from this process has a real consequence: It pushes the burden of financing today's pension benefits onto future taxpayers, who will be called upon to fund the true cost of existing pension promises.*

## Measures of the Value of Pension Obligation Bond Transaction

Some POBs have been issued over the years without rigorous analysis of the risk and rewards of the transaction. The analysis consisted of projections of the borrowing costs of the debt and compared those projections with the savings on the payment of the unfunded liabilities. This type of analysis is incomplete. The payment of the unfunded liability under static actuarial projections will always appear to be more expensive than bond borrowing costs as long as the actuarial rate of investment return is greater than the net bond borrowing rate. Since actuarial rates are generally a blend of anticipated equity returns and anticipated fixed-income returns and because anticipated long term equity returns necessarily exceed anticipated long term bond returns, any such POB analysis will necessarily conclude that the POB transaction will save money.

This type of analysis would be a self fulfilling prophecy. An individual could consider a similar transaction of taking out a home equity loan to invest in the stock market and being certain that their stock market returns would exceed the loan interest rate in the long run. Although an individual can reasonably expect that *long term* stock market returns will *probably* exceed the loan rates, the individual cannot be certain. A simple single actuarial calculation is similarly simplistic.

The analysis conducted by GRS was more robust and appropriately so. Rather than considering a single rate of return, the CTA analysis conducted by GRS considered three potential long term rates of return and performed projections on each. For each potential rate of return, GRS calculated:

- The likelihood that long term returns will meet or exceed this rate
- The anticipated present value savings over 32 years as a consequence of issuing the bond
  - Savings to the Chicago Transit Authority
  - Savings to employees of the Chicago Transit Authority
  - Total savings from the bond transaction

The following table reproduces the findings of this sensitivity analysis:

Investment Return	Likelihood of this level or higher return	32 Year Present Value Savings from Bond Transaction:		
		For CTA	For CTA employees	Total
8.75%	30%	+ \$61.3 million	+\$202.0 million	+\$263.3 million
7.70%	50%	- \$12.4 million	+\$165.1 million	+\$152.7 million
6.00%	82%	- \$125.1 million	+\$108.7 million	- \$16.4 million

Source: Gabriel, Roeder, Smith & Company Actuarial Valuation under Public Act 95-708 relating to the Pension Trust June 4, 2008 p. 30

The table above is much more illuminating than a simple one factor projection. This provides several conclusions. First, there is a 30% probability that the actuarial return assumption of 8.75% will be met over the long term. This probability was calculated by GRS using the underlying Capital Asset Pricing Model investment return assumptions by asset class. We find

that the GRS investment return assumptions are not unreasonable in the aggregate. GRS also calculated that a 7.70% investment return would have a 50% probability of being met. In 10,000 stochastic simulations conducted, half of them resulted in returns above 7.70% and half resulted in lower returns. GRS also tested the bond rate of 6.00% and found a probability of 82% of these returns being met. This means that there was an 18% probability of returns lower than 6.00%.

Taking these probabilities further, it can be concluded that there is an 18% probability that the bond transaction will result in a total loss of \$16 million or more. There is a 30% probability that the transaction will result in a total gain of \$263 million or more. And there is an even chance that the bond transaction gain will be more or less than \$153 million.

One issue highlighted by this analysis is that there is a reasonable probability (better than 50%) that there will not be savings to the CTA, although there is a very strong possibility (more than 82%) that there will be savings to the CTA Retirement Plan membership as a result of the bonds. This is because the bonds will shore up the funded percentage, which reduces the likelihood of an increase in member contributions. In other words, the burden of increased contributions as a result of deteriorating funded ratio falls much more highly on the CTA than on the CTA Retirement Plan members. This is because CTA contributions pay two-thirds of the plan costs, while CTA employee contributions pay one-third. Another consideration is that the CTA may only "take credit" for bond payments as contributions to a limit of 6% of payroll. The CTA bond payments are projected to be in excess of 6% of payroll, meaning that CTA is paying more than twice what CTA members pay. As a result of this financing arrangement, the financial advantage of the bonds will inure to the employees of the CTA more than to the CTA itself, although CTA is taking most of the risk of the bond transaction.

### **Timing**

Two issues pertaining to the timing of the bond issuance are worth noting. First, the analysis conducted by the actuaries comparing the cost of bond service with the unfunded liability payments was based on an assumed bond issuance date of July 1, 2008. The bonds will be issued after that date. Actuarial analysis is generally conducted as of a specific date. All present value calculations are determined as of that specific date. In this case, July 1, 2008 was chosen by GRS and October 1, 2008 was chosen by Segal. If the calculations were performed as of another date near the chosen date, the values would all be slightly different. The difference in numbers for using a different date near 2008 will not significantly impact the basic analysis of the decision of whether or not to issue the bonds.

A more critical timing issue pertains to the potential changing cost of debt service. The GRS analysis assumed a borrowing cost of 5.949% (and Segal assumed 6.1%). If financial markets change and this cost increases, then the projected savings from bond issuance will decrease. Depending how much the bond rates increase, the projected savings could decrease significantly.

## Section 8. Summary

As stated previously, Aon has examined information submitted by the Chicago Transit Authority on May 19, 2008, pursuant to Section 3-2.3(a)(1) through (8) of the Illinois State Auditing Act as amended by Public Act 95-708. Our responsibilities were limited to the specific conclusions required by Public Act 95-708 and this report does not constitute an audit as that term is defined in generally accepted government auditing standards.

Specifically, Aon finds that:

- (i) the required certifications by the Authority, the Board of Trustees of the Retirement Plan and the Board of Trustees of the Retiree Health Care Trust have been made, and
- (ii) the actuarial reports have been provided, the reports include all required information, the assumptions underlying those reports are not unreasonable in the aggregate, and the reports appear to comply with all pertinent professional standards, including those issued by the Actuarial Standards Board.

We look forward to discussing our findings with the Office of the Auditor General, the General Assembly, the Legislative Audit Commission, the Governor, the Regional Transportation Authority, the Chicago Transit Authority, the CTA Retirement Plan Board, and the CTA Retiree Health Care Plan Board as appropriate.