

PUBLIC SCHOOL TEACHERS' PENSION  
AND RETIREMENT FUND OF CHICAGO

ACTUARIAL VALUATION  
AS OF JUNE 30, 2011  
FOR GASB STATEMENT NO. 25

October 31, 2011

Board of Trustees  
Public School Teachers' Pension  
and Retirement Fund of Chicago  
203 N. LaSalle Street  
Suite 2600  
Chicago, Illinois 60601

**Re: Actuarial Valuation as of June 30, 2011**  
**Pension Benefit Only – for GASB Statement No. 25**

Dear Board Members:

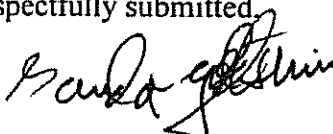
I am pleased to submit our actuarial report on the financial position and funding requirements of the Public School Teachers' Pension and Retirement Fund of Chicago based on the actuarial valuation as of June 30, 2011. This valuation was based on pension benefits only, for purposes of GASB Statement No. 25.

The report consists of 9 Sections and 3 Appendices as follows:

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I would be pleased to discuss any aspects of this report with you at your convenience.

Respectfully submitted



Sandor Goldstein, F.S.A.  
Consulting Actuary

**A. PURPOSE AND SUMMARY**

We have carried out an actuarial valuation of the Public School Teachers' Pension and Retirement Fund of Chicago as of June 30, 2011. The purpose of the valuation was to determine the financial position and annual required contribution of the Fund for reporting purposes pursuant to GASB Statement No. 25. According to GASB Statement No. 25, postemployment healthcare benefits provided by the fund are not included in this valuation. Pursuant to GASB Statement No. 43, postemployment health care benefits were valued separately and the results of that valuation are included in a separate report.

As has been done in past years, we have also performed a combined actuarial valuation of the pension and retiree health insurance benefits provided under the fund to measure the overall funded status and contribution requirements of the fund. The results of this combined valuation will be included in a separate report.

This report is intended to present the results of the valuation of the pension benefits provided under the fund. The results of the valuation are summarized below:

1. Total Actuarial Liability	\$ 16,940,626,445
2. Actuarial Value of Assets	10,109,314,922
3. Unfunded Actuarial Liability	6,831,311,523
4. Funded Ratio	59.7%
5. Employer's Normal Cost for FY 12 as a percent of payroll	5.91%
6. Annual Required Contribution for FY 12 Based on GASB Statement No. 25	510,101,466

## B. DATA USED FOR THE VALUATION

Participant Data. The participant data required to carry out the valuation was supplied by the Fund. The membership of the Fund as of June 30, 2011, on which the valuation was based, is summarized in Exhibit 1. It can be seen that there were 30,133 active contributors, 24,034 pensioners, and 4,253 vested terminated members included in the valuation. The total active payroll as of June 30, 2011 was \$2,090,131,858.

### Exhibit 1

#### Summary of Membership Data

1. Number of Members	
(a) Active Members	
(i) Vested Employees	21,027
(ii) Non-vested Employees	9,106
(iii) Total Active Members	30,133
(b) Members Receiving	
(i) Retirement Pensions	21,977
(ii) Disability Pensions	465
(iii) Survivor Pensions	<u>2,757</u>
(iv) Total Pensioners	25,199
(c) Vested Terminated Members	<u>4,253</u>
(d) Total	<u>59,585</u>
2. Total Annual Salaries	\$ 2,090,131,858
(a) Average Salary	69,364
3. Total Accumulated Contributions of Active Members	\$ 1,503,911,310
4. Annual Benefit Payments Currently Being Made	
(a) Retirement Pensions	\$ 986,884,026
(b) Disability Pensions	14,101,691
(c) Survivor Pensions	<u>46,887,342</u>
(d) Total Pensions	<u>\$ 1,047,873,059</u>

An age and service distribution for active members is provided in Exhibit 2.

**EXHIBIT 2**

**AGE AND SERVICE DISTRIBUTION OF ACTIVE MEMBERS**

**Year 2011**

**Number of Members and Average Salaries by Age and Service Grouping  
(Male and Female Combined)**

Age	Year of Service									Total	
	<1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35+		
under 25	260	546									806
	\$18,464	\$45,249									\$36,608
25-29	480	3,011	794	1							4,286
	\$20,634	\$50,395	\$62,397	\$77,287							\$49,291
30-34	234	1,747	2,463	451							4,895
	\$22,910	\$52,724	\$66,818	\$79,118							\$60,822
35-39	133	833	1,433	1,416	289						4,104
	\$23,133	\$52,834	\$67,950	\$82,018	\$90,635						\$69,881
40-44	99	533	795	1,015	1,003	163					3,608
	\$20,256	\$53,017	\$67,673	\$81,604	\$89,491	\$95,607					\$75,453
45-49	70	312	532	568	707	485	92				2,766
	\$16,924	\$48,577	\$69,457	\$79,300	\$86,286	\$90,269	\$95,520				\$76,611
50-54	46	279	445	529	642	470	467	127	1		3,006
	\$14,738	\$46,007	\$65,065	\$78,324	\$85,058	\$89,235	\$91,529	\$95,422	\$85,750		\$78,309
55-59	54	221	355	416	580	550	462	531	203		3,372
	\$14,384	\$41,943	\$60,636	\$78,096	\$84,169	\$87,881	\$92,645	\$98,424	\$102,772		\$82,189
60-64	37	140	215	284	433	434	302	276	398		2,519
	\$10,043	\$34,248	\$53,259	\$72,993	\$84,739	\$89,334	\$91,173	\$96,049	\$100,082		\$82,051
65-69	9	36	57	60	116	95	80	60	99		612
	\$5,236	\$25,172	\$62,421	\$74,592	\$85,145	\$93,806	\$91,427	\$91,219	\$101,605		\$82,715
70+	6	22	17	15	19	26	10	11	33		159
	\$7,440	\$11,023	\$29,109	\$54,525	\$75,387	\$94,033	\$88,520	\$95,391	\$104,550		\$68,313
<b>Number</b>	<b>1,428</b>	<b>7,680</b>	<b>7,106</b>	<b>4,755</b>	<b>3,789</b>	<b>2,223</b>	<b>1,413</b>	<b>1,005</b>	<b>734</b>		<b>30,133</b>
<b>Salary</b>	<b>\$19,783</b>	<b>\$50,003</b>	<b>\$65,891</b>	<b>\$79,855</b>	<b>\$86,668</b>	<b>\$89,864</b>	<b>\$92,051</b>	<b>\$96,929</b>	<b>\$101,213</b>		<b>\$69,364</b>

Assets. In November of 1994, the Governmental Accounting Standards Board (GASB) issued GASB Statement No. 25, which establishes standards of financial reporting for governmental pension plans. The statement is effective for periods beginning after June 15, 1996. Under GASB Statement No. 25, the actuarial value of assets to be used for determining a plan's funded status and annual required contribution needs to be market related. In determining the actuarial value of assets, smoothing changes in the market value of assets over a period of three to five years is considered to be appropriate.

The asset values used for the valuation were based on the asset information contained in the audited financial statements for the year ending June 30, 2011 prepared by the Fund. The actuarial value of assets was determined by smoothing unexpected gains or losses over a period of 4 years. The resulting actuarial value of assets is \$10,109,314,922. The development of this actuarial value of assets is outlined in Exhibit 3. As of June 30, 2011, the market value of the assets of the fund for pension benefits amounted to \$10,312,762,164.

Exhibit 3

Actuarial Value of Assets

A. Development of Investment Gain/(Loss) For Year Ending June 30, 2011

1. Actuarial Value of Assets as of 6/30/10	\$ 10,952,274,725
2. Employer Contributions and Miscellaneous Income	218,983,962
3. Employee Contributions	185,882,636
4. Expenses	1,166,400,567
5. Expected Investment Income	846,306,631
6. Actual Investment Income	2,123,292,641
7. Investment Gain/(Loss) (6 – 5)	\$ 1,276,986,010

B. Development of Actuarial Value of Assets

8. Expected Value of Assets as of June 30, 2011 (1 + 2 + 3 – 4 + 5)	\$ 11,037,047,387
9. One-fourth of Investment Gain/(Loss) For Year Ending June 30, 2008	(414,651,992)
10. One-fourth of Investment Gain/(Loss) For Year Ending June 30, 2009	(852,439,981)
11. One-fourth of Investment Gain/(Loss) For Year Ending June 30, 2010	51,437,577
12. One-fourth of Investment Gain/(Loss) For Year Ending June 30, 2011	<u>319,246,503</u>
13. Total Actuarial Value of Assets as of 6-30-11 (8 + 9 + 10 + 11 + 12)	\$ 10,140,639,494
14. Assets For Retiree Health Insurance Benefits	<u>31,324,572</u>
15. Actuarial Value of Assets for Pension Benefits (13 – 14)	<u>\$ 10,109,314,922</u>

**C. FUND PROVISIONS**

Our valuation was based on the provisions of the Fund in effect as of June 30, 2011 as provided in Article 17 of the Illinois Pension Code. A summary of the principal provisions of the Fund on which the valuation was based is provided in Appendix 2.

#### **D. ACTUARIAL ASSUMPTIONS AND COST METHOD**

The actuarial assumptions used for the June 30, 2011 valuation are the same as the assumptions that were used for the June 30, 2010 valuation. The actuarial assumptions used for the June 30, 2011 valuation are outlined in Appendix 1. In our opinion, the actuarial assumptions used for the valuation are reasonable, in the aggregate, taking into account Fund experience and future expectations and represent our best estimate of anticipated experience.

The projected unit credit actuarial cost method was used for the June 30, 2011 actuarial valuation. This is the same actuarial cost method that was used for the June 30, 2010 valuation.

#### **E. ACTUARIAL LIABILITY**

The actuarial liability as determined under the valuation for the various classes of members is summarized in Exhibit 4. The total actuarial liability is then compared with the actuarial value of assets in order to arrive at the unfunded actuarial liability.

As of June 30, 2011, the total actuarial liability for pension benefits provided under the fund is \$16,940,626,445, the actuarial value of assets is \$10,109,314,922, and the unfunded liability is \$6,831,311,523. The ratio of the actuarial value of assets to the actuarial liability, or funded ratio, is 59.7%.



Exhibit 4

Actuarial Liability as of June 30, 2011

1. Actuarial Liability for Active Members	
(a) Basic Retirement Annuity	\$ 3,306,698,997
(b) Post Retirement Increase	899,008,877
(c) Lump Sum Death Benefit	9,809,079
(d) Survivor's Pension	322,620,559
(e) Disability Pension	94,232,942
(f) Withdrawal Benefit	<u>269,394,051</u>
(g) Total	\$ 4,901,764,505
2. Actuarial Liability Members Receiving Benefits	
(a) Retirement Pensions	\$ 11,232,632,560
(b) Survivor Pensions	420,495,560
(c) Disability Pensions	<u>138,410,357</u>
(d) Total	\$ 11,791,538,477
3. Actuarial Liability for Inactive Members	<u>247,323,463</u>
4. Total Actuarial Liability	<u>\$ 16,940,626,445</u>
5. Actuarial Value of Assets	<u>10,109,314,922</u>
6. Unfunded Actuarial Liability	<u>\$ 6,831,311,523</u>
7. Funded Ratio	59.7%

**F. EMPLOYER'S NORMAL COST**

The employer's share of the normal cost for pension benefits for the year beginning July 1, 2011 is developed in Exhibit 5. The total normal cost is \$299,247,550, employee contributions are estimated to be \$175,805,483, resulting in the employer's share of the normal cost of \$123,442,067.

Based on a payroll of \$2,090,131,858 as of June 30, 2011, the employer's share of the normal cost can be expressed as 5.91% of payroll.

Exhibit 5

Employer's Normal Cost For Year Beginning July 1, 2011

	<u>Dollar Amount</u>	<u>Percent Of Payroll</u>
1. Basic Retirement Pension	\$ 183,648,711	8.79%
2. Post Retirement Increases	49,583,942	2.37
3. Lump Sum Death Benefits	674,199	.03
4. Survivor's Pension	19,490,522	.93
5. Disability Benefits	7,517,046	.36
6. Withdrawal Benefits	28,899,724	1.39
7. Administrative Expenses	<u>9,433,406</u>	<u>.45</u>
8. Total Normal Cost	\$ 299,247,550	14.32%
9. Employee Contributions	<u>175,805,483</u>	<u>8.41</u>
10. Employer's Share of Normal Cost	<u>\$ 123,442,067</u>	<u>5.91%</u>

Note. The above figures are based on a total active payroll of \$2,090,131,858 as of June 30, 2011.

**G. ANNUAL REQUIRED CONTRIBUTION FOR GASB STATEMENT NO. 25**

GASB Statement No. 25 requires the disclosure of the annual required employer contribution (ARC), calculated in accordance with certain parameters. Based on the results of the June 30, 2011 actuarial valuation, we have therefore calculated the annual required contribution for Fiscal Year 2012. In accordance with the parameters prescribed in GASB Statement No. 25, in calculating the annual required contribution, we have used a 30-year level-percent-of-payroll amortization of the unfunded liability. On this basis, the annual required contribution for Fiscal Year 2012 has been determined to be as follows:

	<u>Fiscal Year 2012</u>
1. Employer's normal cost	\$ 123,442,067
2. Annual amount to amortize the unfunded liability over 30 years as a level percent of payroll	<u>386,659,399</u>
3. Annual required contribution (1 + 2)	<u>\$ 510,101,466</u>

The funding plan currently in effect does not meet the requirements for amortizing the unfunded liability provided under GASB Statement No. 25. In all other respects, the assumptions and methods used for funding purposes meet the parameters set forth for financial statement disclosure in GASB Statement No. 25.

## **H. GASB DISCLOSURE INFORMATION**

Governmental Accounting Standards Board (GASB) Statement No. 25 established financial reporting standards for defined benefit pension plans of governmental employers. The statement requires a presentation of “actuarially determined information, from a long-term perspective, about the funded status of the plan and the progress being made in accumulating sufficient assets to pay benefits when due”. The information, covering a minimum of six years, is to be provided in two schedules of historical trend information, as follows:

1. The Schedule of Funding Progress provides information about the actuarially determined funded status from a long-term ongoing plan perspective and the progress made toward accumulating sufficient assets, and
2. The Schedule of Employer Contributions provides information about the annual required contribution (ARC) and percent of the ARC actually contributed by the employer.

Based on the results of the June 30, 2011 actuarial valuation as well as the results of previous actuarial valuations, we have prepared a Schedule of Funding Progress and a Schedule of Employer Contributions, which are included in Exhibits 6 and 7 below.

**EXHIBIT 6**

**SCHEDULE OF FUNDING PROGRESS**

<b>Fiscal Year</b>	<b>Total Actuarial Liability</b>	<b>Actuarial Value of Assets</b>	<b>Assets as a % of Actuarial Liability</b>	<b>Unfunded Liability</b>	<b>Active Member Payroll</b>	<b>UAL as a % of Active Member Payroll</b>
2001	10,392,704,659	10,387,568,945	99.9%	5,135,714	1,690,264,167	0.3%
2002	11,025,482,210	10,640,947,039	96.5%	384,535,171	1,759,045,853	21.9%
2003	11,411,528,364	10,494,754,698	92.0%	916,773,666	1,706,205,814	53.7%
2004	12,105,680,577	10,392,193,115	85.8%	1,713,487,462	1,767,631,306	96.9%
2005	13,295,876,206	10,506,471,213	79.0%	2,789,404,993	1,968,612,235	141.7%
2006	14,035,627,452	10,947,998,433	78.0%	3,087,629,019	1,944,358,215	158.8%
2007	14,677,184,345	11,759,699,063	80.1%	2,917,485,282	1,863,182,086	156.6%
2008	15,203,740,567	12,069,417,038	79.4%	3,134,323,529	1,914,558,916	163.7%
2009	15,683,241,527	11,493,255,754	73.3%	4,189,985,773	1,996,194,224	209.9%
2010	16,319,743,665	10,917,416,993	66.9%	5,402,326,672	2,107,934,080	256.3%
2011	16,940,626,445	10,109,314,922	59.7%	6,831,311,523	2,090,131,858	326.8%

I. Pension benefits only

**EXHIBIT 7**

**SCHEDULE OF EMPLOYER CONTRIBUTIONS**

<b>Fiscal Year</b>	<b>Employer Contributions</b>		
	<b>Annual Required Contribution (ARC)</b>	<b>Employer Contribution</b>	<b>Employer Contribution as a Percent of ARC</b>
2000	138,440,544	79,519,385	57.44%
2001	188,922,506	77,065,122	40.79%
2002	178,954,824	76,850,005	42.94%
2003	160,195,509	78,747,983	49.16%
2004	202,971,485	78,127,273	38.49%
2005	258,883,211	73,917,464	28.55%
2006	328,365,821	117,789,706	35.87%
2007	311,139,800 †	103,761,750 †	33.35%
2008	290,072,885 †	164,466,511 †	56.70%
2009	292,146,359 †	198,069,327 †	67.80%
2010	355,846,125 †	323,237,550 †	90.84%
2011	430,091,545 †	143,589,994 †	33.39%

†. Pension benefits only

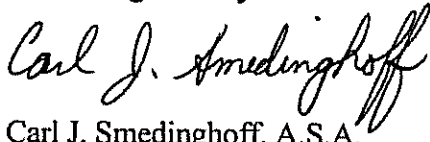
**I. CERTIFICATION**

This actuarial report has been prepared in accordance with generally accepted actuarial principles and practices and to the best of our knowledge, fairly represents the financial condition of the Public Teachers' Pension and Retirement Fund of Chicago as of June 30, 2011.

Respectfully submitted,



Sandor Goldstein, F.S.A.  
Consulting Actuary



Carl J. Smedinghoff, A.S.A.  
Associate Actuary

Appendix 1

Summary of Actuarial Assumptions and Actuarial Cost Method

Actuarial Assumptions

The actuarial assumptions used for the June 30, 2011 valuation are summarized below. The assumptions were adopted as of June 30, 2008.

Mortality Rates. For males, the UP-94 Table for Males, rated down three years; for females, the UP-94 Table for Females, rated down two years. For disabled males, the UP-94 Table for Males, rated up 5 years; for disabled females, the UP-94 Table for Males without adjustment.

Termination Rates. Termination rates based on the recent experience of the Fund. The following is a sample of the termination rates that were used:

1. Employees With 5 or Less Years of Service - Rates of Termination Per 1,000 Members

<u>Years of Service</u>	<u>Rate of Termination</u>
Less than 1 year	295
1 – 2 years	71
2 – 3 years	70
3 – 4 years	56
4 – 5 years	52

2. Employees With 5 to 10 Years of Service

<u>Age</u>	<u>Rate of Termination Per 1,000 Members</u>
25	46
30	48
35	44
40	37
45	32
50	30
55	30
60	30
62 and later	0



### 3. Employees With 10 or More Years of Service

<u>Age</u>	<u>Rate of Termination Per 1,000 Members</u>
30	24
35	25
40	19
45	12
50	10
55	10
60	10
62 and later	0

Disability Rates. Disability rates based on the recent experience of the Fund. The following is a sample of the disability rates that were used:

<u>Age</u>	<u>Disabilities Per 1,000 Members</u>
30	.7
40	1.0
50	2.0
60	2.5
62 and over	.0

Retirement Rates. Rates of retirement for each age from 55 to 75 based on the recent experience of the Fund were used. The following are samples of the rates of retirement that were used:

#### 1. Employees With Less Than 33 Years of Service

<u>Age</u>	<u>Rate of Retirement Per 1,000 Members</u>
55	55
60	77
65	100
70	137
75	1,000

## 2. Employees With 33 or More Years of Service

<u>Age</u>	<u>Rate of Retirement Per 1,000 Members</u>
55	120
60	200
65	190
70	200
75	1,000

For persons who became or will become participants on or after January 1, 2011, rates of retirement for each age from 62 to 75 were used. The following are samples of the rates of retirement that were used:

<u>Age</u>	<u>Rate of Retirement Per 1,000 Members</u>
62	400
64	250
67	300
70	200
75	1,000

Salary Progression. Rates of salary increase, which vary by age. The following is a sample of the assumed rates of salary increase.

<u>Age</u>	<u>Assumed Rate of Increase</u>
25	11.2%
30	8.9%
35	7.3%
40	6.2%
45	5.4%
50	4.7%
55 and later	4.0%

Based on the above salary increase assumption, the assumption regarding general increases in salaries can be considered to be 4% per year.

Interest Rate. 8.0% per year, compounded annually. Of this 8% per year assumption, 3.0% can be attributed to inflation.

Marital Status. 80% of participants were assumed to be married.

Spouse's Age. Male spouses are assumed to be 2 years older than female spouses.

Assumption Regarding Total Service Credit At Retirement. It was assumed that a teacher's total service credit at retirement would be 103.3% of the teacher's regular period of service at retirement.

Actuarial Cost Method.

The projected unit credit actuarial cost method was used. Actuarial gains and losses are reflected in the unfunded actuarial liability. This actuarial cost method was adopted as of August 31, 1991.

## Appendix 2

### Summary of Principal Provisions

1. Eligibility for Pension. The right to a retirement pension vests (1) after 20 years of validated service, with the pension payable at age 55 or over; or (2) after 5 years validated service, with the pension payable at age 62 or over.

2. Amount of Retirement Pension. For service earned before July 1, 1998, the retirement pension is 1.67% of "final average salary" for each of the first 10 years of validated service, 1.90% for each of the next 10 years, 2.10% for each of the next 10 years, and 2.30% for each year above 30. For service earned after June 30, 1998, the pension is 2.2% of "final average salary" for each year of service.

Service earned before July 1, 1998 can be upgraded to the 2.2% formula through the payment of additional employee contributions of 1% of the teacher's highest salary within the last four years for each year of prior service. Maximum payment is 20% of salary, but all years are upgraded. The number of years for which contributions are required is reduced by one for each three full years of service after June 30, 1998. No contribution is required if the employee has at least 30 years of service.

The maximum pension is 75% of final average salary or \$1,500 per month, whichever is greater.

3. Final Average Salary Defined. "Final average salary" for pension computation is the average of the highest rates of salary for any 4 consecutive years of validated service within the last 10 years of service.

4. Reduction in Pension for Early Retirement. Except for retirement after 34 years of service, the retirement pension in the case of retirement prior to age 60 is reduced 1/2 of 1% for each month that the teacher is under age 60.

5. Early Retirement Without Discount. Subject to authorization by the employer, an employee who retires on or before June 30, 2010 may elect to make a one-time contribution and thereby avoid the early retirement reduction. The exercise of this election by the employee also obligates the employer to make a one-time nonrefundable contribution.

6. Non-Duty Disability Retirement. A disability retirement pension is payable in the event of total or permanent disability for teaching service after 10 or more years of service, irrespective of age. The rate of pension is 2.2% of average salary for each year of service after June 30, 1998 and for each year of service that has been upgraded, and 1-2/3% of average salary for each other year of service. Upon disability retirement after 20 years or more of contributing service, but under age 55, the accrued retirement pension is payable, discounted 1/2 of 1% for each month the disabled teacher is under age 55, down to a minimum of 50 years.

If total service is 20 years or more and the member has attained age 55, the accrued retirement pension is payable without reduction. After 25 years of service, regardless of age, the accrued retirement pension is payable without reduction.

7. Duty Disability Benefit. A duty-connected disability benefit is provided equal to 75% of final average salary upon total incapacity for teaching service as a result of an injury sustained while in the performance of teaching service. The benefit is reduced by "Workers' Compensation" payments.

8. Post-Retirement Increases. Automatic annual increases in pension equal to 3% of the current amount of pension are provided. The increases accrued from the anniversary date of retirement or the 61st birthday, whichever is later.

9. Survivor's Pensions. Pensions are payable to survivors of teachers and pensioners under the following conditions:

Upon the death of a teacher or pensioner occurring on or after July 1, 1981, the maximum benefit is \$400 per month to a spouse alone and \$600 per month if there are other dependents. Payment of a survivor's pension is conditioned upon marriage having been in effect at least 1 year prior to death. On death after retirement, the total survivor's pension may not exceed retirement or disability pension paid to the deceased pensioner.

Upon the death of a teacher or pensioner occurring after December 31, 1986, the minimum total survivor's pension payable shall be 50% of the earned retirement pension of such teacher or pensioner.

If the surviving spouse is under age 50, and no unmarried minor children under age 18 survive, payment of the survivor's pension is deferred until age 50.

Survivor's pensions are subject to annual automatic increases of 3% of the current amount of pension.

10. Reversionary Pension. By accepting a reduced retirement pension, a member can provide a reversionary pension for a surviving beneficiary. If the reversionary pension was elected on or after January 1, 1984, and the beneficiary survives the date of the teacher's retirement, but does not survive the retired teacher, the teacher's pension shall be restored to the full amount of pension.

11. Refund of Contributions. Upon separation of service, a teacher is entitled to receive a refund of his total contributions and those contributions made on his behalf, without interest.

12. Death Benefits. Upon death while in service, a refund equal to the total contributions less contributions for survivor's pensions is payable without interest to a designed beneficiary or the estate of the teacher. Upon death after retirement, the death benefit consists of the excess, if any, of the total contributions over the total pension payments paid to the member or his beneficiary. In addition, the following death benefit is payable:

Death in service. The amount of the benefit is equal to the last month's salary for each year of validated service up to 6 month's salary but not exceeding \$10,000.

Death while on pension. The death benefit is equal to 6 month's salary but not to exceed \$10,000 less 1/5 of the death benefit for each year or part of a year that the member has been on pension, down to a minimum of \$5,000.

14. Financing. Teachers are required to contribute a total of 9% of salary consisting of 7 1/2% towards the retirement pensions, 1% towards the survivor pension, and 1/2% towards the post-retirement increment. As of September 1981, the Board of Education has been paying 7% of the required teacher contributions for Chicago public school teachers. Charter school contributions may be contributed at various rates by the employers and teachers.

The remainder of the cost of benefits is financed by (1) contributions by the Chicago Board of Education; (2) allocations by the State of Illinois from the State Distributive Fund; and (3) investment income.

15. Retirement Systems Reciprocal Act. The Fund complies with the Retirement Systems Reciprocal Act (Chapter 40 Act 5 Article 20 of the Illinois Compiled Statutes) to provide reciprocal benefits if a member has service credit for other public employment in Illinois.

#### Persons Who First Become Participants On or After January 1, 2011

The following changes to the above provisions apply to persons who first become participants on or after January 1, 2011:

1. The highest salary for annuity purposes is equal to the average monthly salary obtained by dividing the participant's total salary during the 96 consecutive months of service within the last 120 months of service in which the total compensation was the highest by the number of months in that period.
2. For 2010, the final average salary is limited to the Social Security wage base of \$106,800. Limitations for future years shall automatically be increased by the lesser of 3% or one-half of percentage change in the Consumer Price Index-U during the preceding month calendar year.
3. A participant is eligible to retire with unreduced benefits after attainment of age 67 with at least 10 years of service credit. However, a participant may elect to retire at age 62 with at least 10 years of service credit and receive a retirement annuity reduced by one-half of 1% for each month that his or her age is under 67.
4. The initial survivor's annuity is equal to 66 2/3% of the participant's earned retirement annuity at the date of death, subject to automatic annual increases of the lesser of 3% or one-half of the increase in the Consumer Price Index-U during the preceding calendar year, based on the originally granted survivor's annuity.
5. Automatic annual increases in the retirement annuity then being paid are equal to the lesser of 3% or one-half the annual change in the Consumer Price Index for all Urban Consumers, whichever is less, based on the originally granted retirement annuity.

## Appendix 3

### Glossary of Terms used in Report

1. Actuarial Present Value. The value of an amount or series of amounts payable at various times, determined as of a given date by the application of a particular set of actuarial assumptions.
2. Actuarial Cost Method or Funding Method. A procedure for determining the actuarial present value of pension plan benefits and for determining an actuarially equivalent allocation of such value to time periods, usually in the form of a normal cost and an actuarial accrued liability.
3. Normal Cost. That portion of the present value of pension plan benefits, which is allocated to a valuation year by the actuarial cost method.
4. Actuarial Accrued Liability or Accrued Liability. That portion, as determined by a particular actuarial cost method, of the actuarial present value of pension benefits which is not provided for by future normal costs.
5. Actuarial Value of Assets. The value assigned by the actuary to the assets of the pension plan for purposes of an actuarial valuation.
6. Unfunded Actuarial Liability. The excess of the actuarial liability over the actuarial value of assets.
7. Projected Unit Credit Actuarial Cost Method. A cost method under which the projected benefits of each individual included in an actuarial valuation are allocated by a consistent formula to valuation years. The actuarial present value of benefits allocated to a valuation year is called the normal cost. The actuarial present value of benefits allocated to all periods prior to a valuation year is called the actuarial liability.  
  
Under this method, the actuarial gains (losses), as they occur, generally reduce (increase) the unfunded actuarial liability.
8. Actuarial Assumptions. Assumptions as to future events affecting pension costs.
9. Actuarial Valuation. The determination, as of the valuation date, of the normal cost, actuarial liability, actuarial value of assets, and related actuarial present values for a pension plan.
10. Vested Benefits. Benefits that are not contingent on an employee's future service.