

MUNICIPAL EMPLOYEES' ANNUITY  
& BENEFIT FUND OF CHICAGO

(A Component Unit of the  
City of Chicago)

FINANCIAL REPORT

DECEMBER 31, 2018 AND 2017

MUNICIPAL EMPLOYEES' ANNUITY & BENEFIT FUND OF CHICAGO  
(A Component Unit of the City of Chicago)

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INDEPENDENT AUDITOR'S REPORT

The Retirement Board  
Municipal Employees' Annuity & Benefit Fund  
of Chicago  
Chicago, Illinois

We have audited the statements of fiduciary net position of Municipal Employees' Annuity & Benefit Fund of Chicago (the Plan), a Component Unit of the City of Chicago, as of December 31, 2018 and 2017, and the related statements of changes in fiduciary net position for the years then ended, and the related notes to the financial statements.

**Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statement in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the financial statements that are free from material misstatement, whether due to fraud or error.

**Auditor's Responsibility**

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Plan's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

**Opinion**

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of Municipal Employees' Annuity & Benefit Fund of Chicago as of December 31, 2018 and 2017, and the changes in its fiduciary net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

**Other Matters***Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and other supplementary information on pages 3 through 8 and pages 38 through 39 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquires of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

*Other Information*

Our audits were conducted for the purpose of forming an opinion on the financial statements taken as a whole. The schedules of administrative expenses, investment management compensation, and professional and consulting costs are presented for purposes of additional analysis and are not a required part of the basic financial statements. The schedules of administrative expenses, investment management compensation, and professional and consulting costs are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the basic financial statements as a whole.

*Bansley and Kiener, L.L.P.*

Certified Public Accountants

May 22, 2019

## *Management's Discussion and Analysis*

This Management Discussion and Analysis (MD&A) of the Municipal Employees' Annuity and Benefit Fund of Chicago ("MEABF" or the "Plan") provides a narrative overview and analysis of the financial activities of MEABF for the years ended December 31, 2018 and 2017. Readers are encouraged to read the MD&A in conjunction with the financial statements to better understand the financial condition and performance of MEABF during the year ended December 31, 2018. Information for fiscal years 2017 and 2016 is presented for comparative purposes.

### **Financial Highlights**

- The Plan's fiduciary net position decreased by \$639.8 million to \$3,914.2 million as of December 31, 2018, compared to an increase of \$117.8 million, from \$4,436.2 million to \$4,554.0 as of December 31, 2017.
- The Plan has continued to liquidate portfolio assets at an alarming rate to supplement the disbursement of benefit payments. During fiscal year 2018, approximately \$523.5 million in portfolio assets were liquidated compared to \$606.4 million in fiscal year 2017 and \$586.6 million in fiscal year 2016.
- MEABF's total investment portfolio generated a negative return of 5.7 percent in 2018 on a net-of-fees basis. The net returns in 2017 and 2016 were 15.1 percent and 6.3 percent, respectively. The total portfolio return in 2018 was below the 7.0 percent actuarial investment return assumptions.
- On a fair value basis, this year's money weighted investment rate of return net of investment expense, was a negative 5.2 percent, compared with the last year's return of 14.9 percent.
- Total additions as reported in the statements of changes in fiduciary net position decreased by \$729.4 million or 72.0 percent to \$283.0 million in 2018 from \$1,012.4 million in 2017.
- Total deductions as reported in the statements of changes in fiduciary net position increased by \$28.2 million or 3.2 percent to \$922.8 million in 2018 from \$894.6 million in 2017.
- Annuity benefits paid to retirees and beneficiaries increased by \$36.1 million or 4.3 percent to \$878.7 million for fiscal year 2018, compared to an increase of \$29.5 million or 3.6 percent to \$842.6 million in fiscal year 2017 from \$813.1 million in fiscal year 2016.
- The December 31, 2018 financial actuarial valuation calculated a total pension liability of \$16,808.6 million and the net pension liability of \$12,894.4 million.
- As of the December 31, 2018, the most recent funding actuarial valuation, the Plan's unfunded actuarial accrued liability increased to \$12,612.9 million from \$11,825.6 million from the prior year. As of the December 31, 2018, the most recent funding actuarial valuation, the Plan's funded ratio was 24.9 percent compared with a funded ratio of 27.4 percent for the prior year.

### **Overview of the Financial Statements**

This discussion and analysis is an introduction to the Plan's basic financial statements prepared on an accrual basis of accounting in accordance with Governmental Accounting Standards Board (GASB) pronouncements and reflect all financial activities. The Plan's basic financial statements include (1) Statements of fiduciary net position (2) Statements of changes in fiduciary net position (3) Notes to the financial statements. In addition to the basic financial statements, this financial report also contains required supplementary information and other supplementary schedules.

#### **Basic Financial Statements**

The *statements of fiduciary net position* restricted for pension benefits report Plan assets at fair value, liabilities and the resulting fiduciary net position (assets - liabilities = fiduciary net position) at year-end. The *statements of changes in fiduciary net position* report the results of financial activities that occurred during the fiscal year, disclosing the additions to fiduciary net position, such as contributions and net investment income, and deductions from fiduciary net position such as benefit payments and administrative expenses. The resulting net increase (decrease) in fiduciary position (additions - deductions = net increase (decrease) in fiduciary position) reflects the change in net fiduciary position reported in the *statements of fiduciary net position*.

## Notes to the Basic Financial Statements

The *notes to the financial statements* are an integral part of the financial statements and include additional information not readily evident in the statements themselves. The notes also include schedules to provide a better understanding of the data provided in the financial statements.

### Required Supplementary Information

The required supplementary information following the notes to the financial statements is required by GASB. It provides historical information and additional details considered useful in evaluating the financial condition of the Plan. It includes schedules related to the net pension liability, contributions from employer, and the annual money weighted rate of return on pension plan investments.

### Other Supplementary Schedules

Additional supplemental schedules include detailed information regarding administrative expenses, consulting costs and investment management fees.

## **Fiduciary Net Position Restricted for Pension Benefits** (in millions)

(As of December 31, 2018, 2017 and 2016)

	2018	2017	2016
<b>Assets</b>			
Cash, receivables and other assets	\$ 380.4	\$ 303.3	\$ 238.6
Investments, at fair value	3,559.2	4,296.1	4,285.7
Invested securities lending collateral	121.9	243.6	304.8
Total assets	4,061.5	4,843.0	4,829.1
<b>Liabilities</b>			
Accrued expenses and other liabilities	25.4	45.4	88.1
Securities lending collateral	121.9	243.6	304.8
Total liabilities	147.3	289.0	392.9
<b>Fiduciary Net Position restricted for pension benefits</b>	<b>\$ 3,914.2</b>	<b>\$ 4,554.0</b>	<b>\$ 4,436.2</b>

Fiduciary net position restricted for pension benefits decreased by \$639.8 million during fiscal year 2018 to \$3,914.2 million from \$4,554.0 million in 2017. Invested assets at fair value decreased by \$736.9 million in 2018 to \$3,559.2 from \$4,296.1 million in 2017. The loss in assets would have been significantly lower if portfolio assets were not liquidated to supplement the disbursement of benefit payments during the year. During 2018 approximately \$523.5 million in portfolio assets were liquidated compared to \$606.4 million during 2017 and \$586.6 million during 2016.

## **Summary of Investments** (in millions)

(As of December 31, 2018, 2017 and 2016)

	2018	2017	2016
Fixed Income	\$ 899.5	\$ 986.5	\$ 1,007.4
Domestic equity	880.9	1,208.0	1,058.2
International equity	682.1	881.7	868.4
Hedged equity	394.4	418.7	463.8
Real estate	408.5	431.4	458.2
Private equity	165.2	200.8	237.6
Short-term investments	128.6	169.0	192.1
	<b>\$ 3,559.2</b>	<b>\$ 4,296.1</b>	<b>\$ 4,285.7</b>

The asset values reflected above fluctuate from year-to-year, both in aggregate and by asset class, based on the combination of factors such as investment performance, liquidations within certain asset classes, and rebalancing of assets within the overall portfolio.

*Investment performance.* For fiscal year 2018, the Plan's total investment portfolio generated a negative 5.7 percent return net-of-fees, compared to a negative 3.9 percent of the policy benchmark. 2018 returns were below the 15.1 percent return net-of-fees generated in 2017. Hedge fund performance was above its benchmark, while domestic equity, international equity, fixed income, and real estate all fell short of its respective benchmarks for the year. Per asset class, fixed income generated negative 0.1 percent return net-of-fees compared to the Barclays Aggregate Bond Index of 0.0 percent. International equity generated negative 16.8 percent return net-of-fees compared to negative 14.2 percent for the MSCI ACWI ex US. Hedged equity generated negative 5.9 percent net-of-fees compared to negative 9.4 percent of HFRX Equity Hedge Index. Domestic equity generated negative 8.5 percent net-of-fees compared to negative 5.3 percent for Wilshire 5000 Total Market Index. Lastly, real estate generated a 5.8 percent return net-of-fees compared to 6.7 percent for the NCREIF Property Index.

*Liquidations within certain asset classes.* Liquidations are due to the large operating cash flow deficits that the Plan faces as a result of the shortfall between inflows, in the form of contributions, and outflows, primarily comprised of retirement benefits and refunds required to pay by law. In total, MEABF had to liquidate approximately \$523.5 million of investments to meet the Plan's cash flow needs for 2018. Liquidity came mainly from liquid assets; domestic equity, international equity and fixed income.

*Rebalancing of assets within the overall portfolio.* In 2018, MEABF added 2% Infrastructure asset class to the target asset allocation. The Plan reduced its Fixed Income allocation from 27% to 25%. The regular sale of assets to meet the Plan's cash flow needs was done in accordance with aligning the Plan's investment portfolio with its target allocation.

**Additions and Deductions to Fiduciary Net Position** (in millions)  
(Years ended December 31, 2018, 2017 and 2016)

	2018	2017	2016
<b>Additions:</b>			
Employer contributions	\$ 349.6	\$ 261.7	\$ 157.4
Member contributions	138.4	134.8	130.4
Total contributions	488.0	396.5	287.8
Net investment income (loss)	(206.1)	609.0	279.5
Net security lending income (loss)	1.1	1.5	1.9
Other additions (OPEB termination)	-	5.4	-
<b>Total additions</b>	<b>283.0</b>	<b>1,012.4</b>	<b>569.2</b>
<b>Deductions:</b>			
Annuity benefits	878.7	842.6	813.1
Disability benefits	10.4	11.7	12.0
Healthcare subsidy	-	-	7.7
Refunds of contributions	27.1	33.8	34.6
Administrative expense	6.6	6.5	7.0
<b>Total deductions</b>	<b>922.8</b>	<b>894.6</b>	<b>874.4</b>
<b>Net increase (decrease)</b>	<b>(639.8)</b>	<b>117.8</b>	<b>(305.2)</b>
<b>Fiduciary net position restricted for pensions beginning of year</b>	<b>4,554.0</b>	<b>4,436.2</b>	<b>4,741.4</b>
<b>Fiduciary net position restricted for pensions end of year</b>	<b>\$ 3,914.2</b>	<b>\$ 4,554.0</b>	<b>\$ 4,436.2</b>

## Additions

Total additions as reported in the Statements of Changes in Fiduciary Net Position decreased by \$729.4 million or 72.0 percent in 2018 to \$283.0 million from \$1,012.4 million in 2017.

Additions from employer contributions increased by \$87.9 million to \$349.6 million in 2018 from \$261.7 million in 2017. The increase is mainly due to the amendment of Public Act 100-0023 (new funding structure) that was put into law during 2017 that requires the employer to remit \$344.0 million in 2019 for 2018 contributions and \$266.0 million in 2018 for 2017 contributions. The total increase consists of \$78.0 million from the new funding structure and \$9.9 million from adjustments of the allowance for reserve and receivable accounts. For financial reporting purposes both the net contribution receivable and net employer contributions reflects the required amount and adjustments. Additions from member contributions increased by \$3.6 million to \$138.4 million in 2018, from \$134.8 million in 2017. The net increase is the result of a \$3.2 million increase in contributions from City of Chicago members, \$2.3 million increase in contributions from Board of Education members and a \$1.9 million decrease primarily from the reduction of purchases of permissive services in 2018. Detail regarding active member contribution requirement can be found in note 7 Pension and Other Postemployment Benefit.

Additions from investment income decreased by negative \$815.1 million in 2018 to negative \$206.1 million in 2018 from \$609.0 million in 2017. The decrease was mainly due to the down investment markets that caused the investment portfolio to generate a negative 5.7 percent in 2018 compared to 15.1 percent in 2017. Other contributing factors were:

- Decrease in net appreciation on investments by negative \$813.0 million to negative \$290.9 million in 2018 compared to \$522.1 million in 2017.
- Decrease in income from investments by \$4.2 million to \$102.1 million in 2018 compared to \$106.3 million in 2017.
- Decrease in direct investment fees by \$2.0 million to \$17.3 million in 2018 from \$19.3 million in 2017.

Decrease of other additions of \$5.4 million is the result of the Plan eliminating its OPEB liability from prior years. As of January 1, 2017 the Plan has discontinued OPEB for the Plan's retired employees.

MEABF can earn additional investment income by allowing a third party provider to lend a portion of its securities to borrowers on its behalf. The borrower provides collateral on borrowed securities, which is invested in order to earn interest. Securities lending activities generated net income of \$1.1 million in 2018 compared to \$1.5 million in 2017.

## Deductions

MEABF's assets are primarily used to pay annuity benefits, disability benefits, refunds of contributions and the costs of administering the Plan. Deductions from fiduciary net position increased by \$28.2 million or 3.2 percent to \$922.8 million in 2018 from \$894.6 million in 2017. Benefits paid out exceed member and employer contributions by \$516.8 million, \$599.9 million, and \$579.6 million in fiscal years 2018, 2017 and 2016, respectively. In order to supplement benefit payments, the Plan liquidated portfolio assets by approximately \$523.5 million, \$606.4 million, and \$586.6 million in fiscal years 2018, 2017 and 2016, respectively.

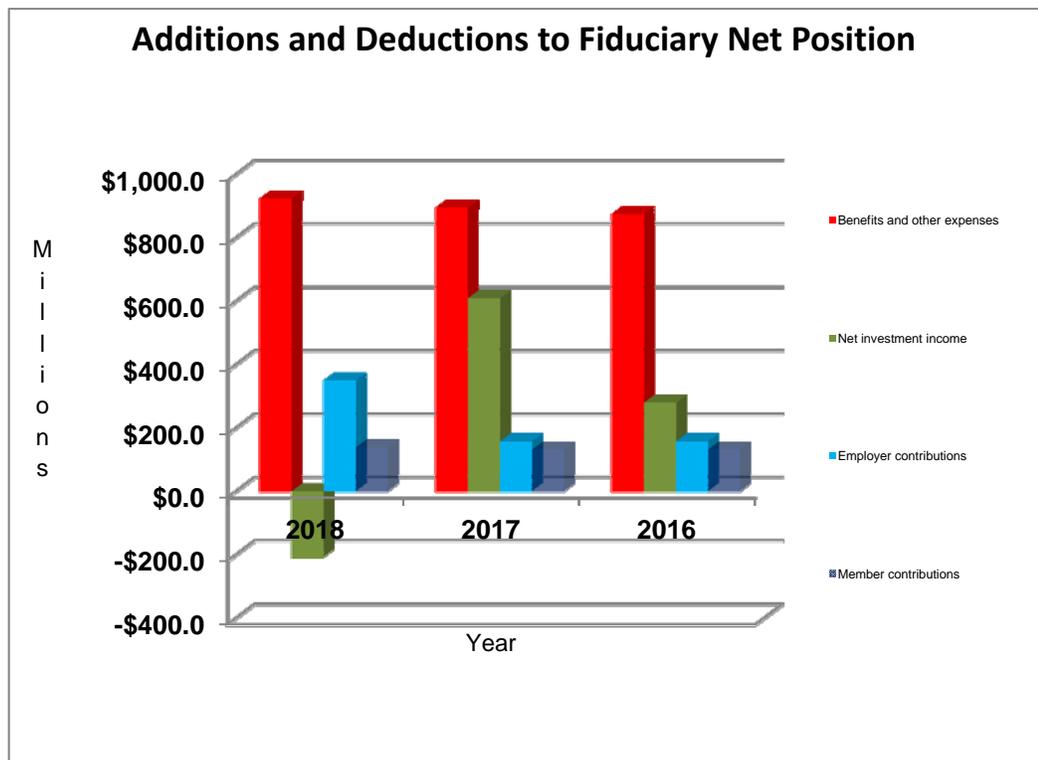
Annuity benefits paid increased by \$36.1 million or 4.3 percent to \$878.7 million in 2018 from \$842.6 million in 2017. The increase is primarily due to the compounded annual 3.0 percent adjustment for eligible annuitants and an increase in the number of retirees and beneficiaries receiving benefits. The average annual employee annuity benefit increased to \$39,564 in 2018 from \$38,376 in 2017. The number of new employee annuitants decreased in 2018 to 1,351 from 1,449 in 2017. There were 25,577 retirees and beneficiaries at year-end December 31, 2018 compared to 25,383 at the beginning of the year.

Disability benefits paid decreased by \$1.3 million or 11.1 percent to \$10.4 million in 2018 from \$11.7 million paid in 2017. This net decrease is attributable to a decrease in the number of participants receiving disability. There were 322 participants on disability at year-end December 31, 2018 compared to 373 at the beginning of the year.

Refunds of contributions decreased by \$6.7 million to \$27.1 million in 2018 from \$33.8 million in 2017. The net decrease is due to:

- o Decrease in refund of spousal contributions. Refund of spousal contributions totaling \$8.9 million were refunded in 2018 compared to \$9.2 million refunded in 2017, a decrease of \$0.3 million.
- o Decrease in all other refunds of contributions distributed to employees not eligible for annuities. Other refunds of contributions decreased by \$6.4 million to \$18.2 million in 2018 from \$24.6 million in 2017.

Administrative expenses expense increased slightly by \$0.1 million to \$6.6 million in 2018 from \$6.5 million in 2017. Detail relating to administrative expenses can be found in the Schedule of Administrative located under Supporting Schedules.



### Total Pension Liability (TPL) and Net Pension Liability (NPL)

The total pension liability (TPL) determines the total obligation for the Plan's pension benefits related to costs incurred as a result of years of service, changes in benefit terms, changes in actuarial assumptions, and any differences between the actuarial assumptions and actual experience. The Plan's fiduciary net position (FNP) determines the assets available for future pension payment stream. Analogous to the unfunded actuarial accrued liability, Net Pension Liability (NPL) is the Total Pension Liability (TPL), net of the Plan's Fiduciary Net Position (FNP).

At December 31, 2018, the components of the net pension liability of the employer were as follows (in millions):

Total pension liability	\$16,808.6
Plan fiduciary net position	<u>3,914.2</u>
Employer's net pension liability	<u>\$12,894.4</u>
Plan fiduciary net position as a percentage of the total pension liability	23.29%

## **Funding Status**

The Plan, since inception, has been funded by utilizing a static multiple of employee contributions. This structure has led to significant underfunding of the Plan which continues to reduce assets as benefits paid far exceed contributions received.

Over the last few years, attempts to change the funding mechanism for the Plan to ensure the long-term solvency have been declared unconstitutional due to changes made to the existing benefit structure. On July 6, 2017 a new funding structure was included in Public Act 100-0023 to increase employer contributions from the City of Chicago.

Public Act 100-0023 requires contributions from the City of Chicago to be equal to \$266 million in payment year 2018; \$344 million in payment year 2019; \$421 million in payment year 2020; \$499 million in payment year 2021, and \$576 million in payment year 2022. For payment year 2023 through 2058, the City of Chicago is required to make contributions on an actuarial calculated funding plan that is projected to bring the Fund to 90% funding by 2058.

## **Request for Information**

Additional information is available on our website [www.meabf.org](http://www.meabf.org) or by request. Please direct your request to Mr. Jim Mohler, Executive Director, Municipal Employees' Annuity and Benefit Fund of Chicago, 321 N. Clark Street, Suite 700, Chicago, IL 60654.

MUNICIPAL EMPLOYEES' ANNUITY & BENEFIT FUND OF CHICAGO  
(A Component Unit of the City of Chicago)

STATEMENTS OF FIDUCIARY NET POSITION  
DECEMBER 31, 2018 AND 2017

	2018	2017
<b>ASSETS</b>		
Cash and cash equivalents	\$ 499,871	\$ 492,001
Receivables		
Contributions from the City of Chicago, net of allowance for loss of \$5,809,000 in 2018 and \$13,285,086 in 2017	348,621,245	260,306,200
Member contributions	8,743,313	10,973,768
Interest and dividends	12,702,046	12,121,538
Due from broker	8,968,833	18,482,922
Miscellaneous	737,379	819,751
Total receivables	379,772,816	302,704,179
Investments, at fair value		
Fixed income	899,456,519	986,491,904
Hedged equity	394,406,436	418,747,415
Domestic and international equity	1,562,977,877	2,089,697,774
Real estate	408,489,873	431,421,604
Private equity	165,224,281	200,760,945
Short-term investments	128,644,859	169,027,392
Total investments	3,559,199,845	4,296,147,034
Invested securities lending collateral	121,892,297	243,632,186
Property and equipment, net of accumulated depreciation and amortization of \$15,887 in 2018 and \$20,039 in 2017	150,143	30,500
Total assets	4,061,514,972	4,843,005,900
<b>LIABILITIES</b>		
Due to broker	19,296,299	38,450,544
Accounts payable and accrued expenses	6,145,900	6,904,883
Securities lending collateral	121,892,297	243,632,186
Total liabilities	147,334,496	288,987,613
Net position restricted for pension benefits	\$ 3,914,180,476	\$ 4,554,018,287

The accompanying notes are an integral part of the financial statements.

MUNICIPAL EMPLOYEES' ANNUITY & BENEFIT FUND OF CHICAGO  
(A Component Unit of the City of Chicago)

STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION  
YEARS ENDED DECEMBER 31, 2018 AND 2017

	<u>2018</u>	<u>2017</u>
Additions		
Contributions from the City of Chicago	\$ 349,574,257	\$ 261,763,635
Member contributions	138,399,727	134,764,920
	<u>487,973,984</u>	<u>396,528,555</u>
Investment income		
Net appreciation (depreciation) in fair value of investments	(290,889,323)	522,085,114
Interest	33,821,594	38,782,075
Dividends	49,355,634	49,218,319
Income from real estate investments	18,951,056	18,290,585
	<u>(188,761,039)</u>	<u>628,376,093</u>
Less investment expenses	17,307,390	19,341,002
Net income (loss) from investing activities	<u>(206,068,429)</u>	<u>609,035,091</u>
Security lending activities		
Securities lending income	3,907,931	3,732,703
Borrower rebates	(2,719,103)	(2,124,012)
Bank fees	(95,101)	(128,686)
Net income from securities lending activities	<u>1,093,727</u>	<u>1,480,005</u>
Other additions - OPEB termination	<u>-</u>	<u>5,393,581</u>
	<u>282,999,282</u>	<u>1,012,437,232</u>
Deductions		
Benefits		
Annuity payments	878,738,782	842,632,392
Disability benefits	10,415,725	11,711,092
Total benefits	<u>889,154,507</u>	<u>854,343,484</u>
Refund of member contributions	27,043,978	33,830,051
Administrative expenses	6,638,608	6,473,006
	<u>922,837,093</u>	<u>894,646,541</u>
	<u>922,837,093</u>	<u>894,646,541</u>
Net increase (decrease)	(639,837,811)	117,790,691
Net position restricted for pension benefits		
Beginning of year	<u>4,554,018,287</u>	<u>4,436,227,596</u>
End of year	<u>\$ 3,914,180,476</u>	<u>\$ 4,554,018,287</u>

The accompanying notes are an integral part of the financial statements.

MUNICIPAL EMPLOYEES' ANNUITY & BENEFIT FUND OF CHICAGO

(A Component Unit of the City of Chicago)

NOTES TO FINANCIAL STATEMENTS

## Note 1 – Summary of Significant Accounting Policies

*Reporting Entity*

As defined by generally accepted accounting principles established by the Governmental Accounting Standards Board (GASB), the financial reporting entity consists of a primary government, as well as its component units, which are legally separate organizations for which the elected officials of the primary government are financially accountable. Financial accountability is defined as:

- (1) Appointment of a voting majority of the component unit's board and either a) the ability to impose will by the primary government, or b) the possibility that the component unit will provide a financial benefit to or impose a financial burden on the primary government; or
- (2) Fiscal dependency on the primary government.

Based upon the required criteria, the Plan has no component units. The Plan is considered a component unit fund of the City of Chicago and, as such, is included in the City of Chicago's financial statements as a pension trust fund. Accordingly, these financial statements present only Municipal Employees' Annuity & Benefit Fund of Chicago ("MEABF") and are not intended to present fairly the financial position of the City of Chicago and the result of its operations in conformity with generally accepted accounting principles.

*Basis of Accounting*

The financial statements are prepared using the accrual basis of accounting. Employee and employer contributions are recognized in the period when due, pursuant to formal commitments as well as statutory or contractual requirements. Benefits and refunds are recognized when due and payable in accordance with the terms of the Plan.

*Use of Estimates*

The preparation of financial statements in accordance with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts and fiduciary net position at the date of the financial statements and the actuarial information included in the required supplementary information as of the valuation date, the changes in fiduciary net position during the reporting period and, when applicable, disclosures of the contingent assets and liabilities at the date of the financial statements. Actual results may differ from those estimates.

*Risks and Uncertainties*

The Plan invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of the investment securities will occur in the near term and that such changes could materially affect the amounts reported in the statement of fiduciary net position.

*Cash and Cash Equivalents*

Cash and cash equivalents include cash on hand and on deposit with the Treasurer of the City of Chicago as well as investments held by the City Treasurer on behalf of the Plan with original maturities of less than 90 days.

MUNICIPAL EMPLOYEES' ANNUITY & BENEFIT FUND OF CHICAGO

(A Component Unit of the City of Chicago)

NOTES TO FINANCIAL STATEMENTS

## Note 1 – Summary of Significant Accounting Policies (continued)

*Investments*

The Plan is authorized to invest in bonds, notes, and other obligations of the U.S. Government; corporate debentures and obligations; insured mortgage notes and loans; common and preferred stocks; stock options; real estate; and other investment vehicles as set forth in the Illinois Compiled Statutes. Income on all investments is recognized on the accrual basis. Gains and losses on sales and exchanges of investments are recognized on the transaction date of such sale or exchange. Dividend income is recognized based on dividends declared.

Investments are reported at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Fair values of marketable securities are based primarily on quotations from national security exchanges. Investments in short-term obligations are carried at cost which approximates fair value. Certain short-term obligations, such as United States Treasury Bills and discount paper, are carried at fair value. Fair values for bonds, stocks, forward contracts, future contracts, rights and warrants are determined by quoted market prices. Fair values of hedged equity investments are determined using quoted market prices of underlying funds, when available. If quoted market prices are not available, then fair value is determined by underlying fund managers. Fair values of real estate and commingled real estate are based upon independent appraisals. Fair values of private equity investments are primarily based on the general partner determined fair value.

*Administrative Expenses*

Administrative expenses are budgeted and approved by MEABF's Board of Trustees. Funding for these expenses is included in the employer contributions as mandated in the Illinois State Statutes Chapter 40, Pension Article 5/8-190.

*Income Taxes*

The Plan is exempt from federal and state income taxes and has received a favorable determination letter under Code section 401(a).

*Recently Issued Accounting Pronouncements*

GASB Statement No. 84, *Fiduciary Activities*, was established to enhance the consistency and comparability of fiduciary activity reporting by state and local governments. This Statement also is intended to improve the usefulness of fiduciary activity information primarily for assessing the accountability of governments in their roles as fiduciaries. MEABF is currently evaluating the financial statement impact of GASB Statement No. 84. If applicable, this statement will be implemented for the year ended December 31, 2019.

GASB Statement No. 87, *Leases* was established to improve accounting and financial reporting for leases by governments. This Statement increases the usefulness of governmental financial statements by requiring recognition of certain lease assets and liabilities for leases that were previously classified as operating leases. Statement No. 87 establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. Statement No. 87 is effective for the Plan's fiscal year ending December 31, 2020.

The Plan is currently evaluating the impact of adopting the aforementioned GASB Statements.

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NOTES TO FINANCIAL STATEMENTS

## Note 2 – Investment Policies, Asset Allocation and Money-Weighted Rate of Return

*Investment Policy*

The Plan's policy in regard to the allocation of invested assets is established and may be amended by the Board. It is the policy of the Board to pursue an investment strategy that reduces risk through prudent diversification of the portfolio across a broad selection of distinct asset classes. The Plan's investment policy discourages the use of cash equivalents, except to meet liquidity needs, and aims to refrain from dramatically shifting asset class allocations over the short term.

The following table represents the Board's adopted asset allocation policy as of December 31, 2018 and 2017.

Asset Class	2018 Target	2017 Target
Fixed income	25%	27%
Domestic equity	26%	26%
International equity	22%	22%
Hedge Funds	10%	10%
Private equity	5%	5%
Real Estate	10%	10%
Infrastructure	<u>2%</u>	<u>0%</u>
	<u>100%</u>	<u>100%</u>

*Money-Weighted Rate of Return*

For the years ended December 31, 2018 and 2017, the annual money-weighted rate of return on Plan investments, net of investment expense, was negative 5.2 percent and 14.9 percent, respectively. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

## Note 3 – Deposits and Investments

Deposits that are held locally in the Plan's name are held by the Treasurer of the City of Chicago, ex-officio Treasurer of the Plan. At December 31, 2018 and 2017, the Plan's book balances of cash are \$499,871 and \$492,001, respectively. The actual bank balances at December 31, 2018 and 2017 are \$499,471 and \$491,601, respectively. All non-investment related bank balances at year end are insured or collateralized at 102% of the principal amount.

Custodial credit risk is the risk that, in the event of a financial institution failure, the Plan will not be able to recover deposits or collateral securities that are in possession of an outside party. Deposits are exposed to custodial credit risk if they are not covered by deposit insurance and are (a) uncollateralized, (b) collateralized with securities held by the pledging financial institution or (c) collateralized with securities held by the pledging financial institution's trust department or agent but not in the Plan's name. The Plan does not have a formal policy relating to custodial risk. As of December 31, 2018 and 2017, \$6,341,834 and \$6,209,425, respectively, of the Plan's deposits with its custodian Northern Trust were exposed to custodial credit risk.

Certain Plan investments are held by a bank administered trust fund. There were no individual investments representing 5% or more of the Plan's net position as of December 31, 2018 or 2017.

The Plan's investments are reported at fair value in the accompanying statement of fiduciary net position. The methods used to measure fair value may produce an amount that may not be indicative of net realizable value or reflective of future fair values. Furthermore, although the Plan believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

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NOTES TO FINANCIAL STATEMENTS

## Note 3 – Deposits and Investments (continued)

Generally accepted accounting principles provides the framework for measuring fair value. That framework provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements).

The three levels of the fair value hierarchy are described as follows:

*Level 1:* Inputs to the valuation methodology are unadjusted quoted prices for identical assets or liabilities in active markets that the Plan has the ability to access.

*Level 2:* Inputs to the valuation methodology include:

- quoted prices for similar assets or liabilities in active markets;
- quoted prices for identical or similar assets or liabilities in inactive markets;
- inputs other than quoted prices that are observable for the asset or liability;
- inputs that are derived principally from or corroborated by observable market data by correlation or other means.

If the asset or liability has a specified (contractual) term, the Level 2 input must be observable for substantially the full term of the asset or liability.

*Level 3:* Inputs to the valuation methodology are unobservable and significant to the fair market value measurement.

The asset or liability's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques used need to maximize the use of observable inputs and minimize the use of unobservable inputs.

Following is a description of the valuation methodologies used for assets measured at fair value. There have been no changes in the methodologies used at December 31, 2018 and 2017.

Investments that are measured at fair value using the net asset value (NAV) per share (or its equivalent), as a practical expedient are not classified in the fair value hierarchy.

Equity and equity derivative securities classified in Level 1 are valued using prices quoted in active markets for those securities.

Debt securities and short-term investment securities classified in Level 2 are valued using matrix pricing techniques maintained by the various pricing vendors. Matrix pricing is used to value securities based on the securities relationship to a benchmark's quoted price. Equity securities classified in Level 2 are securities with a theoretical price calculated by applying a standardized formula to derive a price from a related security.

Equity securities and other assets classified in Level 3 are valued with last trade data having limited trading volume.

The valuation method for certain fixed income and alternative investments is based on the investments' NAV per share (or its equivalent), provided by the investment managers. The NAV is based on the fair value of the underlying investments held by the fixed income and alternative investment less their liabilities. This practical expedient is not used when it is determined to be probable that the Plan will sell the investment for an amount different than the reported NAV.

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NOTES TO FINANCIAL STATEMENTS

## Note 3 – Deposits and Investments (continued)

The following table summarizes the valuation of MEABF investments by the fair value hierarchy levels as of December 31, 2018.

	December 31, 2018	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3
<b>Investment Measured at Fair Value</b>				
<b>Equity securities</b>				
Common Stock	\$1,554,678,266	\$1,554,159,318	\$ 191,409	\$327,539
Preferred Stock	5,374,112	5,373,349	-	763
Stapled Securities	2,547,320	2,547,320	-	-
Rights/Warrants	49,533	48,497	47	989
Funds-Equities ETF	<u>328,646</u>	<u>328,646</u>	-	-
<b>Total equity securities</b>	<u>1,562,977,877</u>	<u>1,562,457,130</u>	<u>191,456</u>	<u>329,291</u>
<b>Debt securities</b>				
Government Bonds	112,917,707	-	112,917,707	-
Government Agencies	42,706,668	-	42,706,668	-
Municipal/Provincial Bonds	19,155,706	-	19,155,706	-
Corporate Bonds	360,767,963	-	360,767,585	378
Corporate Convertible Bonds	1,034,968	-	1,034,968	-
Bank Loans	171,816,776	-	171,816,776	-
Government Mortgage-Backed Securities	86,651,626	-	86,651,626	-
Gov't-issued Commercial Mortgage-Backed	5,369,146	-	5,369,146	-
Commercial Mortgage-Backed	5,591,577	-	5,591,577	-
Asset Backed Securities	25,240,353	-	25,240,353	-
Non-Government Backed CMO's	4,703,633	-	4,703,633	-
Index Linked Government Bonds	<u>7,495,321</u>	-	<u>7,495,321</u>	-
<b>Total debt securities</b>	<u>843,451,444</u>	-	<u>843,451,066</u>	<u>378</u>
<b>Short-term investment securities</b>				
Funds-short-term investment	<u>128,644,859</u>	-	<u>128,619,598</u>	<u>25,261</u>
<b>Total short-term investment securities</b>	<u>128,644,859</u>	-	<u>128,619,598</u>	<u>25,261</u>
<b>Total investments measured by fair value level</b>	<u>2,535,074,180</u>	<u>\$1,562,457,130</u>	<u>\$972,262,120</u>	<u>\$354,930</u>
<b>Investments measured at Net Asset Value (NAV)</b>				
Commingled Fixed Income Funds	56,005,075			
Hedge Funds	394,406,436			
Private Equity Partnerships	165,224,281			
Real Estate	<u>408,489,873</u>			
<b>Total investments measured at NAV</b>	<u>1,024,125,665</u>			
<b>Total investments measured at fair value</b>	<u>\$3,559,199,845</u>			
<b>Collateral from securities lending</b>	<u>\$ 121,892,297</u>		<u>\$121,892,297</u>	

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## Note 3 – Deposits and Investments (continued)

The following table summarizes the valuation of MEABF investments by the fair value hierarchy levels as of December 31, 2017.

Investment Measured at Fair Value	December 31, 2017	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3
<b>Equity securities</b>				
Common Stock	\$2,080,744,579	\$2,078,004,194	\$ 2,368,331	\$372,054
Preferred Stock	5,123,254	5,122,364	-	890
Stapled Securities	3,490,379	3,490,379	-	-
Rights/Warrants	27,742	23,053	4,591	98
Funds-Equities ETF	<u>311,820</u>	<u>311,820</u>	<u>-</u>	<u>-</u>
<b>Total equity securities</b>	<u>2,089,697,774</u>	<u>2,086,951,810</u>	<u>2,372,922</u>	<u>373,042</u>
<b>Debt securities</b>				
Government Bonds	133,739,757	-	133,739,757	-
Government Agencies	32,989,630	-	32,989,630	-
Municipal/Provincial Bonds	10,612,972	-	10,612,972	-
Corporate Bonds	407,988,476	-	407,988,098	378
Corporate Convertible Bonds	2,853,008	-	2,853,008	-
Bank Loans	184,424,093	-	184,424,093	-
Government Mortgage-Backed Securities	134,807,368	-	134,807,368	-
Commercial Mortgage-Backed	7,353,587	-	7,353,587	-
Asset Backed Securities	12,936,169	-	12,936,169	-
Non-Government Backed CMO's	7,179	-	7,179	-
Index Linked Government Bonds	<u>2,714,757</u>	<u>-</u>	<u>2,714,757</u>	<u>-</u>
<b>Total debt securities</b>	<u>930,426,996</u>	<u>-</u>	<u>930,426,618</u>	<u>378</u>
<b>Short-term investment securities</b>				
Short-term Bills & Notes	9,538,359	-	9,538,359	-
Funds-short-term investment	<u>159,489,033</u>	<u>-</u>	<u>159,463,772</u>	<u>25,261</u>
<b>Total short-term investment securities</b>	<u>169,027,392</u>	<u>-</u>	<u>169,002,131</u>	<u>25,261</u>
<b>Total investments measured by fair value level</b>	<u>3,189,152,162</u>	<u>\$2,086,951,810</u>	<u>\$1,101,801,671</u>	<u>\$398,681</u>
<b>Investments measured at Net Asset Value (NAV)</b>				
Commingled Fixed Income Funds	56,064,908			
Hedge Funds	418,747,415			
Private Equity Partnerships	200,760,945			
Real Estate	<u>431,421,604</u>			
<b>Total investments measured at NAV</b>	<u>1,106,994,872</u>			
<b>Total investments measured at fair value</b>	<u>\$4,296,147,034</u>			
<b>Collateral from securities lending</b>	<u>\$ 243,632,186</u>		<u>\$ 243,632,186</u>	

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## Note 3 – Deposits and Investments (continued)

Investments measured at NAV for fair value are not subject to level classification. The Plan's investments in certain entities that are measured at the NAV per share (or its equivalent) is presented on the following table.

**Investments Measured at Net Asset Value (NAV)**

	Fair Value December 31, 2018	Unfunded Commitments	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Commingled Fixed Income Funds	\$ 56,005,075	\$ -	Monthly	60 days
Hedge Funds	\$394,406,436	\$ -	Monthly, Quarterly	5, 7 or 90 days
Private Equity Funds	\$165,224,281	\$20,114,957	Not Eligible	N/A
Real Estate Funds	\$408,489,873	\$ -	Quarterly - Open-end, Not Eligible - Closed-end	30 days – Open- end
	Fair Value December 31, 2017	Unfunded Commitments	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Commingled Fixed Income Funds	\$ 56,064,908	\$ -	Quarterly	60 days
Hedge Funds	\$418,747,415	\$ -	Quarterly	90 days
Private Equity Funds	\$200,760,945	\$34,499,632	Not Eligible	N/A
Real Estate Funds	\$431,421,604	\$ 2,192,621	Quarterly - Open-end, Not Eligible - Closed-end	90 days - Open- end

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NOTES TO FINANCIAL STATEMENTS

Note 3 – Deposits and Investments (continued)

**Commingled Fixed Income Funds**

This type of investment consists of fixed income securities diversified in high yield, bank loans, and private debt securities.

**Hedge Funds**

This type of investment consists of long/short equity hedge fund-of-funds.

**Private Equity Funds**

This type of investment includes limited partnerships. Generally, the types of partnership strategies included in these portfolios are venture capital, buyouts, special situations, mezzanine, and distressed debt. Private equity partnerships have an approximate life of 10-15 years and are considered illiquid. Redemptions are restricted over the life of the partnership. During the life of the partnerships, distributions are received as underlying investments are realized. The Plan has no plans to liquidate the total portfolio.

**Real Estate Funds**

This type includes investments in open and closed-end real estate funds. Investments in open-end funds have limited redemption availability as redemption opportunities are based on available liquidity. Closed-end funds do not offer redemptions. Distributions from closed-end funds will be received as the underlying investments are liquidated. The Plan has no plans to liquidate the total portfolio.

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NOTES TO FINANCIAL STATEMENTS

## Note 3 – Deposits and Investments (continued)

*Foreign Currency Risk*

Foreign currency risk is the risk that changes in currency exchange rates will adversely affect the fair value of an investment or a deposit. Forward currency contracts may be used to manage exposure to foreign currencies. The Plan has not adopted a formal policy related to foreign currency risk. The Plan's exposure to foreign currency risk at December 31, 2018 was as follows:

<u>Currency</u>	<u>Equities*</u>	<u>Fixed Income</u>	<u>Short term Investments</u>	<u>Total</u>	<u>Percentage</u>
Australian Dollar	\$ 28,154,272	\$ -	\$ 300,969	\$ 28,455,241	4.1%
Brazilian Real	17,918,912	-	(48,906)	17,870,006	2.6%
British Pound Sterling	96,185,633	-	1,783,605	97,969,238	14.2%
Canadian Dollar	23,878,609	-	306,570	24,185,179	3.5%
Chilean Peso	581,485	-	96,607	678,092	0.1%
Colombian Peso	383,831	-	73,438	457,269	0.1%
Czech Koruna	459,971	-	5,970	465,941	0.1%
Danish Krone	12,661,459	-	536,787	13,198,246	1.9%
Egyptian Pound	37,518	-	8,727	46,245	0.0%
Euro	140,903,108	-	709,979	141,613,087	20.5%
HK offshore Chinese Yuan					
Renminbi	-	-	1,220	1,220	0.0%
Hong Kong Dollar	56,455,571	-	234,026	56,689,597	8.2%
Hungarian Forint	2,202,553	-	8,503	2,211,056	0.3%
Indian Rupee	30,468,514	-	97,067	30,565,581	4.4%
Indonesian Rupiah	5,772,804	-	92,063	5,864,867	0.9%
Japanese Yen	132,816,960	-	974,454	133,791,414	19.4%
Kenyan Shilling	301,025	-	-	301,025	0.1%
Malaysian Ringgit	2,668,410	-	93,095	2,761,505	0.4%
Mexican Peso	4,877,106	-	48,812	4,925,918	0.7%
New Israeli Shekel	4,454,817	-	131,922	4,586,739	0.7%
New Taiwan Dollar	14,080,400	-	235,067	14,315,467	2.1%
New Zealand Dollar	1,635,667	-	60,255	1,695,922	0.2%
Norwegian Krone	6,033,198	-	54,653	6,087,851	0.9%
Philippine Peso	1,720,015	-	39,443	1,759,458	0.3%
Polish Zloty	1,285,961	-	24,682	1,310,643	0.2%
Qatari Rial	406,394	-	9,910	416,304	0.1%
Russian Ruble	1,083,871	-	-	1,083,871	0.2%
Singapore Dollar	5,582,151	-	149,578	5,731,729	0.8%
South African Rand	10,385,927	-	40,562	10,426,489	1.5%
South Korean Won	15,252,038	-	148,241	15,400,279	2.2%
Swedish Krona	19,225,082	-	84,278	19,309,360	2.8%
Swiss Franc	35,204,837	-	970,930	36,175,767	5.2%
Thai Baht	7,831,598	-	(77,916)	7,753,682	1.1%
Turkish Lira	920,711	-	35,116	955,827	0.1%
United Arab Emirates					
Dirham	<u>249,224</u>	<u>-</u>	<u>10,449</u>	<u>259,673</u>	<u>0.1%</u>
Held in Foreign Currency	682,079,632	-	7,240,156	689,319,788	100.0%
Held in U.S Dollars	-	-	-	-	0.0%
Total	<u>\$682,079,632</u>	<u>\$ -</u>	<u>\$7,240,156</u>	<u>\$689,319,788</u>	<u>100.0%</u>

\*Includes Forward contracts, rights and warrants.

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## Note 3 – Deposits and Investments (continued)

For comparative purposes, the Plan's exposure to foreign currency risk at December 31, 2017 was as follows:

<u>Currency</u>	<u>Equities*</u>	<u>Fixed Income</u>	<u>Short term Investments</u>	<u>Total</u>	<u>Percentage</u>
Australian Dollar	\$ 38,845,775	\$ -	\$ 834,010	\$ 39,679,785	4.5%
Brazilian Real	14,297,835	-	200,437	14,498,272	1.6%
British Pound Sterling	128,274,268	-	678,684	128,952,952	14.5%
Canadian Dollar	25,199,605	-	307,639	25,507,244	2.9%
Chilean Peso	696,500	-	94,129	790,629	0.1%
Colombian Peso	159,074	-	74,977	234,051	0.0%
Czech Koruna	73,240	-	46,476	119,716	0.0%
Danish Krone	18,741,856	-	19,658	18,761,514	2.1%
Egyptian Pound	51,931	-	8,796	60,727	0.0%
Euro	185,693,725	-	744,002	186,437,727	21.0%
HK offshore Chinese Yuan Renminbi	-	-	1,287	1,287	0.0%
Hong Kong Dollar	70,691,089	-	147,466	70,838,555	8.0%
Hungarian Forint	1,234,571	-	4,820	1,239,391	0.1%
Indian Rupee	43,170,809	-	112,365	43,283,174	4.9%
Indonesian Rupiah	5,413,943	-	95,540	5,509,483	0.6%
Japanese Yen	183,316,391	-	2,924,460	186,240,851	21.0%
Kenyan Shilling	534,288	-	-	534,288	0.1%
Malaysian Ringgit	1,061,254	-	96,069	1,157,323	0.1%
Mexican Peso	2,718,212	-	19,602	2,737,814	0.3%
New Israeli Shekel	4,151,034	-	60,052	4,211,086	0.5%
New Taiwan Dollar	16,654,559	-	76,112	16,730,671	1.9%
New Zealand Dollar	1,952,989	-	38,056	1,991,045	0.2%
Norwegian Krone	7,470,135	-	60,475	7,530,610	0.8%
Philippine Peso	3,477,490	-	42,716	3,520,206	0.4%
Polish Zloty	1,117,183	-	15,095	1,132,278	0.1%
Qatari Rial	210,437	-	21,302	231,739	0.0%
Russian Ruble	961,927	-	-	961,927	0.1%
Singapore Dollar	6,026,333	-	61,742	6,088,075	0.7%
South African Rand	15,036,887	-	44,999	15,081,886	1.7%
South Korean Won	22,549,874	-	57,900	22,607,774	2.5%
Swedish Krona	21,413,171	-	239,076	21,652,247	2.4%
Swiss Franc	47,737,515	-	250,736	47,988,251	5.4%
Thai Baht	10,029,924	-	(66,788)	9,963,136	1.1%
Turkish Lira	2,351,889	-	31,887	2,383,776	0.3%
United Arab Emirates Dirham	403,695	-	47,464	451,159	0.1%
Held in Foreign Currency	881,719,408	-	7,391,241	889,110,649	100.0%
Held in U.S Dollars	-	-	-	-	0.0%
Total	<u>\$881,719,408</u>	<u>\$ -</u>	<u>\$7,391,241</u>	<u>\$889,110,649</u>	<u>100.0%</u>

\*Includes Forward contracts, rights and warrants.

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## Note 3 – Deposits and Investments (continued)

*Interest Rate Risk*

As of December 31, 2018, the Plan had the following investments and maturities:

<u>Investment Type</u>	<u>Total Fair Value</u>	<u>1 year or Less</u>	<u>1-6 yrs</u>	<u>6-10 Years</u>	<u>10 or more years</u>	<u>Maturity not Determined</u>
Asset backed	\$ 25,240,353	\$ -	\$ 18,080,909	\$ 1,936,126	\$ 5,223,318	\$ -
Bank loans	171,816,776	1,356,942	118,616,342	51,843,492	-	-
Commercial mortgage backed	5,591,577	-	-	1,031,333	4,560,244	-
Corporate bonds	360,767,963	539,766	237,003,175	101,817,691	21,407,331	-
Corporate convertible bonds	1,034,968	-	-	1,034,968	-	-
Government agencies	42,706,668	4,054,422	25,989,984	12,662,262	-	-
Government bonds	112,917,707	5,507,215	35,786,646	43,439,884	28,183,962	-
Government mortgage backed	86,651,626	19,134	1,165,168	5,685,860	79,781,464	-
Government-issued commercial Mortgage-backed	5,369,146	-	5,369,146	-	-	-
Index linked government bonds	7,495,321	-	-	7,495,321	-	-
Municipal / provincial bonds	19,155,706	4,243,329	8,531,074	1,494,366	4,886,937	-
Non-government backed CMO's	4,703,633	-	-	-	4,703,633	-
Other fixed Income	<u>56,005,075</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>56,005,075</u>
<b>Total</b>	<b><u>\$899,456,519</u></b>	<b><u>\$15,720,808</u></b>	<b><u>\$450,542,444</u></b>	<b><u>\$228,441,303</u></b>	<b><u>\$148,746,889</u></b>	<b><u>\$56,005,075</u></b>

As of December 31, 2017, the Plan had the following investments and maturities:

<u>Investment Type</u>	<u>Total Fair Value</u>	<u>1 year or Less</u>	<u>1-6 yrs</u>	<u>6-10 Years</u>	<u>10 or more years</u>	<u>Maturity not Determined</u>
Asset backed	\$ 12,936,169	\$ -	\$ 10,970,369	\$ 1,959,826	\$ 5,974	\$ -
Bank loans	184,424,093	4,299,713	116,246,302	63,878,078	-	-
Commercial mortgage backed	7,353,587	-	-	-	7,353,587	-
Corporate bonds	407,988,476	7,042,037	227,206,085	132,061,862	41,678,492	-
Corporate convertible bonds	2,853,008	-	1,239,491	1,613,517	-	-
Government agencies	32,989,630	-	18,928,329	13,223,994	837,307	-
Government bonds	133,739,757	-	65,077,093	53,333,404	15,329,260	-
Government mortgage backed	134,807,368	18,728	2,090,071	3,365,256	117,827,454	11,505,859
Index linked government bonds	2,714,757	-	-	2,714,757	-	-
Municipal / provincial bonds	10,612,972	645,914	9,395,297	107,587	464,174	-
Non-government backed CMO's	7,179	-	-	-	7,179	-
Other fixed Income	<u>56,064,908</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>56,064,908</u>
<b>Total</b>	<b><u>\$986,491,904</u></b>	<b><u>\$12,006,392</u></b>	<b><u>\$451,153,037</u></b>	<b><u>\$272,258,281</u></b>	<b><u>\$183,503,427</u></b>	<b><u>\$67,570,767</u></b>

**MUNICIPAL EMPLOYEES' ANNUITY & BENEFIT FUND OF CHICAGO**  
(A Component Unit of the City of Chicago)

**NOTES TO FINANCIAL STATEMENTS**  
(Continued)

Note 3 - Deposits and Investments (Continued)

*Credit Risk*

The following table reflects credit ratings of fixed income securities held by the Plan as of December 31, 2018:

<i>S&amp;P Credit Rating</i>	<i>Fair Value</i>	<i>Asset Backed Securities</i>	<i>Bank Loans</i>	<i>Comm'l Mortgage Backed</i>	<i>Corporate Bonds</i>	<i>Corporate Convertible Bonds</i>	<i>Gov't Agencies</i>	<i>Gov't Bonds</i>	<i>Gov't Mortgage Backed</i>	<i>Gov't-issued Comm'l Mortgage- Backed</i>	<i>Linked Gov't Bonds</i>	<i>Municipal/ Provincial Bonds</i>	<i>Non-Gov't Backed CMO's</i>	<i>Other Fixed Income</i>
US Govt	\$ 106,313,009	\$ 639,181	\$ -	\$ -	\$ -	\$ -	\$ 292,883	\$ 92,516,478	\$ -	\$ 5,369,146	\$ 7,495,321	\$ -	\$ -	\$ -
AAA	18,103,560	10,238,241	-	291,786	3,220,926	-	-	-	-	-	-	4,352,607	-	-
AA	71,778,519	2,199,362	-	-	17,155,095	-	39,923,860	-	-	-	-	11,623,272	876,930	-
A	107,395,708	3,757,922	-	591,007	99,651,398	-	-	-	-	-	-	2,420,534	974,847	-
BBB	162,906,003	888,203	23,492,735	-	135,140,914	-	2,489,925	-	-	-	-	-	894,226	-
BB	111,597,772	648,916	50,644,246	-	59,753,845	-	-	-	-	-	-	-	550,765	-
B	89,551,653	-	54,313,293	-	35,238,360	-	-	-	-	-	-	-	-	-
CCC	18,094,770	285,082	13,157,795	-	4,651,893	-	-	-	-	-	-	-	-	-
CC	605,050	-	410,800	-	194,250	-	-	-	-	-	-	-	-	-
D	294,218	-	-	-	-	-	-	-	-	-	-	-	294,218	-
NR	212,816,257	6,583,446	29,797,907	4,708,784	5,761,282	1,034,968	-	20,401,229	86,651,626	-	-	759,293	1,112,647	56,005,075
<b>Total</b>	<b>\$ 899,456,519</b>	<b>\$ 25,240,353</b>	<b>\$ 171,816,776</b>	<b>\$ 5,591,577</b>	<b>\$ 360,767,963</b>	<b>\$ 1,034,968</b>	<b>\$ 42,706,668</b>	<b>\$ 112,917,707</b>	<b>\$ 86,651,626</b>	<b>\$ 5,369,146</b>	<b>\$ 7,495,321</b>	<b>\$ 19,155,706</b>	<b>\$ 4,703,633</b>	<b>\$ 56,005,075</b>

The following table reflects credit ratings of fixed income securities held by the Plan as of December 31, 2017:

<i>S&amp;P Credit Rating</i>	<i>Fair Value</i>	<i>Asset Backed Securities</i>	<i>Bank Loans</i>	<i>Comm'l Mortgage Backed</i>	<i>Corporate Bonds</i>	<i>Corporate Convertible Bonds</i>	<i>Gov't Agencies</i>	<i>Gov't Bonds</i>	<i>Gov't Mortgage Backed</i>	<i>Gov't-issued Comm'l Mortgage- Backed</i>	<i>Linked Gov't Bonds</i>	<i>Municipal/ Provincial Bonds</i>	<i>Non-Gov't Backed CMO's</i>	<i>Other Fixed Income</i>
US Govt	\$ 268,368,700	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 492,129	\$ 131,975,392	\$ 133,186,422	\$ -	\$ 2,714,757	\$ -	\$ -	\$ -
AAA	12,727,803	5,847,731	-	-	2,939,750	-	628,071	-	-	-	-	3,312,251	-	-
AA	52,684,834	350,148	-	-	15,367,408	-	29,998,093	-	-	-	-	6,962,006	7,179	-
A	105,999,248	730,324	-	-	105,086,192	-	-	128,625	-	-	-	54,107	-	-
BBB	157,382,710	2,175,763	23,810,775	-	128,364,166	-	1,812,423	1,023,663	-	-	-	195,920	-	-
BB	129,504,801	-	46,727,704	-	82,777,097	-	-	-	-	-	-	-	-	-
B	114,384,661	-	57,703,115	-	56,148,365	533,181	-	-	-	-	-	-	-	-
CCC	16,522,427	-	6,446,099	-	9,452,962	623,366	-	-	-	-	-	-	-	-
CC	4,091,181	-	3,713,991	-	377,190	-	-	-	-	-	-	-	-	-
D	3,644,130	-	3,644,130	-	-	-	-	-	-	-	-	-	-	-
NR	121,181,409	3,832,203	42,378,279	7,353,587	7,475,346	1,696,461	58,914	612,077	1,620,946	-	-	88,688	-	56,064,908
<b>Total</b>	<b>\$ 986,491,904</b>	<b>\$ 12,936,169</b>	<b>\$ 184,424,093</b>	<b>\$ 7,353,587</b>	<b>\$ 407,988,476</b>	<b>\$ 2,853,008</b>	<b>\$ 32,989,630</b>	<b>\$ 133,739,757</b>	<b>\$ 134,807,368</b>	<b>\$ -</b>	<b>\$ 2,714,757</b>	<b>\$ 10,612,972</b>	<b>\$ 7,179</b>	<b>\$ 56,064,908</b>

US Govt = Guaranteed by US Government

NR = Not Rated

The Plan does not have a formal policy in regard to aggregate credit quality of fixed income holdings. The Plan utilizes external investment management firms to invest in fixed income securities and credit quality is addressed within the guidelines of the mandate. Unless allowed by the mutually agreed upon guidelines of the mandate, all securities invested in are investment grade. If a holding falls below investment grade, the manager will either sell the security or will inform the Plan of the lower rating and why they believe that it is prudent to continue to hold the security as they believe that the security will return to investment grade.

MUNICIPAL EMPLOYEES' ANNUITY & BENEFIT FUND OF CHICAGO

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NOTES TO FINANCIAL STATEMENTS

## Note 4 – Derivatives

The derivative instruments were recorded at fair value as of December 31, 2018 and 2017. Derivative instruments include forward foreign exchange contracts, futures contracts, rights and warrants. Derivative transactions involve, to varying degrees, credit risk and market risk. Credit risk is the possibility that a loss may occur because a party to a transaction fails to perform according to terms. Market risk is the possibility that a change in market prices or currency rates will cause the value of a financial instrument to decrease or become more costly to settle. The Plan's investment managers may invest in derivatives if permitted by the guidelines of their mandate.

*Foreign Currency Forward Contracts*

Foreign currency forward contracts are used by certain investment managers to protect against the currency risk in the Plan's international equity portfolios. A foreign currency forward contract is an agreement to buy or sell a specific amount of a foreign currency at a specified delivery or maturity date for an agreed-upon price. Foreign currency forward contracts are marked-to-market on a daily basis. The gains or losses resulting from changes in contract values are included in investment income in the Statement of Changes in Fiduciary Net Position. The Plan experienced a realized gain (loss) of \$158,430 and \$96,967 on foreign currency forward contracts in 2018 and 2017, respectively. As of December 31, 2018, the Plan's outstanding foreign currency forward contracts were as follows:

	Pending Foreign Exchange Purchases	Pending Foreign Exchange Sales	Unrealized Gain(Loss)	Change in Unrealized Gain(Loss)
Australian Dollar	\$ 15,171	\$ -	\$ (392)	\$ (725)
Brazil Real	63,945	-	(230)	(230)
British Pound Sterling	148,385	-	1,066	753
Canadian Dollar	65,196	-	(1,445)	(3,277)
Euro	169,454	(176,647)	888	(1,898)
Hong Kong Dollar	-	-	(87)	(87)
Japanese Yen	258,324	-	8,519	9,610
South African Rand	540,206	-	4,145	(936)
Swiss Franc	98,940	-	602	4,145
Thai Baht	46,999	-	(245)	(418)
United States Dollar	<u>176,560</u>	<u>(1,393,712)</u>	<u>-</u>	<u>(1,549)</u>
	<u>\$1,583,180</u>	<u>\$(1,570,359)</u>	<u>\$12,821</u>	<u>\$ 5,388</u>

MUNICIPAL EMPLOYEES' ANNUITY & BENEFIT FUND OF CHICAGO

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NOTES TO FINANCIAL STATEMENTS

## Note 4 – Derivatives (continued)

For comparative purposes, as of December 31, 2017 the Plan's outstanding foreign currency forward contracts were as follows:

	Pending Foreign Exchange Purchases	Pending Foreign Exchange Sales	Unrealized Gain(Loss)	Change in Unrealized Gain(Loss)
Australian Dollar	\$ 16,830	\$	\$ 333	\$(1,130)
British Pound Sterling	339,503	(182,077)	313	1,834
Canadian Dollar	71,011	-	1,832	2,011
Euro	390,541	(212,850)	2,786	344
Hong Kong Dollar	-	-	-	-
Indonesian Rupiah	-	-	-	-
Japanese Yen	341,002	(89,946)	(1,091)	(1,100)
New Taiwan Dollar	-	(404,895)	936	913
South Korean Won	-	-	-	44
Swiss Franc	99,929	-	1,020	1,020
Thai Baht	407,577	-	1,304	1,304
United States Dollar	<u>885,832</u>	<u>(1,655,024)</u>	<u>-</u>	<u>-</u>
	<u>\$2,552,225</u>	<u>\$(2,544,792)</u>	<u>\$ 7,433</u>	<u>\$ 5,240</u>

*Futures Contracts*

Certain international investment managers utilize equity futures contracts to replicate underlying securities they wish to gain exposure to in the portfolio. A financial futures contract is an agreement to buy or sell a specific amount of an asset at a specified delivery or maturity date for an agreed-upon price. Futures contracts are traded on organized exchanges, thereby minimizing credit risk. The net change in the futures contract value is settled daily in cash with the exchanges which results in the contract having a fair value of zero at the end of each trading day. The cash or securities to fulfill these obligations are held in the investment portfolio. As the fair value of the futures contract varies from the original contract price, a gain or loss is paid to or received from the clearinghouse and recognized in the Statement of Changes in Fiduciary Net Position. The realized gain (loss) on equity futures contracts as of December 31, 2018 and 2017 was \$(619,174) and \$1,065,262, respectively.

As of December 31, 2018 and 2017, open futures contracts had the following values:

	2018 Notional Value	2017 Notional Value
Total Futures	\$5,326,519	\$5,307,458

MUNICIPAL EMPLOYEES' ANNUITY & BENEFIT FUND OF CHICAGO

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NOTES TO FINANCIAL STATEMENTS

## Note 4 – Derivatives (continued)

*Rights and Warrants*

Rights and warrants provide investment managers the right, but not the obligation, to purchase or sell a company's stock at a fixed price until a specified expiration date. Rights are normally issued with common stock and expire after two to four weeks. Warrants typically are issued together with a bond or preferred stock and may not expire for several years. The fair value of rights and warrants is reported in the investments in the Statement of Fiduciary Net Position. The gain or loss from rights and warrants is included in the investment income in the Statement of Changes in Fiduciary Net Position. As of December 31, 2018, the Plan's investments in rights and warrants were as follows:

	<u>Notional Value</u>	<u>Fair Value</u>	<u>Change in Fair Value</u>
Total Rights and Warrants	\$420,350	\$49,534	\$26,383

For comparative purposes, as of December 31, 2017, The Plan's investments in rights and warrants were as follows:

	<u>Notional Value</u>	<u>Fair Value</u>	<u>Change in Fair Value</u>
Total Rights and Warrants	\$299,209	\$27,742	\$(4,149)

## Note 5 – Securities Lending

Under the provisions of state statutes, the Plan utilizes a securities lending agent to lend securities (both equity and fixed income) to qualified third parties in exchange for collateral that will be returned for the same securities in the future. Citibank NA manages the securities lending program and receives cash, securities or irrevocable letters of credit as collateral. The collateral received cannot be pledged or sold by the Plan unless the borrower defaults. All loans can be terminated on demand by either the Plan or the borrower. At December 31, 2018 the average term of the loans was 92 days (75 days in 2017). Marking to market is performed every business day and the borrower is required to deliver additional collateral when necessary so that the collateral held for all loans to the borrower will at least equal the fair value of all borrowed securities. U.S. security loan agreements are initially collateralized at 102% of the fair value of loaned securities. International securities are initially collateralized at 105% of the fair value of loaned securities. Cash collateral is invested in tri-party repurchase agreements and bank deposits, which at December 31, 2018 had a weighted average maturity of 26 days (34 days in 2017). As of December 31, 2018 and 2017 the Plan had loaned to borrowers securities with a fair value of \$125,768,078 and \$237,867,337, respectively. As of December 31, 2018 and 2017, the Plan received from borrowers' cash collateral of \$121,892,297 and \$243,632,186, respectively. As of December 31, 2018 and 2017, the Plan received non-cash collateral from borrowers of \$7,829,328, and \$635,588 respectively.

Securities lending net income for the years ended December 31, 2018 and 2017 was \$1,093,727 and \$1,480,005, respectively.

MUNICIPAL EMPLOYEES' ANNUITY & BENEFIT FUND OF CHICAGO

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NOTES TO FINANCIAL STATEMENTS

## Note 5 – Securities Lending (continued)

A summary of securities loaned at fair value as of December 31:

	<u>2018</u>	<u>2017</u>
Securities loaned – cash collateral		
<i>Fixed income</i>		
Domestic corporate fixed income	\$ 19,409,613	\$ 58,559,341
US Government agencies	12,046,062	-
US Government bonds	17,490,182	16,469,706
<i>Equity</i>		
Domestic equities	61,266,109	149,663,866
International equities	<u>8,359,929</u>	<u>12,713,653</u>
Total securities loaned – cash collateral	<u>118,571,895</u>	<u>237,406,566</u>
Securities loaned – non-cash collateral		
<i>Equity</i>		
Domestic equities	4,743,825	-
International equities	<u>2,452,358</u>	<u>460,771</u>
Total securities loaned – non-cash collateral	<u>7,196,183</u>	<u>460,771</u>
Total	<u>\$125,768,078</u>	<u>\$237,867,337</u>

## Note 6 – Property and Equipment

Property and equipment are stated at cost. Depreciation has been provided using the straight-line method over periods ranging from 5-8 years. Leasehold improvements are amortized using the straight-line method over the remaining term of the lease. Major outlays for additions and improvements are capitalized if equal to or greater than \$4,000. Maintenance and repairs are charged to expense. A summary of property and equipment at December 31, 2018 and 2017 is as follows:

	<u>2018</u>	<u>2017</u>
Pension benefit system	\$119,499	\$ -
Computers	25,848	39,306
Office equipment	<u>20,683</u>	<u>11,233</u>
	166,030	50,539
Less accumulated depreciation and amortization	<u>15,887</u>	<u>20,039</u>
Net property and equipment	<u>\$150,143</u>	<u>\$30,500</u>

Depreciation and amortization expense was \$9,306 and \$5,809 for 2018 and 2017, respectively.

MUNICIPAL EMPLOYEES' ANNUITY & BENEFIT FUND OF CHICAGO

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NOTES TO FINANCIAL STATEMENTS

## Note 7 – Pension and Other Postemployment Benefit-Related Note Disclosures

**A. Pension Plan Description***General*

Municipal Employees' Annuity and Benefit Fund of Chicago (MEABF, or the Plan) is the administrator of a single employer defined benefit plan that was established in 1921 to provide retirement annuities and disability benefits for covered employees and for survivors and other beneficiaries of such employees. The Plan is administered under Chapter 40, Act 5, Article 8 of the Illinois Compiled Statutes. Benefit and contribution provisions are established by the Statutes and may be amended only by the Illinois state legislature. The Retirement Board, comprised of two ex-officio members (the City Comptroller and the City Treasurer) and three elected members, is authorized to carry out the provisions of Chapter 40, Act 5, Article 8 of the Illinois Compiled Statutes. The Retirement Board appoints the executive director, an actuary, an auditor, consultants and employees necessary for the transaction of business. The Retirement Board meets monthly and receives no compensation, but is reimbursed for necessary expenses. The Plan is included in the City of Chicago's financial reports as a component unit.

*Membership*

Any employee of the City of Chicago or the Board of Education employed under the provisions of the municipal personnel ordinance except for policemen, firemen, teachers, and those classified by the municipal personnel ordinance as labor service or any person employed by the Municipal Employees' Annuity and Benefit Fund of Chicago (Plan) who is not participating in any other pension fund or retirement system is also covered by the Plan. The payroll for employees covered by the Plan for the years ended December 31, 2018 and 2017 were \$1,734,595,691 and \$1,686,532,720, respectively.

Plan membership at December 31 is as follows:

	<u>2018</u>	<u>2017</u>
Active employees (includes members currently receiving disability benefits):		
Vested	14,678	15,320
Non-vested	<u>16,607</u>	<u>15,602</u>
	31,285	30,992
Retirees and beneficiaries currently receiving benefits	25,577	25,382
Retirees not currently receiving benefits	-	1
Terminated employees entitled to benefits but not yet receiving them	2,014	1,933
Terminated employees entitled to a refund of contributions	<u>15,561</u>	<u>15,616</u>
Total	<u>74,437</u>	<u>73,854</u>

MUNICIPAL EMPLOYEES' ANNUITY & BENEFIT FUND OF CHICAGO

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NOTES TO FINANCIAL STATEMENTS

Note 7 – Pension and Other Postemployment Benefit-Related Note Disclosures (continued)

Pension legislation (Public Act 96-0889) was approved during 2010 and established two distinct classes of membership with different retirement eligibility conditions and benefit provisions levels. On July 6, 2017 Illinois Public Act 100-0023 was enacted which added a third class of membership with different retirement eligibility conditions and contribution levels. For convenience, the Plan uses a tier concept to distinguish these groups, generally:

Tier 1 – Participants that became members before January 1, 2011.

Tier 2 – Participants that first became members on or after January 1, 2011.

Tier 3 – Participants that first became members on or after July 6, 2017; or a Tier 2 member who irrevocably elected between October 1 and November 15, 2017 to be subject to Tier 3 eligibility conditions and contribution levels (“Elective Tier 3 Member”).

A member’s classification is determined based upon the date the member becomes a contributing member in a designated reciprocal system/fund codified in the Illinois Pension Code.

*Refunds of Employee Contributions*

If an employee leaves covered employment without qualifying for an annuity, accumulated contributions are refunded with interest at 3% per annum, to the date of termination of services subject to certain exceptions. Certain disability pension credits are not refundable.

*Employee Pension*

Tier 1 employees age 55 or more with at least 10 years of service are entitled to receive a money purchase annuity with partial City contributions if under age 60 with less than 20 years of service. Employees age 60 or more with at least 10 years of service or age 55 or more with at least 20 years of service or age 50 or more with at least 30 years of service are entitled to receive a minimum formula annuity of 2.4% per year of service times the final average salary (highest (average or predominate, whichever is greater) annual salary for any 4 consecutive years within the last 10 years of service immediately preceding the date of retirement). If the employee retires prior to age 60, the annuity shall be reduced by ¼ of 1% for each month the employee is under age 60 if the employee has less than 25 years of service. The annuity is not discounted if the employee is age 50 with at least 30 years of service. An employee with at least 10, 20, or 30 years of service can withdraw and receive a minimum formula annuity at 60, 55, or 50, respectively. The original annuity is limited to 80% of the highest average annual salary, adjusted for annual Internal Revenue Code (IRC) §401(a) (17) and §415 limitations. Employees withdrawing from service at age 60 or older with at least 10 years of service are entitled to a minimum annuity of \$850 per month.

Tier 2 employees age 67 or more with at least 10 years of service are entitled to receive an unreduced annuity benefit or a reduced annuity benefit at age 62 with 10 years of service. The annuity is discounted 1/2 percent for each full month the employee is under age 67. Final average salary is calculated using salary from the eight highest consecutive years within the last 10 years of service prior to retirement.

Tier 3 employees age 65 or more with at least 10 years of service are entitled to receive an unreduced annuity benefit or a reduced annuity benefit at age 60 with 10 years of service. The annuity is discounted 1/2 percent for each full month the employee is under age 65. Final average salary is calculated using salary from the eight highest consecutive years within the last 10 years of service prior to retirement.

MUNICIPAL EMPLOYEES' ANNUITY & BENEFIT FUND OF CHICAGO

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NOTES TO FINANCIAL STATEMENTS

Note 7 – Pension and Other Postemployment Benefit-Related Note Disclosures (continued)

Under Tier 2 and Tier 3 pensionable salary was limited to \$113,645 in 2018 and \$112,408 in 2017, increased each year by the lesser of 3 percent or one-half of the annual unadjusted percentage increase in the Consumer Price Index-U (but not less than zero). These figures are provided to the Plan by the Illinois Department of Insurance.

*Automatic Increase in Employee Annuity*

Tier 1: An employee annuitant under Tier 1 is eligible to receive an increase of 3.0 percent of the currently payable annuity (compound). This increase begins in January of the year of the first payment date following the earlier of:

- 1) the later of the third anniversary of retirement or age 53, or
- 2) the later of the first anniversary of retirement or age 60

Tier 2: An employee annuitant under Tier 2 who is eligible to receive an increase in annuity benefit, shall receive an annual increase equal to the lesser of 3.0 percent or one-half of the annual unadjusted percentage increase in the Consumer Price Index-U (but not less than zero) as measured in the preceding 12 month period ending with the September preceding the increase. The increase is based on the amount of the originally granted benefit (simple). This increase begins in January of the year of the first payment date following the later of:

- 1) the attainment of age 67, or
- 2) the first anniversary of the annuity start date.

Tier 3: An employee annuitant under Tier 3 who is eligible to receive an increase in annuity benefit, shall receive an annual increase equal to the lesser of 3.0 percent or one-half of the annual unadjusted percentage increase in the Consumer Price Index-U (but not less than zero) as measured in the preceding 12 month period ending with the September preceding the increase. The increase is based on the amount of the originally granted benefit (simple). This increase begins in January of the year of the first payment date following the later of:

- 1) the attainment of age 65, or
- 2) the first anniversary of the annuity start date.

*Surviving Spouse Pension*

Tier 1: Upon the death of an employee under Tier 1, the surviving spouse meeting certain eligibility requirements, is entitled to a spouse annuity. There are three basic methods (“money purchase method”, “minimum formula annuity method” and the “minimum annuity method”) used to determine the amount of spouse’s annuity for an ordinary death (not duty-related death). The surviving spouse is entitled to the largest benefit but the annuity cannot exceed an amount equal to 50% of the highest salary earned by the employee.

Under Tier 2 and Tier 3: The annuity payable to the surviving spouse of an employee is equal to 66 2/3% of the participant’s earned retirement annuity at the date of death without a reduction due to age.

MUNICIPAL EMPLOYEES' ANNUITY & BENEFIT FUND OF CHICAGO

(A Component Unit of the City of Chicago)

NOTES TO FINANCIAL STATEMENTS

Note 7 – Pension and Other Postemployment Benefit-Related Note Disclosures (continued)

*Automatic Increase in Spouse Annuity*

Under Tier 2 and Tier 3: The surviving spouse of an employee shall receive an annual increase equal to the lesser of 3.0 percent or one-half of the annual unadjusted percentage increase in the Consumer Price Index-U (but not less than zero) as measured in the preceding 12 month period ending with the September preceding the date of the increase. This increase is based on the amount of the originally granted survivor's benefit (simple). This annual increase begins on January 1 following the commencement of the surviving spouse's annuity if the deceased member died while receiving an annuity benefit or on January 1 following the first anniversary of the commencement of the annuity otherwise.

*Child Annuity*

Under Tier 1, Tier 2 and Tier 3, an annuity is provided for any unmarried child of a deceased employee who is under the age of 18, if the child was conceived or born before withdrawal from service. The employee's death must occur while the employee is in service or in receipt of an annuity. The child's annuity is an amount equal to \$220 a month when there is a surviving spouse and \$250 when there is no surviving spouse, subject to maximum limitations.

*Ordinary Disability*

Under Tier 1, Tier 2 and Tier 3 an employee who becomes disabled as the result of any cause other than an accidental injury incurred while in the performance of an act of duty is entitled to an ordinary disability benefit at the amount equal to 50% of the employee's annual salary at the time of disablement. An employee can receive ordinary disability for a period equal to one fourth of his service credits up to a lifetime maximum of 5 years.

*Duty Disability*

Under Tier 1, Tier 2 and Tier 3, an employee who becomes disabled as the result of an accidental injury incurred while in the performance of an act of duty is entitled to a duty disability benefit in the amount equal to 75% of the employee's annual salary at the time of injury, reduced by any benefits received by the employee under the provisions of the Workers' Compensation Act. This benefit is limited to age 65 or 5 years from the latest injury, whichever is latest.

*Funding Policy*

The funding objective is to meet all expected future obligations to Plan participants through its Plan assets and contributions from employee and employer. Member and employer contribution rates are established by state law and may be amended only by the Illinois State Legislature.

*Member Contributions*

Active members are required to contribute a percentage of their pensionable salary to MEABF. Tier 1 and Tier 2 members contribute 8.5% of their salary (6.5% to provide employee annuity, 1.5% to provide a surviving spouse annuity and .5% to provide post-retirement increases in annuity) in accordance with the statutes. Tier 3 members contribute 11.5% of their pensionable salary (9.5% to provide employee annuity, 1.5% to provide a surviving spouse annuity and .5% to provide post-retirement increases in annuity) in accordance with the statutes.

MUNICIPAL EMPLOYEES' ANNUITY & BENEFIT FUND OF CHICAGO

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NOTES TO FINANCIAL STATEMENTS

## Note 7 – Pension and Other Postemployment Benefit-Related Note Disclosures (continued)

Under Tier 1, Tier 2 and Tier 3 the employer deducts or picks up the employee's contributions before federal income tax is withheld and remits the contributions collected to the Plan. Member contributions earn interest at the rate of 3% per annum and may be refundable. Employees receiving ordinary or duty disability benefits are credited with a percentage of salary for pension purposes just as though the employee were working but these credits are not refundable. Tier 1 and Tier 2 are credited with 8.5% of salary and Tier 3 is credited with 11.5% of salary.

While the amount of pensionable salary upon which member contributions are made under Tier 1 has no limitation, pensionable salary of active employees under Tier 2 and Tier 3 was limited to \$113,645 in 2018 and \$112,408 in 2017, increased each year by the lesser of 3 percent or one-half of the annual unadjusted percentage increase in the Consumer Price Index-U (but not less than zero) as measured in the preceding 12 month period ending with the September preceding the November 1, which is the date the new amount will be calculated and made available to the pension funds.

*Employer Contributions*

The City of Chicago is required by state statutes to contribute the remaining amounts necessary to finance the requirements of MEABF. Effective July 6, 2017 legislation (Public Act 100-0023) which included a new funding structure to increase employer contributions was put into law. The new structure provides for fixed dollar contributions for payment years 2018 through 2022. For payment years 2023 to 2058 the employer's required annual contribution shall be equal to the sum of the employer's portion of the projected normal cost for that fiscal year, plus an amount determined on a level percentage of employee payroll that is sufficient to bring the total actuarial assets of the Plan up to 90% of the total actuarial liabilities of the Plan by the end of 2058.

The actuarial determined contribution (ADC) is determined by using the entry age normal actuarial funding method. MEABF uses the level dollar open method to amortize the unfunded liability over a thirty year period. The actuarial valuation of the Plan shows that an actuarially determined contribution needed to adequately finance MEABF is \$1,049,915,647 and \$1,005,456,621 for fiscal years 2018 and 2017, respectively. The statutory employer contributions have been less than the actuarially determined contributions for the past sixteen years. Contribution rates may be increased only by an amendment by the State Legislature to the Illinois Pension Code.

*Net Pension Liability of Participating Employer*

The components of the net pension liability as of December 31, 2018 and 2017, were as follows:

	2018	2017
Total pension liability	\$16,808,614,316	\$16,282,396,195
Plan fiduciary net position	3,914,180,476	4,554,018,287
Employer's net pension liability	12,894,433,840	11,728,377,908
Plan fiduciary net position as a percentage of total pension liability	23.29%	27.97%

MUNICIPAL EMPLOYEES' ANNUITY & BENEFIT FUND OF CHICAGO

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NOTES TO FINANCIAL STATEMENTS

## Note 7 – Pension and Other Postemployment Benefit-Related Note Disclosures (continued)

*Actuarial Assumptions*

The total pension liability was determined by an actuarial valuation as of December 31, 2018 and 2017, using actuarial assumptions applied to all periods included in the measurement.

	2018	2017
Inflation	2.50%	2.50%
Salary increase	3.50% to - 7.75% (1.50% to 6.50% for 2019-2022), varying by years of service	3.50% to - 7.75% (1.50% to 6.50% for 2018-2022), varying by years of service
Investment rate of return	7.00%, net of investment expense	7.00%, net of investment expense
Municipal bond rate	4.10% based on the Bond Buyer 20-Bond Index of general obligation municipal bonds as of December 31, 2018	3.44% based on the Bond Buyer 20-Bond Index of general obligation municipal bonds as of December 31, 2017
Cost of living adjustments	Tier 1: 3.0% compound  Tier 2 &3: the lesser of 3.0% or one-half the change in CPI, simple	Tier 1: 3.0% compound  Tier 2 &3: the lesser of 3.0% or one-half the change in CPI, simple

Post-retirement mortality rates for December 31, 2018 and 2017 were based on the RP-2014 Healthy Annuitant Mortality Table, set forward two years for males and one year for females, and projected generationally using scale MP-2017. Pre-retirement mortality rates were based on 120% of the RP-2014 Employee Mortality Tables projected generationally using scale MP-2016.

The actuarial assumptions used in the December 31, 2018 and 2017, valuation were based on the results of actuarial experience study for the period January 1, 2012 through December 31, 2016.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of December 31, 2018 and 2017 are summarized in the following table:

MUNICIPAL EMPLOYEES' ANNUITY & BENEFIT FUND OF CHICAGO

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NOTES TO FINANCIAL STATEMENTS

## Note 7 – Pension and Other Postemployment Benefit-Related Note Disclosures (continued)

	2018		2017	
	Target allocation	Long-term expected real rate of return	Target allocation	Long-term expected real rate of return
Fixed income	25%	0.8%	27%	1.0%
Domestic equity	26%	5.1%	26%	5.6%
International equity	22%	5.3%	22%	5.7%
Hedge Funds	10%	3.4%	10%	3.6%
Private equity	5%	8.3%	5%	9.4%
Real Estate	10%	4.7%	10%	5.4%
Infrastructure	2%	5.0%	0%	0.0%

*Discount rate*

The discount rate used to measure the total pension liability was 7.0% for December 31, 2018 and 2017. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made according to the contribution rate applicable for each member's tier and that employer contributions will be made as specified by Public Act 100-0023. For this purpose, only employer contributions that are intended to fund benefits of current plan members and their beneficiaries are included. Projected employer contributions and contributions from future plan members that are intended to fund the service cost of future plan members and their beneficiaries are not included. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine total pension liability.

*Sensitivity of the net pension liability to changes in the discount rate*

The following presents the net pension liability as of December 31, 2018, calculated using the discount rate of 7.0%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.0%) or 1 percentage point higher (8.0%) than the current rate:

	1% Decrease (6.0%)	Current Discount Rate (7.0%)	1% Increase (8.0%)
Net pension liability December 31, 2018	\$15,018,711,709	\$12,894,433,840	\$11,132,767,680

For comparative purposes, the net pension liability as of December 31, 2017, calculated using the discount rate of 7.0%, as well as what the net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.0%) or 1 percentage point higher (8.0%) than the current rate:

	1% Decrease (6.0%)	Current Discount Rate (7.0%)	1% Increase (8.0%)
Net pension liability December 31, 2017	\$13,807,800,455	\$11,728,377,908	\$10,006,089,666

MUNICIPAL EMPLOYEES' ANNUITY & BENEFIT FUND OF CHICAGO

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NOTES TO FINANCIAL STATEMENTS

Note 7 – Pension and Other Postemployment Benefit-Related Note Disclosures (continued)

**B. Post-employment Healthcare Benefits – MEABF as Employer**

The December 31, 2016 actuarial studies used in the preparation of the financial statements were prepared under the assumption that MEABF would continue to offer subsidized health insurance coverage. During 2016, the Board of Trustees voted to discontinue the health subsidy effective January 1, 2017. Consequently, the OPEB liability should have been eliminated at December 31, 2016 and revisions made to the actuarial studies. Since the amount of the OPEB liability was not material to the financial statements, MEABF elected not to revise the actuarial studies or eliminate the liability at December 31, 2016. The net OPEB obligation was eliminated in 2017.

*Annual OPEB Cost and Net OPEB Obligation – MEABF Staff Retiree Healthcare*

The components of MEABF's annual OPEB cost for the staff retiree healthcare benefits are shown in the following table:

	<u>2018</u>	<u>2017</u>
<b>Annual OPEB Cost</b>		
Annual Required Contribution (ARC)	\$ -	\$ -
Interest on Net OPEB Obligation	-	242,711
Adjustment to ARC	-	<u>(5,636,292)</u>
Annual OPEB Cost	-	(5,393,581)
Employer Contributions	<u>-</u>	<u>-</u>
Increase (Decrease) in NOO	-	(5,393,581)
<b>Net OPEB Obligations (NOO)</b>		
Net OPEB Obligation at Beginning of Year	-	5,393,581
Increase (Decrease) in NOO	-	(5,393,581)
Net OPEB Obligation at End of Year	\$ -	\$ -

The elimination of the liability in 2017 is shown as “other additions – OPEB termination” on the Statement of Changes in Fiduciary Net Position.

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NOTES TO FINANCIAL STATEMENTS

## Note 8 – Net Position Held in Trust for Pension Benefits

Reserves represent the components of the Plan's net position. Reserves are established from member and employer contributions and the accumulation of investment income after satisfying investment and administrative expenses. At least once a year, before any transfer is made from these reserves, interest at 3% is credited to these reserves. The reserves do not represent the present value of assets needed, as determined by actuarial valuation, to satisfy retirement and other benefits as they become due. The Plan's major classes of reserves are as follows:

	<u>2018</u>	<u>2017</u>
City contribution Reserves	\$ 1,898,758,145	\$ 1,863,594,045
Salary Deduction Reserves	1,902,295,714	1,864,062,283
Prior Services Reserves	10,579,110,749	10,235,538,278
Annuity Payment Reserves	2,427,183,939	2,318,069,717
Optional Reserve Account	<u>1,265,769</u>	<u>1,131,872</u>
	16,808,614,316	16,282,396,195
Unreserved Net Deficit	<u>(12,894,433,840)</u>	<u>(11,728,377,908)</u>
	<u>\$ 3,914,180,476</u>	<u>\$ 4,554,018,287</u>

*City Contribution Reserves*

Amounts contributed by the City for age and service annuity, surviving spouse annuity and supplemental annuity shall be credited to this reserve. When the employee annuity or surviving spouse annuity is granted the amount in this reserve for such annuity will be transferred to the annuity payment fund reserves.

*Salary Deduction Reserves*

Amounts contributed by the employee or amounts credited for the employee for age and service annuity and surviving spouse annuity shall be credited to this reserve. When the employee annuity or surviving spouse annuity is granted the amount in this reserve for such annuity will be transferred to the annuity payment fund reserves.

*Annuity Payment Reserves*

Amounts transferred from the City contribution reserves and the salary deduction reserves for annuities which have been granted will be credited to this reserve.

*Prior Service Reserves*

Amounts contributed by the City for minimum annuities shall be credited to this reserve.

*Optional Reserves*

Amounts contributed by the aldermen for the alternative plan.

MUNICIPAL EMPLOYEES' ANNUITY & BENEFIT FUND OF CHICAGO

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NOTES TO FINANCIAL STATEMENTS

## Note 9 – Operating Leases

*Office Lease*

MEABF moved to a new office location on March 1, 2011 under a fifteen-year, non-cancelable lease agreement with Hines REIT 321 North Clark Street LLC. The lease currently requires monthly payments of \$57,751. The Plan received rent abatements for the initial six full months of the term of the lease, and the initial three calendar months of the third, the fourth, the fifth and sixth lease year and the initial two calendar months of the seventh lease year. Monthly lease payments are subject to an escalation clause for increases in real estate taxes and maintenance expenses.

Following is a summary of estimated future lease payments under the Plan's operating lease as of December 31, 2018:

Year Ending December 31,	Amount
2019	\$ 719,468
2020	701,676
2021	720,639
2022	739,926
2023	759,546
2024-February 2026	<u>1,713,206</u>
Total	<u>\$5,354,461</u>

Total rent expense was \$634,395 and \$601,406 for 2018 and 2017, respectively.

## Note 10 – Risk Management

MEABF carries liability insurance coverage provided by private insurance carriers. In order to limit the risk of asset loss from theft, fraud, robbery or burglary, the Plan carries a government crime policy. The Plan carries fiduciary liability insurance that limits the risk of loss arising from court challenges to fiduciary decisions. The Plan also carries cyber liability insurance that limits the risk of defense costs and settlements as a result of failure to protect or the wrongful release of confidential information of participants, beneficiaries and employees of the Plan.

## Note 11 – Commitments and Contingencies

*Investment Commitments*

As of December 31, 2018 approximately \$20.1 million of capital committed to investments in private equity were undrawn. As of December 31, 2017 approximately \$36.7 million of capital committed to investments in real estate and private equity funds were undrawn. The Plan believes that the capital may take up to three years to be fully requested.

MUNICIPAL EMPLOYEES' ANNUITY & BENEFIT FUND OF CHICAGO

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NOTES TO FINANCIAL STATEMENTS

## Note 11 – Commitments and Contingencies (continued)

*Litigation*

The Plan is subject to claims arising in the ordinary course of its operations. Although the outcome of these lawsuits are not presently determinable, in the opinion of the Plan's management and legal counsel, the resolution of these matters will not have a material adverse effect on the Plan's financial statements.

In July 2013, a group of plaintiffs purporting to represent retirees in four Chicago public pension funds filed a civil action, *Underwood v. City of Chicago et. al.* (13- CH-17450; 1-17-162356), seeking class certification and an order requiring the City and the defendant pension funds to continue subsidizing retiree healthcare insurance premiums past the June 30, 2013, statutory expiration date. Following litigation filed in both the federal and state courts, the Illinois Appellate Court, on June 29, 2017, issued an order which in part affirmed the Circuit Court's dismissal order and held that the subsidies under the 1983 and 1985 amendments are protected benefits under the pension protection clause of the Illinois Constitution. As such, under the Appellate Court Mandate those employee-retirees that joined the defendant pension funds prior to April 4, 2003 are entitled to continue to receive the 1983 provided subsidies (as it relates to the police and fire funds) of \$55 per month if non-Medicare-eligible and \$21 per month if Medicare-eligible subsidies or \$25 (as it relates to the municipal and laborer funds) if the employee-annuitant is 65 years or older with at least 25 years of service. The Appellate Court remanded the case back to the Circuit Court for the purpose of allowing the presiding judge to determine the mechanics of the payments. Thereafter, the Circuit Court issued several orders which in substance: (i) further defined the group of employee annuitants entitled to the statutory subsidies and (ii) reaffirmed prior rulings that the funds have no obligation to contract for insurance. The Circuit Court confirmed that under the 1983 and 1985 amendments, employee-retirees that are otherwise eligible to receive the subsidies must participate in a group retiree healthcare plan and facilitate the payment of the retiree's healthcare premium through a deduction of his or her monthly annuity check. The *Underwood* plaintiffs have again filed appeal in the Appellate Court in which they continue to assert a position concerning the funds' obligation to contract for insurance, in which the funds continue to defend that assertion citing to both the Appellate Court's decision and legislative enactments following the 1983 and 1985 legislation, as well as challenging certain rulings made by the Circuit Court in regard to those employee annuitants entitled to the statutory subsidies. The outcome is uncertain and this matter and related obligations are not reflected in the financial statements.

## Note 12 – Deferred Compensation Plan

The Fund is a governmental eligible employer within the meaning of Code Section 457(e)(1)(A) and has established a deferred compensation plan (457(b)) for eligible employees. Individual contributions to the plan are equal to the amount of salary reductions elected by each participant for the year up to a maximum allowable by Internal Revenue Service regulations. Total employee contributions were \$274,557 and \$242,901 for 2018 and 2017, respectively. Employer contributions are not allowed.

**REQUIRED SUPPLEMENTARY INFORMATION**  
(UNAUDITED)

**SCHEDULE OF CHANGES IN EMPLOYER'S NET PENSION LIABILITY**

	2018	2017	2016	2015	2014
<b>Total pension liability</b>					
Service cost	\$ 223,528,365	\$ 572,533,631	\$ 619,743,849	\$ 226,816,035	\$ 247,243,416
Interest	1,123,347,772	915,710,984	878,369,406	909,066,895	1,025,763,903
Change of benefit terms	-	-	-	2,140,009,339	(1,990,706,362)
Differences between expected and actual experience	95,540,469	(177,754,999)	(127,119,398)	(109,835,037)	(5,504,116)
Changes of assumptions	-	(7,431,191,282)	(578,920,424)	8,711,754,654	-
Benefit payments, including refunds of employee contributions	(916,198,485)	(888,173,535)	(859,671,662)	(826,036,323)	(798,622,811)
<b>Net change in total pension liability</b>	<u>\$ 526,218,121</u>	<u>\$ (7,008,875,201)</u>	<u>\$ (67,598,229)</u>	<u>\$11,051,775,563</u>	<u>\$ (1,521,825,970)</u>
<b>Total pension liability – beginning</b>	<u>16,282,396,195</u>	<u>23,291,271,396</u>	<u>23,358,869,625</u>	<u>12,307,094,062</u>	<u>13,828,920,032</u>
<b>Total pension liability – ending (a)</b>	<u>\$16,808,614,316</u>	<u>\$16,282,396,195</u>	<u>\$23,291,271,396</u>	<u>\$23,358,869,625</u>	<u>\$12,307,094,062</u>
<b>Plan fiduciary net position</b>					
Contributions – employer	\$ 349,574,257	\$ 261,763,635	\$ 149,718,491	\$ 149,225,191	\$ 149,746,748
Contributions - employee	138,399,727	134,764,920	130,390,848	131,428,103	129,971,981
Net investment income (loss)	(204,974,702)	610,515,096	281,419,146	114,025,290	283,281,925
Benefit payments, including refunds of employee contributions	(916,198,485)	(888,173,535)	(859,671,662)	(826,036,323)	(798,622,811)
Administrative expenses	(6,638,608)	(6,473,006)	(7,056,784)	(6,701,000)	(6,567,842)
Other – OPEB termination	-	5,393,581	-	-	-
<b>Net change in plan fiduciary net position</b>	<u>\$ (639,837,811)</u>	<u>\$ 117,790,691</u>	<u>\$ (305,199,961)</u>	<u>\$ (438,058,739)</u>	<u>\$ (242,189,999)</u>
<b>Plan fiduciary net position - beginning</b>	<u>4,554,018,287</u>	<u>4,436,227,596</u>	<u>4,741,427,557</u>	<u>5,179,486,296</u>	<u>5,421,676,295</u>
<b>Plan fiduciary net position – ending (b)</b>	<u>3,914,180,476</u>	<u>4,554,018,287</u>	<u>4,436,227,596</u>	<u>4,741,427,557</u>	<u>5,179,486,296</u>
<b>Employer's net pension liability ending (a)-(b)</b>	<u>\$12,894,433,840</u>	<u>\$11,728,377,908</u>	<u>\$18,855,043,800</u>	<u>\$18,617,442,068</u>	<u>\$ 7,127,607,766</u>

*This is a 10 year schedule however, the information is not required to be presented retroactively. Information will be added to this schedule until 10 years of information is available.*

**SCHEDULE OF EMPLOYER'S NET PENSION LIABILITY**

	2018	2017	2016	2015	2014
Total pension liability	\$16,808,614,316	\$16,282,396,195	\$23,291,271,396	\$23,358,869,625	\$12,307,094,062
Plan fiduciary net position	3,914,180,476	4,554,018,287	4,436,227,596	4,741,427,557	5,179,486,296
Employer's net pension liability	12,894,433,840	11,728,377,908	18,855,043,800	18,617,442,068	7,127,607,766
Plan fiduciary net position as a percentage of total pension liability	23.29%	27.97%	19.05%	20.30%	42.09%
Covered-employee payroll	\$ 1,734,595,691	\$ 1,686,532,720	\$ 1,646,939,238	\$ 1,643,480,973	\$ 1,602,977,593
Employer's net pension liability as a percentage of covered-employee payroll	743.37%	695.41%	1,144.85%	1,132.81%	444.65%

*This is a 10 year schedule however, the information is not required to be presented retroactively. Information will be added to this schedule until 10 years of information is available.*

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Year Ended December 31,	Actuarially Determined Contributions	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency	Covered Employee Payroll	Contributions as a percentage of Covered Employee Payroll
2018	\$1,049,915,647	\$349,574,257	\$700,341,390	\$1,734,595,691	20.2%
2017	\$1,005,456,621	\$261,763,635	\$743,692,986	\$1,686,532,720	15.5%
2016	\$ 961,769,955	\$149,718,491	\$812,051,464	\$1,646,939,238	9.1%
2015	\$ 677,200,246	\$149,225,191	\$527,975,055	\$1,643,480,973	9.1%
2014	\$ 839,038,303	\$149,746,748	\$689,291,555	\$1,602,977,593	9.3%
2013	\$ 820,022,689	\$148,196,884	\$671,825,505	\$1,580,288,709	9.4%
2012	\$ 690,822,553	\$148,858,655	\$541,963,898	\$1,590,793,702	9.4%
2011	\$ 611,755,567	\$147,009,321	\$464,746,246	\$1,605,993,339	9.2%
2010	\$ 483,948,339	\$154,752,320	\$329,196,019	\$1,541,388,065	10.0%
2009	\$ 413,508,622	\$148,046,490	\$265,462,132	\$1,551,973,348	9.5%

*Prior to 2014, the Actuarially Determined Contribution is the same as the Annual Required Contribution as determined under GASB 25*

SCHEDULE OF INVESTMENT RETURNS

Year ended December 31	Annual Money-Weighted Rate of Return, net of investment expense
2018	(5.2%)
2017	14.9%
2016	6.1%
2015	2.1%
2014	4.8%

*This is a 10 year schedule however, the information is not required to be presented retroactively. Information will be added to this schedule until 10 years of information is available.*

NOTES TO REQUIRED SUPPLEMENTARY INFORMATION

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.

Valuation date	December 31, 2018
Actuarial cost method	Entry-Age Normal
Amortization method	30 years open, level dollar amortization
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return	7.00%, net of investment expense
Projected salary increases	3.5% to 7.75% (1.5% to 6.5% for 2019-2022), varying by years of service
Inflation rate	2.50%
Cost of living adjustments	Tier 1: 3% compound Tier 2 & 3: The lesser of 3% or one-half of the change in CPI simple

OTHER SUPPLEMENTARY INFORMATIONSCHEDULE OF ADMINISTRATIVE EXPENSES  
YEARS ENDED DECEMBER 31, 2018 AND 2017

	<u>2018</u>	<u>2017</u>
Personnel		
Administrative salaries	\$ 3,238,970	\$ 3,219,243
Payroll taxes	46,528	44,027
Employee benefits	1,293,849	1,267,710
	<u>4,579,347</u>	<u>4,530,980</u>
Professional Services		
Actuarial valuation	82,728	84,090
Legal services	218,156	226,777
Medical	68,820	54,370
Audit	40,000	39,000
Legislative liaison services	18,480	18,248
Payroll services	419,266	422,785
IT consulting	19,175	21,797
Other consulting	46,690	6,620
	<u>913,315</u>	<u>873,687</u>
Communication		
Printing & publications	25,333	12,890
Postage	110,645	63,910
Telephone and communications	33,473	31,993
	<u>169,451</u>	<u>108,793</u>
Occupancy and utilities		
Office rent	634,395	601,406
Utilities	10,339	9,961
Office maintenance	386	1,318
	<u>645,120</u>	<u>612,685</u>
Other operating expense		
Fiduciary and insurance	226,097	224,461
Office supplies and equipment	34,301	47,156
Depreciation	9,306	5,809
Equipment rental and maintenance	9,369	10,064
Training and travel	10,032	10,889
Contractual services	23,043	22,500
Dues and subscriptions	16,250	15,664
Miscellaneous	2,977	10,318
	<u>331,375</u>	<u>346,861</u>
Total Administrative expense	<u>\$ 6,638,608</u>	<u>\$ 6,473,006</u>

SCHEDULE OF INVESTMENT MANAGEMENT COMPENSATION  
YEARS ENDED DECEMBER 31, 2018 AND 2017

	2018	2017
Fixed Income Managers		
Crescent Capital Management	\$ 390,638	\$ -
Garcia Hamilton	44,106	-
LM Capital Group	297,949	316,304
MacKay Shields	599,282	709,406
Neuberger Berman	31,207	51,824
NIS	41,785	-
Segall Bryant & Hamill	223,810	195,007
Symphony Asset Management	767,014	794,086
UBS Global Asset Management	43,844	67,871
Total Fixed Income	<u>2,439,635</u>	<u>2,134,498</u>
Domestic Equity Managers		
Ariel Investments	471,862	498,510
Geneva Capital Management	-	269,772
Great Lakes Advisors	292,742	388,006
Holland Capital Management	-	40,058
Kayne Anderson	190,252	-
Keeley Asset Management	179,248	551,833
Nuveen	179,655	-
Rhumblin Advisers	98,120	86,136
Total Domestic Equity	<u>1,411,879</u>	<u>1,834,315</u>
International Equity Managers		
Cornerstone Capital Management	452,385	553,952
LSV Asset Management	645,614	708,879
Nothorn Trust Company	129,358	168,786
Segall Bryant & Hamill	594,610	385,462
Walter Scott & Partners	681,756	833,103
William Blair	1,054,111	1,176,594
Total International Equity	<u>3,557,834</u>	<u>3,826,776</u>
Global Equity		
Attucks Asset Management	214,646	-
FIS Group	685,134	957,400
	<u>899,780</u>	<u>957,400</u>
Hedged Equity		
K2 Advisors	692,350	1,111,144
The Rock Creek Group	1,528,188	1,842,785
Parametric Defensive Equity	182,328	74,113
Neuberger Berman US PutWrite	151,909	50,973
Total Hedged Equity	<u>2,554,775</u>	<u>3,079,015</u>

SCHEDULE OF INVESTMENT MANAGEMENT COMPENSATION  
YEARS ENDED DECEMBER 31, 2018 AND 2017  
(Continued)

	<u>2018</u>	<u>2017</u>
Real Estate Managers		
AFL-CIO Building Trust	1,122,569	1,028,049
American Realty	804,366	672,100
DV Urban	6,294	26,224
J P Morgan	1,230,510	1,132,961
Mesirow Real Estate	508,611	561,803
Tishman Speyer	33,025	55,232
UBS Realty Advisors	20,618	33,920
Walton Street Partners	26,048	61,002
Total Real Estate	<u>3,752,041</u>	<u>3,571,291</u>
Private Equity Managers		
Adams Street Partners	331,348	391,447
Carpenter Bancorp Fund	25,935	78,793
GoldPoint Partners	129,065	137,324
Hispania Partners	52,945	66,979
Hopewell Ventures	28,140	38,317
Levine Leichtman	237,616	388,766
MK Capital	44,352	57,970
Mesirow Financial	205,935	300,605
Midwest Mezzanine Fund	106,690	205,769
Morgan Stanley Secondary	-	58,007
Muller & Monroe	60,000	79,239
Nogales Investors	-	8,792
Prudential Capital Partners	-	335,353
RCP Advisors	-	20,763
Stepstone	66,636	80,158
TRG Management	33,400	43,018
Total Private Equity	<u>1,322,062</u>	<u>2,291,300</u>
Total Investment Management Fees	<u>15,938,006</u>	<u>17,694,595</u>
Other Investment Expenses		
Investment Consultant	290,000	290,000
Master Custodian	1,079,325	1,338,045
Investment Legal Services	59	18,362
Total Other Investment Expenses	<u>1,369,384</u>	<u>1,646,407</u>
Total Investment Expenses	<u>\$ 17,307,390</u>	<u>\$ 19,341,002</u>

SCHEDULE OF PROFESSIONAL AND CONSULTING COSTS  
YEARS ENDED DECEMBER 31, 2018 AND 2017

	<u>2018</u>	<u>2017</u>
Legal Advisors	\$ 218,156	\$ 226,777
Medical Advisors	68,820	54,370
Consulting Actuary	82,728	84,090
Other Consulting	84,345	46,665
Auditor	40,000	39,000
Payroll Services	<u>419,266</u>	<u>422,785</u>
Total	<u><u>\$ 913,315</u></u>	<u><u>\$ 873,687</u></u>