

**Laborers' and Retirement Board Employees'  
Annuity and Benefit Fund of Chicago  
Minutes of Regular Board Meeting No. 985**

**May 23, 2017**

***Suite 1300 • 321 N Clark Street • Chicago Illinois 60654-4739  
(312) 236-2065 • Fax (312) 236-0574***

**LABORERS' & RETIREMENT BOARD EMPLOYEES'  
ANNUITY & BENEFIT FUND OF CHICAGO**

**May 23, 2017**

Report of Meeting No. 985 held on May 23, 2017, starting at 1:03 p.m. at the office of the Laborers' and Retirement Board Employees' Annuity and Benefit Fund of Chicago ("Fund" or "LABF"). The following notes attendance:

Board Members:	Victor Roa	– President (Union Appointed Member)
	Erin Keane	– Vice President (City Comptroller, City of Chicago)
	Michael LoVerde	– Secretary (Active Employee Elected Member)
	Carol Hamburger	– Trustee (Managing Deputy Comptroller, City of Chicago)
	Kurt Summers, Jr.	– Trustee (City Treasurer, City of Chicago) <i>entered at 1:49pm</i>
	James Capasso, Jr.	– Trustee (Annuitant Elected Member)
	James Joiner	– Trustee (Active Employee Elected Member)
Staff & Consultants:	Graham Grady	– Taft Stettinius & Hollister LLP, Fund's Counsel
	Cary Donham	– Taft Stettinius & Hollister LLP, Fund's Counsel
	Dr. Terence Sullivan	– Fund's Physician
	James Wesner	– Marquette Associates, Investment Consultant
	Kweku Obed	– Marquette Associates, Investment Consultant
	Neil Capps	– Marquette Associates, Client Analyst
	Alex Rivera	– Gabriel, Roeder, Smith & Company, Actuary
	Ryan Gundersen	– Gabriel, Roeder, Smith & Company, Actuary
	Michael Walsh	– Executive Director and Chief Investment Officer
	Peggy Grabowski	– Comptroller
	John Carroll	– Compliance Administrator
	Sheila Jones	– Administrative Coordinator
	Nadia Oumata	– Manager of Accounting and Investments
	Nicole Evangelista	– Payment Services Coordinator
	Irene Velazquez	– Payment Services Assistant
Absent:	Carole Brown	– Trustee (Chief Financial Officer, City of Chicago)
Observers:	None	

President Roa determined that a quorum was present after Trustee LoVerde took attendance.



***Laborers' and Retirement Board Employees'  
Annuity and Benefit Fund of Chicago***

Board Members:

I am transmitting herewith the minutes for the meeting of the Retirement Board which was held on **May 23, 2017**. The minutes are comprised of the following:

- Public Participation
- Approval of Minutes From Prior Meetings
- Schedule A: Applications for Refunds
  - 1. Refund of Contributions Due to Separation from Service
- Schedule B: Applications for Annuities
  - 1. Employee Annuities
  - 2. Spouse and Child Annuities
- Schedule C: Adjustment Refunds to New Annuitants
- Schedule D: Applications for Duty Disability Benefits
- Schedule E: Applications for Ordinary Disability Benefits
- Schedule F: Applications for Extension of Duty Disability Benefits
- Schedule G: Applications for Extension of Ordinary Disability Benefits
- Schedule H: Payment of Uncashed Checks of Deceased Members
- Schedule I: Payment of Administrative Expenses
- Gabriel, Roeder, Smith & Company Presentation
- Investments Report
- Administrative Report
- Executive Session No. 1
- Administrative Report
- Legal Report
- Adjournment

All the foregoing matters were checked upon receipt into the office of the Retirement Board and were found to be hereinafter set forth.

Sincerely,

Michael R. LoVerde  
Retirement Board Secretary

**LABORERS' & RETIREMENT BOARD EMPLOYEES'  
ANNUITY & BENEFIT FUND OF CHICAGO**

**May 23, 2017**

**PUBLIC PARTICIPATION**

None

**APPROVAL OF MINUTES FROM PREVIOUS MEETINGS**

It was moved by Trustee LoVerde, seconded by Trustee Capasso, that the regular minutes of Meeting No. 984 held on April 18, 2017 be approved as submitted.

Roll-call: For-- Trustees Roa, Keane, LoVerde, Hamburger and Capasso.  
Against -- None.  
Abstain -- Trustee Joiner

It was moved by Trustee LoVerde, seconded by Trustee Hamburger, that the minutes of executive sessions 1 and 2 of Meeting No. 984 held on April 18, 2017 be approved as submitted.

Roll-call: For-- Trustees Roa, Keane, LoVerde, Hamburger and Capasso.  
Against -- None.  
Abstain --Trustee Joiner

**SCHEDULE A – APPLICATIONS FOR REFUNDS**

1. Refund of Contributions Due to Separation from Service

It was moved by Trustee Capasso, seconded by Trustee Hamburger, that Refunds of Contributions Due to Separation from Service be approved and ordered paid.

Roll-call: For-- Trustees Roa, Keane, LoVerde, Hamburger, Capasso and Joiner.  
Against -- None.

**SCHEDULE B – APPLICATIONS FOR ANNUITIES**

1. Employee Annuities

It was moved by Trustee LoVerde, seconded by Trustee Joiner, that applications presented for Employee Annuities be approved and ordered paid.

Roll-call: For-- Trustees Roa, Keane, LoVerde, Hamburger, Capasso and Joiner.  
Against -- None.

2. Spouse and Child Annuities

It was moved by Trustee LoVerde, seconded by Trustee Capasso, that applications presented for Spouse and Child Annuities be approved and ordered paid.

Roll-call: For-- Trustees Roa, Keane, LoVerde, Hamburger, Capasso and Joiner.  
Against -- None.

**SCHEDULE C – ADJUSTMENT REFUNDS TO NEW ANNUITANTS**

It was moved by Trustee LoVerde, seconded by Trustee Joiner, that Adjustment Refunds to New Annuitants be approved and ordered paid.

Roll-call: For-- Trustees Roa, Keane, LoVerde, Hamburger, Capasso and Joiner.  
Against -- None.

**LABORERS' & RETIREMENT BOARD EMPLOYEES'  
ANNUITY & BENEFIT FUND OF CHICAGO**

**May 23, 2017**

**SCHEDULE D – APPLICATIONS FOR DUTY DISABILITY BENEFITS**

This item was taken out of order. It was moved by Trustee LoVerde, seconded by Trustee Joiner, that the applications for Duty Disability Benefits be approved and ordered paid.

Roll-call: For-- Trustees Roa, Keane, LoVerde, Hamburger, Capasso and Joiner.  
Against -- None.

**SCHEDULE E – APPLICATIONS FOR ORDINARY DISABILITY BENEFITS**

It was moved by Trustee Joiner, seconded by Trustee LoVerde, that the applications for Ordinary Disability Benefits be approved and ordered paid.

Roll-call: For-- Trustees Roa, Keane, LoVerde, Hamburger, Capasso and Joiner.  
Against -- None.

**SCHEDULE F – EXTENSION OF DUTY DISABILITY BENEFITS**

It was moved by Trustee Joiner, seconded by Trustee Capasso, that the applications for Extension of Duty Disability Benefits, be approved and ordered paid.

Roll-call: For-- Trustees Roa, Keane, LoVerde, Hamburger, Capasso and Joiner.  
Against -- None.

**SCHEDULE G – EXTENSION OF ORDINARY DISABILITY BENEFITS**

It was moved by Trustee Joiner, seconded by Trustee Keane, that the applications for Extension of Ordinary Disability Benefits be approved and ordered paid.

Roll-call: For-- Trustees Roa, Keane, LoVerde, Hamburger, Capasso and Joiner.  
Against -- None.

**SCHEDULE H – PAYMENT OF UNCASHED CHECKS OF DECEASED MEMBERS**

It was moved by Trustee LoVerde, seconded by Trustee Capasso, that the applications for Payment of Uncashed Checks of Deceased Members be approved and ordered paid.

Roll-call: For-- Trustees Roa, Keane, LoVerde, Hamburger, Capasso and Joiner.  
Against -- None.

**SCHEDULE I – PAYMENT OF EXPENSES**

It was moved by Trustee LoVerde, seconded by Trustee Joiner, that Administrative and Investment Invoices be approved and ordered paid.

Roll-call: For-- Trustees Roa, Keane, LoVerde, Hamburger, Capasso and Joiner.  
Against -- None.

**PRESENTATION BY GABRIEL, ROEDER, SMITH & COMPANY**

Alex Rivera and Ryan Gundersen, of Gabriel, Roeder, Smith & Company, reviewed a summary of the 2016 actuarial valuation. See attached documents.

**LABORERS' & RETIREMENT BOARD EMPLOYEES'  
ANNUITY & BENEFIT FUND OF CHICAGO**

**May 23, 2017**

**INVESTMENTS REPORT**

Marquette Associates Onboarding

Mr. Walsh re-introduced the investment consultant team from Marquette Associates: James Wesner, Kweku Obed and Neil Capps. Mr. Wesner updated the Trustees on the transition timeline. Mr. Obed presented a market update.

April 30, 2017 Preliminary Performance Report

Mr. Walsh reviewed the April 30, 2017 Preliminary Performance Report prepared by NEPC.

1<sup>st</sup> Quarter Market Report and Performance

Mr. Walsh reviewed the 1<sup>st</sup> quarter Market Report prepared by NEPC.

4<sup>th</sup> Quarter Private Equity, Debt and Real Estate Reports

Mr. Walsh reviewed the 4<sup>th</sup> quarter private equity, private debt and private real estate reports that were prepared by NEPC.

Follow-up on MWDBE Policies

Mr. Walsh presented two additional reports requested by the Board at the previous Board meeting which outlined in further detail the Fund's spending in 2016 with MWDBE service providers and vendors as well as the diversity of the Fund's employees. Trustee Hamburger referenced a link on the City of Chicago's website which lists MWDBE companies for the Fund's consideration. Trustee Summers recommended that the Fund begin requesting ownership and senior staff diversity information from its vendors. The Trustees suggested additional actions staff can consider to increase the use of MWDBE service providers and vendors.

**ADMINISTRATIVE REPORT**

Cash Needs

Mr. Walsh reviewed the year-to-date cash needs of the Fund as well as the upcoming estimated cash needs.

Disability Service Rule

Mr. Walsh gave a brief update on the progress of this matter.

Legislative Matters

Mr. Walsh updated the Board on the status of Senate Bill 14 which passed both the House and Senate and Senate Bill 16 which passed in the Senate recently. Mr. Walsh also discussed House Bill 4027 and House Bill 4045.

Member Beneficiary Matter

Mr. Carroll reviewed the details of the Mathew Zwiesler matter which pertained to a beneficiary designation form that Mr. Zwiesler signed and submitted to MEABF during the period his pension deductions were being directed to MEABF. Mr. Donham referred to a memo he prepared and gave his recommendation that beneficiary forms filed with another pension fund, such as the one filed by Mr. Zwiesler with the MEABF, be considered invalid for LABF purposes. The Board agreed with Mr. Donham's recommendation and determined that the beneficiary form that the LABF had from MEABF for Mr. Zweissler was invalid. The Board directed staff to contact the family of Mr. Zwiesler to discuss the next steps in the process.

Illinois Department of Public Health (Vital Records Data)

Mr. Walsh informed the Board that due to a new law that allows the LABF access to vital records of deceased Illinois residents, the LABF has been able to identify several of its deceased members of whom the Fund had no record of death. Mr. Walsh informed the Board that he will give an update on this matter at a future Board meeting.

Miscellaneous

Annual Signature Verification Form - This item was taken out of order. Mr. Walsh gave a brief update on the annual Signature Verification Form project.

**LABORERS' & RETIREMENT BOARD EMPLOYEES'  
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**EXECUTIVE SESSION NO. 1**

At 3:06 p.m., Trustee LoVerde requested an executive session under 5 ILCS 120/2(c)(11) to discuss current or potential litigation of the Fund. Trustee Hamburger seconded the motion.

Roll-call: For-- Trustees Roa, Keane, LoVerde, Summers, Hamburger, Capasso and Joiner.  
Against -- None.

At 3:19 p.m., Trustee LoVerde made a motion, seconded by Trustee Hamburger, that the executive session be adjourned and that the Board return to open session.

Roll-call: For-- Trustees Roa, Keane, LoVerde, Summers, Hamburger, Capasso and Joiner.  
Against -- None.

It was moved by Trustee LoVerde, seconded by Trustee Hamburger, to send a letter to the Cook County State's Attorney's Office advising them of the Fund's suspicion that fraudulent actions were committed against the Fund.

Roll-call: For-- Trustees Roa, Keane, LoVerde, Summers, Hamburger, Capasso and Joiner.  
Against -- None.

**LEGAL REPORT**

Coveliers Litigation

Mr. Donham reported that he had filed a brief on May 10<sup>th</sup> and that the plaintiff had 35 days from May 10<sup>th</sup> to file a response.

Carmichael Litigation

Mr. Donham reported that there was no ruling in the summary judgment hearing for the Carmichael matter.

**ADJOURNMENT**

With no further business, at 3:21 p.m., Trustee LoVerde made a motion to adjourn the meeting. Trustee Summers seconded the motion.

Roll-call: For-- Trustees Roa, Keane, LoVerde, Summers, Hamburger, Capasso and Joiner.  
Against -- None.



# Laborers' and Retirement Board Employees' Annuity and Benefit Fund of Chicago

## Actuarial Valuation as of December 31, 2016

May 23, 2017



Gabriel Roeder Smith & Company  
Consultants & Actuaries  
[www.gabrielroeder.com](http://www.gabrielroeder.com)





# Key Valuation Results

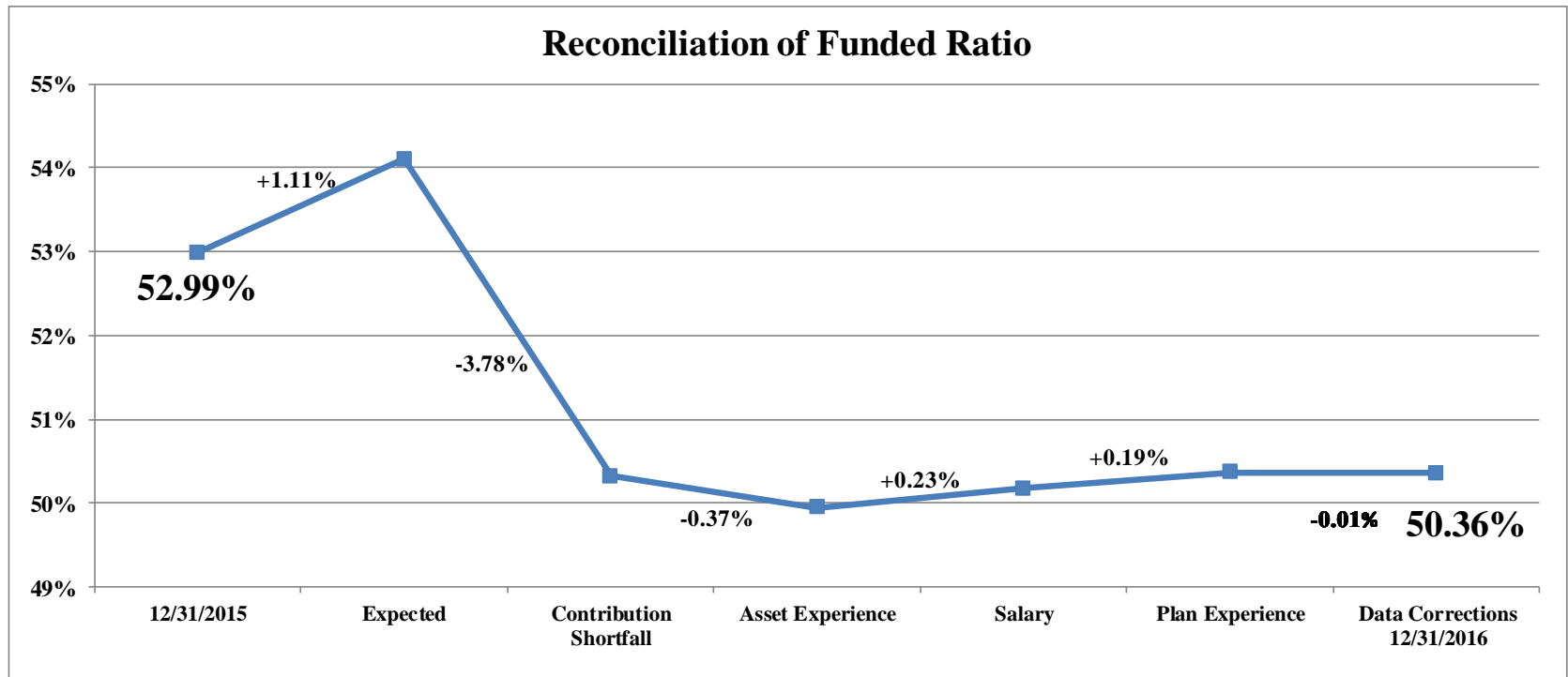
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	<b>December 31, 2015</b>	<b>December 31, 2016</b>	<b>% Change</b>
Actuarial Liability	\$ 2,469,879,319	\$ 2,509,272,511	<b>1.59 %</b>
Assets - Actuarial Value	1,308,676,494	1,263,664,871	<b>(3.44)%</b>
Unfunded Liability (Surplus)	1,161,202,825	1,245,607,640	<b>7.27 %</b>
<b>Funded Ratio (AVA)</b>	<b>52.99%</b>	<b>50.36%</b>	<b>(4.96)%</b>
<b>Funded Ratio (MVA)</b>	<b>50.15%</b>	<b>46.54%</b>	<b>(7.21)%</b>

	<b>Fiscal Year 2016</b>	<b>Fiscal Year 2017</b>	
Statutory City Contribution	\$ 14,418,240	\$ 14,647,392	<b>1.59 %</b>
Statutory Contribution Multiple	1.00	1.00	<b>0.00 %</b>
Actuarial Determined Contribution (ADC)	119,215,489	124,226,042	<b>4.20 %</b>
ADC Multiple	7.94	8.14	<b>2.52 %</b>

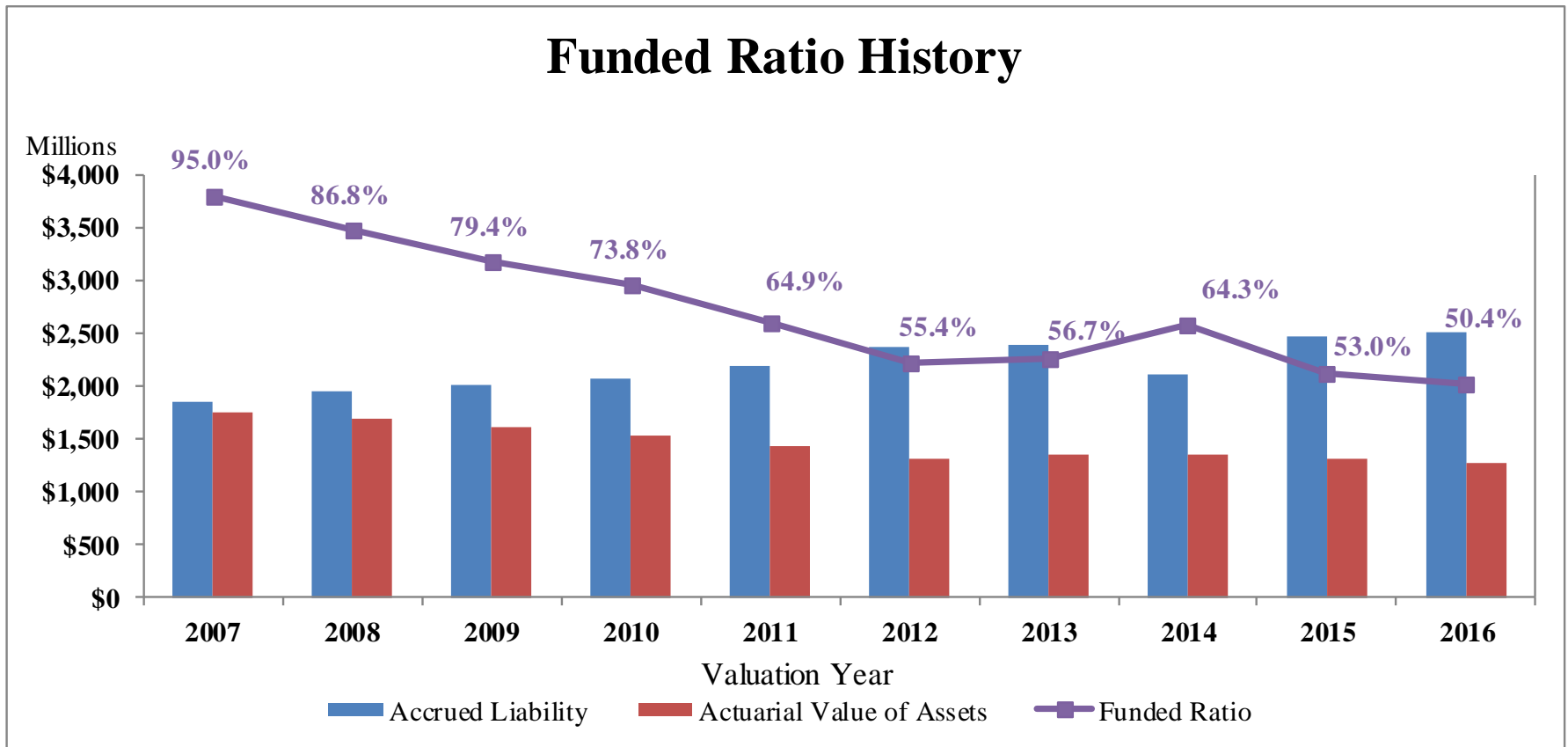
- ◆ Funded Ratio decreased due to unfavorable investment return and contributions less than Normal Cost plus interest on the Unfunded Actuarial Accrued Liability
- ◆ Contribution shortfalls persist
- ◆ The funded ratio is projected to decline from 50.4 percent in 2016 to 0 percent in 2027, at which point additional funds will be required in order to pay retiree benefits

# Reconciliation of Funded Ratio

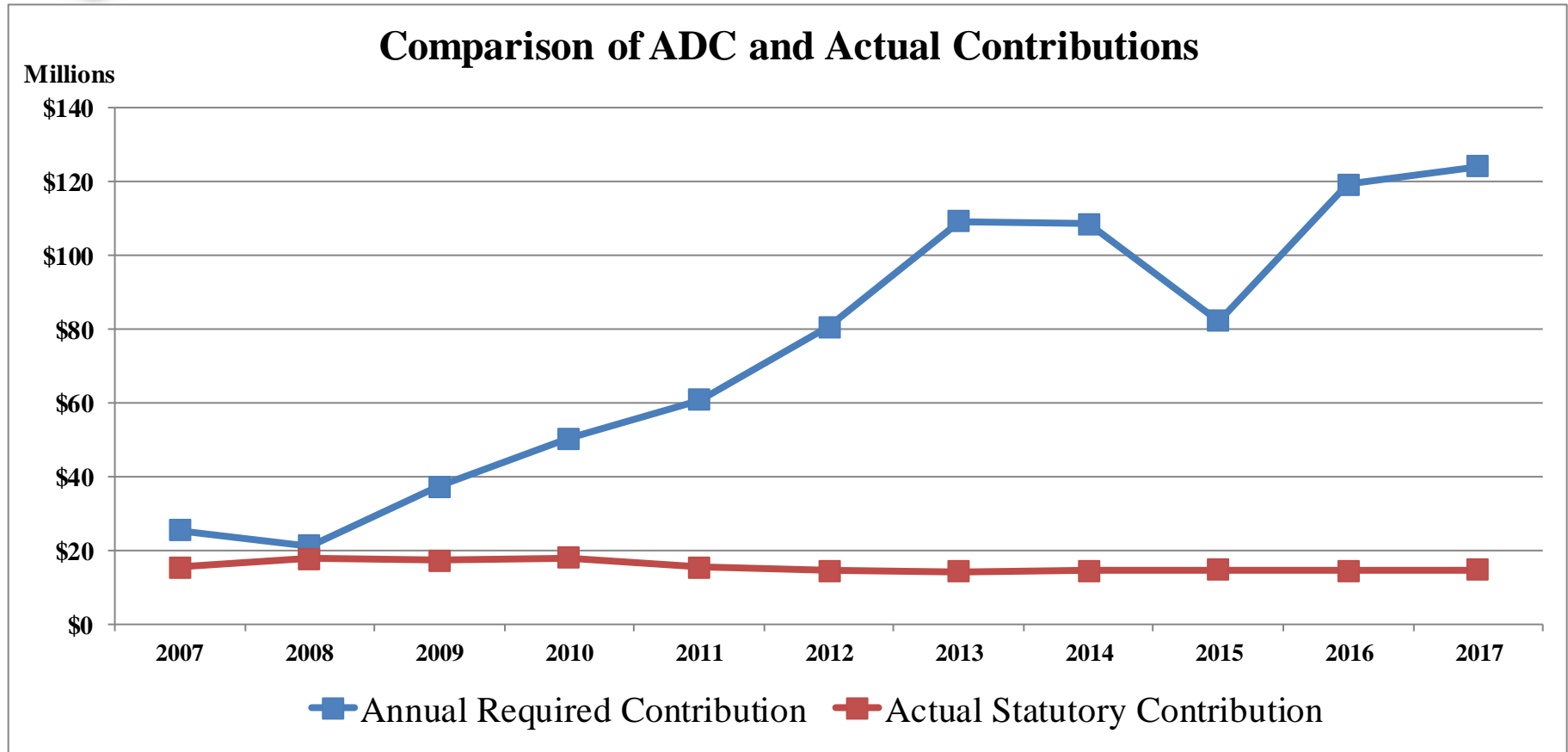


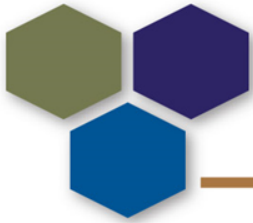
*Expected reflects contributions equal to normal cost plus interest on unfunded actuarial liability.*

# History of Funded Ratio



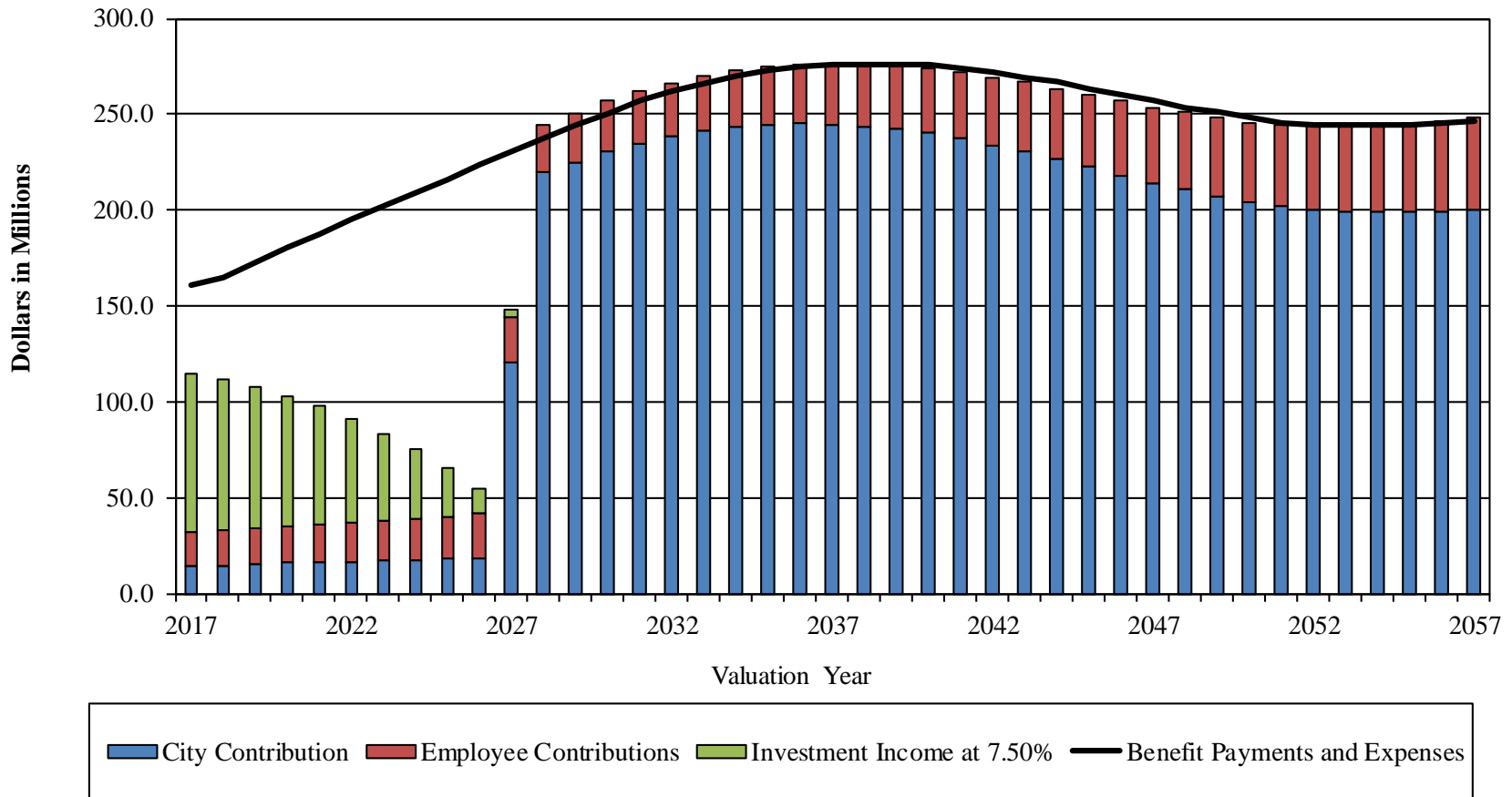
# Contribution Comparison





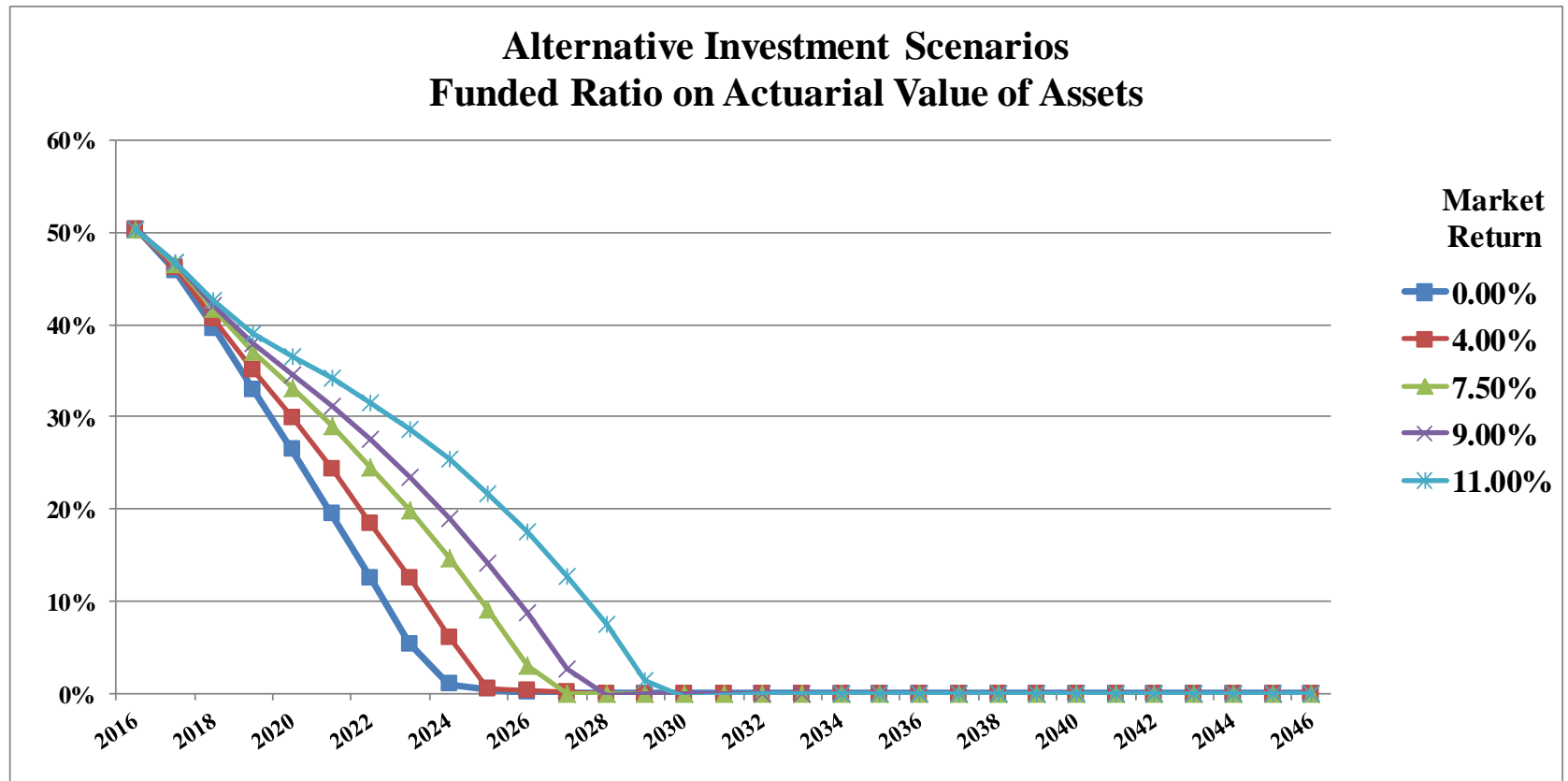
# Projections – Cash Flow

Comparison of Cash Flows





# Projections – Funded Ratios



*The funded ratio is projected to decline from 50.4 percent in 2016 to 0.0 percent in 2027 under the valuation assumptions assuming the Fund earns 7.50%.*



# GASB 67/68

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- ◆ GASB 67/68 blended discount rate increased slightly from 4.04 percent to 4.17 percent
- ◆ The municipal bond rate used to develop the blended discount rate increased from 3.57 percent to 3.78 percent
- ◆ The blended discount rate reflects the year that assets are projected to be depleted — 2027
- ◆ The following table compares the funded status under the statutory actuarial valuation and the GASB 67/68 actuarial valuation



# GASB 67/68

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<u>Statutory Requirements</u>		<u>GASB 67 Requirements</u>	
Actuarial Cost Method	Entry Age Normal	Cost Method	Entry Age Normal
Discount Rate	7.50%	Discount Rate	4.17%
Actuarial Accrued Liability	\$2,509,272,511	Total Pension Liability	\$3,693,645,301
Actuarial Value of Assets	\$1,263,664,871	Plan Fiduciary Net Position	\$1,167,740,724
Unfunded Actuarial Accrued Liability	\$1,245,607,640	Net Pension Liability	\$2,525,904,577
Funded Ratio	50.36%	Plan Fiduciary Net Position as a Percentage of Total Pension Liability	31.61%
Covered Payroll	\$208,154,918	Covered Payroll	\$208,154,918
Unfunded Actuarial Accrued Liability as a Percentage of Covered Employee Payroll	598.40%	Net Pension Liability as a Percentage of Covered Employee Payroll	1213.47%





# Conclusion

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- ◆ Under the current statutory funding policy:
  - ▶ Projected contributions and investment income are not sufficient to cover benefits and expenses
  - ▶ Assets are projected to be depleted by 2027
  - ▶ The long-term investment return assumption of 7.5 percent will become difficult to support
- ◆ The GASB 67/68 actuarial valuation reflects the depletion of assets when developing the discount rate assumption
  - ▶ Under the GASB 67/68 actuarial valuation, liabilities are discounted at 4.17 percent and equal \$3.69 billion
  - ▶ Under the statutory actuarial valuation, liabilities are discounted at 7.50 percent and equal \$2.51 billion



# Conclusion (continued)

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- ◆ We strongly recommend that the statutory funding policy be strengthened as soon as practical
- ◆ A reasonable funding policy
  - ▶ Produces reasonable growth in the funded ratio and is not “back-loaded”
  - ▶ Finances the normal cost plus the amortization of the unfunded actuarial liability over a reasonable period such as 20 to 25 years
  - ▶ Avoids or minimizes the negative amortization of the unfunded actuarial liability



# Disclosures

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- ◆ Circular 230 Notice: Pursuant to regulations issued by the IRS, to the extent this presentation concerns tax matters, it is not intended or written to be used, and cannot be used, for the purpose of (i) avoiding tax-related penalties under the Internal Revenue Code or (ii) marketing or recommending to another party any tax-related matter addressed within. Each taxpayer should seek advice based on the individual's circumstances from an independent tax advisor.
- ◆ This presentation shall not be construed to provide tax advice, legal advice or investment advice.
- ◆ The actuary submitting this presentation (Alex Rivera) is a Member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.
- ◆ The primary purpose of the actuarial valuation is to measure the financial position of LABF.



# Disclosures

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- ◆ The valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The major actuarial assumptions used in this analysis were provided by and are the responsibility of LABF. We are unable to judge the reasonableness of some of these assumptions without performing a substantial amount of additional work beyond the scope of the assignment.
- ◆ Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law.
- ◆ This is one of multiple documents comprising the actuarial report for the LABF actuarial valuation. Additional information regarding actuarial assumptions and methods, and important additional disclosures are provided in the full actuarial valuation report as of December 31, 2016.
- ◆ If you need additional information to make an informed decision about the contents of this presentation, or if anything appears to be missing or incomplete, please contact us before relying on this presentation.

# 2016 LABORERS' AND RETIREMENT BOARD EMPLOYEES' ANNUITY AND BENEFIT FUND OF CHICAGO ACTUARIAL REPORT FACT SHEET

- **Actuarial accrued liability**
  - Total AAL increased from \$2.47 billion to \$2.51 billion or 1.6%.
- **Three values of assets**

		<b>2016 Rate of Return</b>	
	<b>12/31/2016 Value</b>	<b>(Net of Investment Expense)</b>	<b>Growth in Assets</b>
Book	\$1.07 billion	6.2%	-5.5%
Market	\$1.17 billion	4.9%	-5.7%
Actuarial (5-yr smoothed)	\$1.26 billion	6.7%	-3.4%

- **Unfunded AAL increased \$84.4 million, from \$1.16 billion to \$1.25 billion, due to:**

Contributions Less than Normal Cost Plus Interest	\$	95.6 million
Investment Loss (Actuarial Value Basis)		9.5 million
Gain from Salary Changes		(11.8) million
Other		(8.9) million
<b>Total</b>	<b>\$</b>	<b>84.4 million</b>
- **Funded ratio and contributions**
  - Based on Actuarial Value of Assets: 50.4%
  - Based on Market Value of Assets 46.5%
  - Statutory contribution for 2017 is significantly lower than the ADC.
  - The statutory employer multiple is 1.00; the recommended multiple based on ADC funding is 8.14.
- **Projected funded ratio**
  - Under the current funding policy and assumptions (including 7.5% annual investment return), the funded ratio is projected to decline from 50.4 percent in 2016 to 0 percent in 2027.
- **Active members**
  - Membership increased from 2,816 to 2,822.
  - Average employee is 47.7 years old, with 15.7 years of service, earning \$73,761 annual salary.
  - Total active pensionable payroll increased from \$204.8 million to \$208.2 million, or 1.7%.
- **Inactive members**
  - Membership increased from 1,455 to 1,476.
  - Average inactive member is 58.4 years old, with 2.3 years of service.
- **Annuitants and beneficiaries**
  - The number of employee annuitants decreased from 2,665 to 2,633.
  - Average employee annuitant benefit is \$49,062 and age is 70.3.
  - 74 new employee annuitants with average benefit of \$43,506, age of 62.6, with 26.3 years of service.
  - The number of spouse annuitants (including reversionary annuitants) decreased from 1,149 to 1,100.
  - Average spouse annuitant benefit is \$14,906, age is 77.4.
  - The number of child annuitants increased from 32 to 36.
  - Benefits paid during the year increased 1.1%.

	<b>Benefit Payments (in millions)</b>		
	<b>2015</b>	<b>2016</b>	<b>Increase</b>
Employees' Annuities	\$ 127.2	\$ 129.0	<b>1.42 %</b>
Spouses' Annuities	16.4	16.5	<b>0.61 %</b>
Children	0.1	0.1	<b>0.00 %</b>
Annuitant Health Insurance	2.1	1.8	<b>(14.29)%</b>
Disability Payments	6.4	6.4	<b>0.00 %</b>
<b>Total</b>	<b>\$ 152.2</b>	<b>\$ 153.8</b>	<b>1.05 %</b>

- Refunds paid: \$2.8 million

## SUMMARY OF ACTUARIAL VALUATION

	<u>December 31, 2015</u>	<u>December 31, 2016</u>	<u>% Change</u>
<b>Actuarial Values</b>			
Actuarial Liability	\$ 2,469,879,319	\$ 2,509,272,511	<b>1.59 %</b>
Assets - Actuarial Value	1,308,676,494	1,263,664,871	<b>(3.44)%</b>
Unfunded Liability (Surplus)	1,161,202,825	1,245,607,640	<b>7.27 %</b>
<b>Funded Ratio</b>	<b>52.99%</b>	<b>50.36%</b>	<b>(4.96)%</b>
Actuarial Determined Contribution (ADC) <sup>1</sup>	\$ 119,215,489	\$ 124,226,042	<b>4.20 %</b>
<b>Market Values</b>			
Actuarial Liability	\$ 2,469,879,319	\$ 2,509,272,511	<b>1.59 %</b>
Assets - Market Value	1,238,657,245	1,167,740,724	<b>(5.73)%</b>
Unfunded Liability	1,231,222,074	1,341,531,787	<b>8.96 %</b>
<b>Funded Ratio</b>	<b>50.15%</b>	<b>46.54%</b>	<b>(7.20)%</b>
<b>Book Values</b>			
Actuarial Liability	\$ 2,469,879,319	\$ 2,509,272,511	<b>1.59 %</b>
Assets - Book Value	1,131,664,961	1,068,986,041	<b>(5.54)%</b>
Unfunded Liability (Surplus)	1,338,214,358	1,440,286,470	<b>7.63 %</b>
<b>Funded Ratio</b>	<b>45.82%</b>	<b>42.60%</b>	<b>(7.02)%</b>

*Actuarial Liability includes both pension and OPEB at fiscal year ending December 31, 2015, and pension liability only at fiscal year ending December 31, 2016. Pursuant to the provisions contained in P.A. 98-0043, the city terminated health insurance supplement payments to eligible annuitants as of December 31, 2016, resulting in no OPEB liability.*

<sup>1</sup>*The ADC for fiscal year December 31, 2015 was determined based on a 30-year open level dollar amortization policy for pension benefits and includes the ARC under GASB Statement No. 43 for OPEB benefits, which was determined based on a one-year closed level dollar amortization policy.*

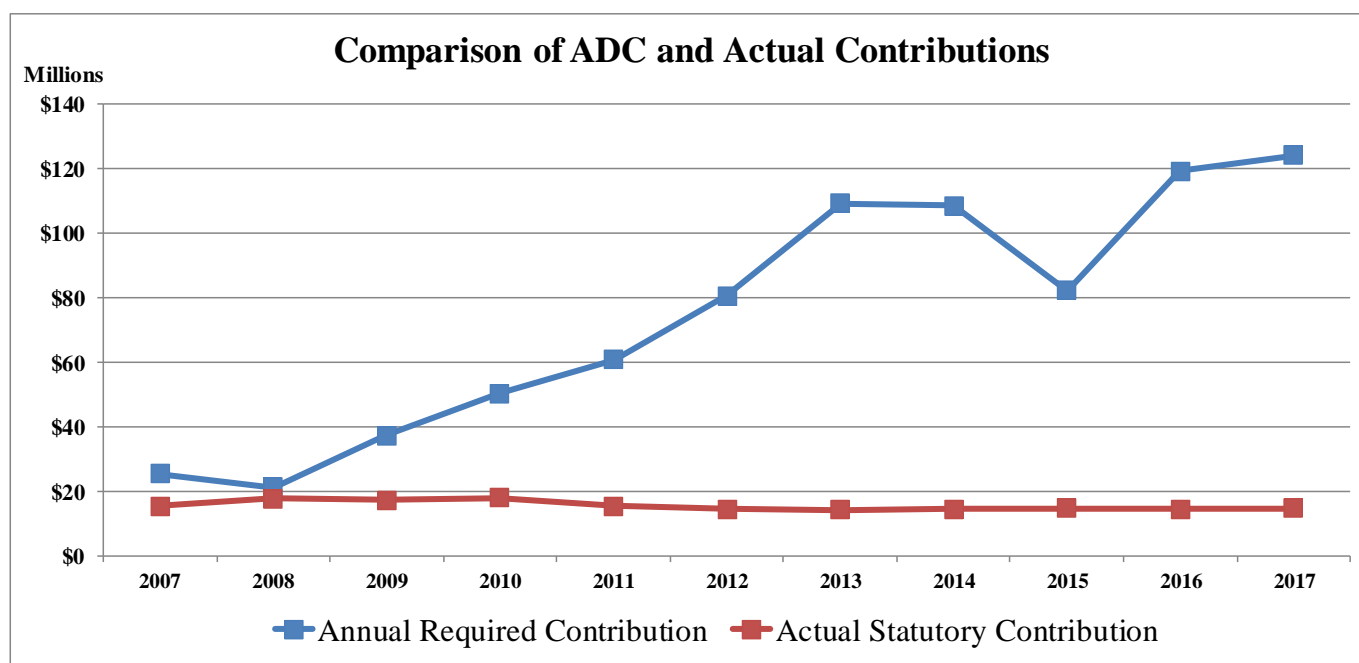
## RECONCILIATION OF FUNDED RATIO

	2012	2013	2014	2015	2016
Funded Ratio Beginning of Year	<b>64.92%</b>	<b>55.41%</b>	<b>56.65%</b>	<b>64.28%</b>	<b>52.99%</b>
Expected Increase If All Assumptions Realized	0.88%	1.16%	1.09%	0.54%	1.11%
Expected Funded Ratio	<b>65.80%</b>	<b>56.57%</b>	<b>57.74%</b>	<b>64.82%</b>	<b>54.10%</b>
Gains (Losses) During the Year Attributable to:					
Contributions in Excess of (Less Than) Normal Cost plus Interest	-2.82%	-3.69%	-3.58%	-2.91%	-3.78%
Gain (Loss) on Investment Return on the Smoothed Value of Assets	-4.44%	2.66%	1.19%	-0.88%	-0.37%
Gain (Loss) from Salary Changes	0.30%	0.29%	0.24%	0.28%	0.23%
Gain (Loss) from Retirement, Termination, & Mortality	-0.20%	0.11%	0.28%	1.02%	0.19%
Gain (Loss) from Data Corrections	-0.01%	0.00%	0.00%	-0.01%	-0.01%
Change in Methodology	0.00%	0.00%	0.00%	0.00%	0.00%
Change in Assumptions	-3.22%	0.00%	0.00%	0.00%	0.00%
Plan Amendments	0.00%	0.71%	8.41%	-9.33%	0.00%
Total Gains (Losses) During the Year	<b>-10.39%</b>	<b>0.08%</b>	<b>6.54%</b>	<b>-11.83%</b>	<b>-3.74%</b>
Funded Ratio End of Year	<b>55.41%</b>	<b>56.65%</b>	<b>64.28%</b>	<b>52.99%</b>	<b>50.36%</b>

## ACTUARIAL DETERMINED CONTRIBUTIONS OF EMPLOYER AND TREND INFORMATION

Year	Actuarial Determined Contribution (ADC) of the Employer	Actual Statutory Contribution	Percent of ADC Contributed
2006	\$ 21,142,739	\$ 106,270	0.50%
2007	25,293,490	15,458,982	61.12%
2008	21,216,989	17,580,428	82.86%
2009	37,199,049	17,189,811	46.21%
2010	50,274,041	17,938,810	35.68%
2011	60,801,575	15,358,602	25.26%
2012	80,636,419	14,414,835	17.88%
2013	109,290,128	14,100,639	12.90%
2014	108,538,602	14,520,515	13.38%
2015	82,252,473	14,566,544	17.71%
2016	119,215,489	14,443,495	12.12%
2017*	124,226,042	14,647,392	11.79%

\*Estimated





## ACTIVE ACCRUED LIABILITY AND NORMAL COST BY TIER

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	<u>Tier 1 Members</u>	<u>Tier 2 Members</u> <sup>1</sup>	<u>Total</u>
(1) Count	2,198	624	2,822
(2) Payroll	\$ 170,787,919	\$ 37,366,999	\$ 208,154,918
(3) Average Payroll	\$ 77,702	\$ 59,883	\$ 73,761
(4) Actuarial Accrued Liability (AAL)	\$ 875,076,520	\$ 11,001,073	\$ 886,077,593
(5) Normal Cost	\$ 33,871,062	\$ 5,039,282	\$ 38,910,344
(6) Normal Cost as a Percent of Pay	19.8%	13.5%	18.7%
(7) Member Contributions as a Percent of Pay	8.5%	8.5%	8.5%
(8) Net Employer Normal Cost as a Percent of Pay	11.3%	5.0%	10.2%

<sup>1</sup> Members who began participating on or after January 1, 2011.

## PROJECTION RESULTS

<b>Laborers' and Retirement Board Employees' Annuity and Benefit Fund of Chicago</b> <b>Actuarial Valuation Projection Results</b> <b>(\$ in Thousands)</b>								
<b>PYE 12/31</b>	<b>Actuarial Accrued Liability</b>	<b>Actuarial Value of Assets</b>	<b>Unfunded Liability</b>	<b>Funded Ratio</b>	<b>Capped Payroll</b>	<b>Total Statutory Contribution</b>	<b>Employee Contributions</b>	<b>Benefit Payments and Admin. Exp.</b>
2016	\$ 2,509,273	\$ 1,263,665	\$ 1,245,608	50.36%	\$ 208,155	\$ 14,443	\$ 17,246	\$ 160,603
2017	2,568,445	1,195,176	1,373,269	46.53%	211,687	14,418	18,022	164,784
2018	2,623,443	1,093,256	1,530,187	41.67%	216,735	14,647	18,328	172,939
2019	2,675,092	990,211	1,684,881	37.02%	222,358	14,984	18,765	180,281
2020	2,722,922	899,713	1,823,209	33.04%	228,383	15,986	19,252	187,897
2021	2,767,045	802,218	1,964,827	28.99%	235,220	16,257	19,773	195,145
2022	2,807,560	691,164	2,116,396	24.62%	242,653	16,645	20,365	202,150
2023	2,844,231	565,577	2,278,654	19.89%	250,322	17,077	21,009	209,208
2024	2,876,593	424,276	2,452,317	14.75%	258,440	17,540	21,673	216,408
2025	2,904,278	266,085	2,638,193	9.16%	266,990	18,065	22,376	223,704
2026	2,926,838	89,677	2,837,161	3.06%	275,720	18,636	23,116	231,142
2027	2,945,071	-	2,945,071	0.00%	284,743	120,597	23,872	237,447
2028	2,958,196	-	2,958,196	0.00%	293,939	219,571	24,653	244,224
2029	2,966,129	-	2,966,129	0.00%	302,905	225,283	25,449	250,732
2030	2,968,819	-	2,968,819	0.00%	311,886	230,656	26,225	256,881
2031	2,966,844	-	2,966,844	0.00%	320,966	235,141	27,003	262,144
2032	2,960,699	-	2,960,699	0.00%	330,098	238,868	27,789	266,657
2033	2,950,874	-	2,950,874	0.00%	339,384	241,851	28,580	270,430
2034	2,938,285	-	2,938,285	0.00%	348,925	243,732	29,384	273,116
2035	2,923,658	-	2,923,658	0.00%	357,954	244,760	30,210	274,969
2036	2,907,570	-	2,907,570	0.00%	366,558	245,088	30,991	276,079
2037	2,890,704	-	2,890,704	0.00%	375,044	244,694	31,736	276,430
2038	2,873,517	-	2,873,517	0.00%	383,396	243,840	32,471	276,311
2039	2,856,511	-	2,856,511	0.00%	391,866	242,478	33,194	275,672
2040	2,840,571	-	2,840,571	0.00%	400,493	240,326	33,927	274,253
2041	2,826,558	-	2,826,558	0.00%	409,260	237,470	34,674	272,144
2042	2,815,126	-	2,815,126	0.00%	418,107	234,153	35,433	269,586
2043	2,806,866	-	2,806,866	0.00%	427,089	230,478	36,199	266,677
2044	2,802,371	-	2,802,371	0.00%	436,262	226,487	36,977	263,464
2045	2,801,981	-	2,801,981	0.00%	445,524	222,460	37,771	260,232
2046	2,806,034	-	2,806,034	0.00%	454,998	218,419	38,573	256,993
2047	2,814,783	-	2,814,783	0.00%	464,628	214,484	39,393	253,877
2048	2,828,414	-	2,828,414	0.00%	474,466	210,725	40,227	250,952
2049	2,847,150	-	2,847,150	0.00%	484,531	207,126	41,079	248,204
2050	2,870,905	-	2,870,905	0.00%	494,818	203,999	41,950	245,949
2051	2,899,122	-	2,899,122	0.00%	505,266	201,795	42,841	244,636
2052	2,931,348	-	2,931,348	0.00%	515,971	200,393	43,745	244,138
2053	2,967,357	-	2,967,357	0.00%	526,809	199,506	44,672	244,178
2054	3,006,987	-	3,006,987	0.00%	537,836	199,081	45,611	244,692

*Projections assume a stable active population, actual employer contributions equal to the statutory contribution including a 4.00 percent loss on the tax levy, and 7.50 percent per annum investment return.*

## Alternative Investment Scenarios Funded Ratio on Actuarial Value of Assets

