

#### ARLINGTON HEIGHTS PARK DIST REGULAR

GASB STATEMENT NO. 68 EMPLOYER REPORTING ACCOUNTING SCHEDULES DECEMBER 31, 2015

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April 15, 2016

Arlington Heights Park Dist Illinois Municipal Retirement System

Ladies and Gentlemen:

The accounting schedules submitted in this report are required under the Governmental Accounting Standards Board (GASB) Statement No. 68 "Accounting and Financial Reporting for Pensions."

Our calculations for this report were prepared for the purpose of complying with the requirements of GASB Statement No. 68. These calculations have been made on a basis that is consistent with our understanding of these accounting standards. These results are subject to review by the system's auditor and may be revised.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement No. 68. The Net Pension Liability is not an appropriate measure for measuring the sufficiency of plan assets to cover the estimated cost of settling the employer's benefit obligation. The Net Pension Liability is not an appropriate measure for assessing the need for or amount of future employer contributions. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement Nos. 67 and 68 may produce significantly different results. This report may be provided to parties other than the Arlington Heights Park Dist only in its entirety and only with the permission of Arlington Heights Park Dist.

This report is based upon information, furnished to us by IMRF, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. If your understanding of this information is different than ours, please let us know and do not use or distribute this report until those differences have been resolved to your satisfaction. This information was checked for internal consistency, but it was not otherwise audited.

Please see the actuarial valuation report for the Illinois Municipal Retirement Fund as of December 31, 2015 for additional discussions of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

To the best of our knowledge, the information contained in this report is accurate, and fairly represents the GASB 68 information relates to Arlington Heights Park Dist. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board. Mark Buis and Francois Pieterse are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the Academy of Actuaries to render the actuarial opinions herein. The signing actuaries are independent of the plan sponsor.

Respectfully submitted,

Mark Buis

FSA, EA, MAAA

By

François Pieterse

ASA, MAAA



## EXECUTIVE SUMMARY AS OF DECEMBER 31, 2015

Actuarial Valuation Date	December 31, 2015			
Measurement Date of the Net Pension Liability	Dece	ember 31, 2015		
Fiscal Year End	A	pril 30, 2016		
Membership				
Number of				
- Retirees and Beneficiaries		145		
- Inactive, Non-Retired Members		154		
- Active Members		137		
- Total		436		
Covered Valuation Payroll	\$	7,574,305		
Net Pension Liability				
Total Pension Liability/(Asset)	\$	48,987,124		
Plan Fiduciary Net Position		40,281,777		
Net Pension Liability/(Asset)	\$	8,705,347		
Plan Fiduciary Net Position as a Percentage				
of Total Pension Liability		82.23%		
Net Pension Liability as a Percentage				
of Covered Valuation Payroll		114.93%		
Development of the Single Discount Rate as of December 31, 2015				
Long-Term Expected Rate of Investment Return		7.50%		
Long-Term Municipal Bond Rate*		3.57%		
Last year ending December 31 in the 2016 to 2115 projection period				
for which projected benefit payments are fully funded		2084		
Resulting Single Discount Rate based on the above development		7.47%		
Single Discount Rate calculated using December 31, 2014 Measurement Date		7.48%		
Total Pension Expense/(Income)	\$	1,038,440		

#### Deferred Outflows and Deferred Inflows of Resources by Source to be recognized in Future Pension Expenses

	Deferred Outflows Deferred Inf of Resources of Resource				
Difference between expected and actual experience	\$	197,058	\$	0	
Changes in assumptions		41,222		0	
Net difference between projected and actual earnings					
on pension plan investments		2,248,390		0	
Total	\$	2,486,670	\$	0	

\*Source: "State & local bonds" rate from Federal Reserve statistical release (H.15) as of December 31, 2015.

The statistical release describes this rate as "Bond Buyer Index, general obligation, 20 years to maturity, mixed quality." In describing this index, the Bond Buyer notes that the bonds' average credit quality is roughly equivalent to Moody's Investors Service's Aa2 rating and Standard & Poor's Corp.'s AA.

#### **DISCUSSION**

#### **Accounting Standard**

For state and local government employers (as well as certain non-employers) that contribute to a Defined Benefit (DB) pension plan administered through a trust or equivalent arrangement, Governmental Accounting Standards Board (GASB) Statement No. 68 establishes standards for pension accounting and financial reporting. Under GASB Statement No. 68, the employer must account for and disclose the net pension liability, pension expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain information is not included in this report if it is not actuarial in nature, such as the notes to the financial statements regarding accounting policies and investments. As a result, the retirement system and/or plan sponsor is responsible for preparing and disclosing the non-actuarial information needed to comply with these accounting standards.

#### **Financial Statements**

GASB Statement No. 68 requires state and local government employers that contribute to DB pension plans to recognize the net pension liability and the pension expense on their financial statements, along with the related deferred outflows of resources and deferred inflows of resources. The net pension liability is the difference between the total pension liability and the plan's fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Paragraph 57 of GASB Statement No. 68 says, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to IMRF subsequent to the measurement date of December 31, 2015.

The pension expense recognized each fiscal year is equal to the change in the net pension liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the certain changes in the liability and investment experience.

#### **Notes to Financial Statements**

GASB Statement No. 68 requires the notes of the employer's financial statements to disclose the total pension expense, the pension plan's liabilities and assets, and deferred outflows of resources and inflows of resources related to pensions.

In addition, GASB Statement No. 68 requires the notes of the financial statements for the employers to include certain additional information, including (page numbers refer to page numbers from this report unless specified otherwise):

- a description of the types of benefits provided by the plan, as well as automatic or ad hoc COLAs (please see pages B-1 B-5 of the December 31, 2015 Annual Actuarial Valuation report dated April 1, 2016);
- the number and classes of employees covered by the benefit terms (page 1);
- for the current year, sources of changes in the net pension liability (page 10);
- significant assumptions and methods used to calculate the total pension liability (page 15);
- inputs to the single discount rate (page 16);
- certain information about mortality assumptions and the dates of experience studies (page 13 and page 15);
- the date of the valuation used to determine the total pension liability (page 1);
- information about changes of assumptions or other inputs and benefit terms (pages 13 and 15);
- the basis for determining contributions to the plan, including a description of the plan's funding policy, as well as member and employer contribution requirements (please see page A-3, B-5 and Section D of the December 31, 2015 Annual Actuarial Valuation report dated April 1, 2016, as well as page 13);
- the total pension liability, fiduciary net position, net pension liability, and the pension plan's fiduciary net position as a percentage of the total pension liability (page 10);
- the net pension liability using a discount rate that is 1% higher and 1% lower than used to calculate the total pension liability and net pension liability for financial reporting purposes (page 10); and
- a description of the system that administers the pension plan (to be provided by IMRF).

#### **Required Supplementary Information**

The financial statements of employers also include required supplementary information showing the 10-year fiscal history of:

- sources of changes in the net pension liability (page 11);
- information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll (page 11); and
- comparison of actual employer contributions to the actuarially determined contributions based on the plan's funding policy (page 12).

These tables may be built prospectively as the information becomes available.

#### Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. For the employer's financial reporting purposes, the net pension liability and pension expense should be measured as of the employer's "measurement date" which may not be earlier than the employer's prior fiscal year-end date. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of December 31, 2015 and a measurement date of December 31, 2015.

#### **Single Discount Rate**

Projected benefit payments are required to be discounted to their actuarial present values using a single discount rate that reflects: (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the plan's projected fiduciary net position is not sufficient to pay benefits).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.50%; the municipal bond rate is 3.57% (based on the weekly rate closest to but not later than the measurement date of the "state & local bonds" rate from Federal Reserve statistical release (H.15)); and the resulting single discount rate is 7.47%.

#### **OTHER OBSERVATIONS**

### General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Plan Contributions and Funded Status

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 7.50% on the actuarial value of assets), it is expected that:

- (1) The employer normal cost as a percentage of pay will decrease to the level of Tier 2 normal cost as time passes as the majority of the active population will consist of Tier 2 members.
- (2) The unfunded liability will increase in dollar amount for several years before it begins to decrease.
- (3) The funded status of the plan will increase gradually towards a 100% funded ratio.

This funding policy results in a crossover date in 2084 and a discount rate of 7.47%. The projections in this report are strictly for the purposes of determining the GASB discount rate and are different from a funding projection for the ongoing plan.

#### Limitations of Assets as a Percent of Total Pension Liability Measurements

This report includes a measure of the plan fiduciary net position as a percent of total pension liability. Unless otherwise indicated, with regard to any such measurements presented in this report:

- (1) The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.
- (2) The measurement is inappropriate for assessing the need for or amount of future employer contributions.

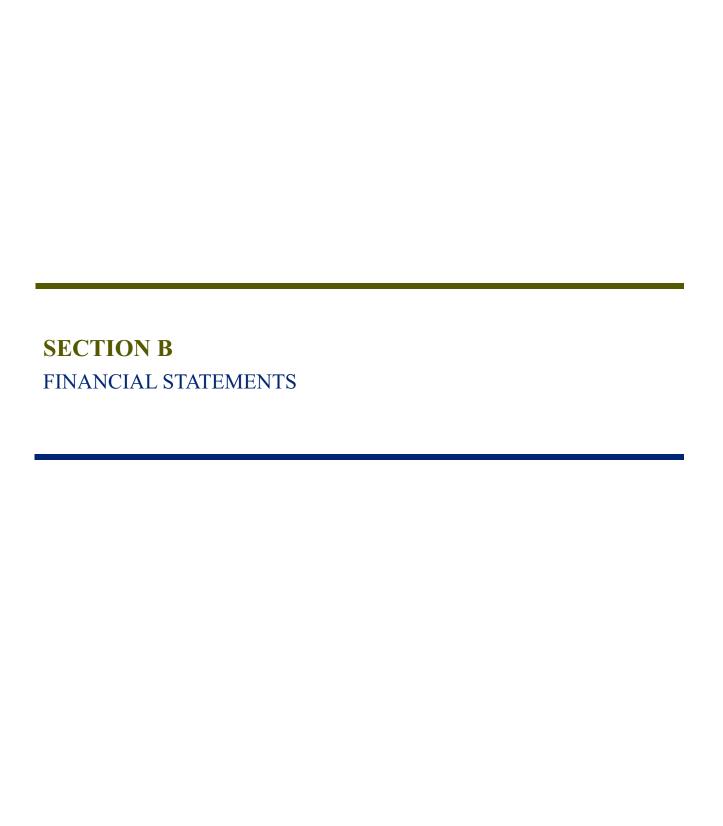
#### **Limitations of Funded Status Measurements**

Unless otherwise indicated, a funded ratio measurement presented in this report is based upon the actuarial accrued liability and the market value of assets. Unless otherwise indicated, with regard to any funded status measurements presented in this report:

- (1) The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations, in other words of transferring the obligations to a unrelated third party in an arm's length market value type transaction.
- (2) The measurement is dependent upon the actuarial cost method which, in combination with the plan's amortization policy, affects the timing and amounts of future contributions. The amount of future contributions will most certainly differ from those assumed in this report due to future actual experience differing from assumed experience based upon actuarial assumptions. A funded ratio measurement in this report of 100% is not synonymous with no required future contributions. If the funded ratio were 100%, the plan would still require future normal cost contributions (i.e., contributions to cover the cost of the active membership accruing an additional year of service credit).

#### **Limitation of Project Scope**

Actuarial standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entity to make required contributions to the plan when due. Such an evaluation was not within the scope of this project and is not within the actuary's domain of expertise. Consequently, the actuary performed no such evaluation.



## PENSION EXPENSE/(INCOME) UNDER GASB STATEMENT No. 68 CALENDAR YEAR ENDED DECEMBER 31, 2015

#### A. Expense/(Income)

1. Service Cost	\$	789,221
2. Interest on the Total Pension Liability		3,429,032
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(350,591)
5. Projected Earnings on Plan Investments (made negative for addition here)		(3,009,941)
6. Other Changes in Plan Fiduciary Net Position		(483,935)
7. Recognition of Outflow (Inflow) of Resources due to Liabilities		102,556
8. Recognition of Outflow (Inflow) of Resources due to Assets		562,098
9. Total Pension Expense/(Income)	<u> </u>	1.038.440

### STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT REPORTING PERIOD

#### CALENDAR YEAR ENDED DECEMBER 31, 2015

A. Outflows (Inflows) of Resources due to Liabilities	
1. Difference between expected and actual experience	
of the Total Pension Liability (gains) or losses	\$ 281,872
2. Assumption Changes (gains) or losses	\$ 58,964
3. Recognition period for Liabilities: Average of the	
expected remaining service lives of all employees {in years}	3.3234
4. Outflow (Inflow) of Resources to be recognized in the current pension expense for the	
Difference between expected and actual experience	
of the Total Pension Liability	\$ 84,814
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for	
Assumption Changes	\$ 17,742
6. Outflow (Inflow) of Resources to be recognized in the current pension expense	
due to Liabilities	\$ 102,556
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the	
Difference between expected and actual experience	
of the Total Pension Liability	\$ 197,058
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for	
Assumption Changes	\$ 41,222
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses	
due to Liabilities	\$ 238,280
B. Outflows (Inflows) of Resources due to Assets	
1. Net difference between projected and actual earnings on	
pension plan investments (gains) or losses	\$ 2,810,488
2. Recognition period for Assets {in years}	5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense	
due to Assets	\$ 562,098
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses	
due to Assets	\$ 2,248,390

<sup>\*</sup> Please note that employer contributions made after the measurement date have not been reported as deferred outflows of resources. These employer contributions must be separately accounted for by the employer.

# STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT AND PRIOR REPORTING PERIODS CALENDAR YEAR ENDED DECEMBER 31, 2015

#### A. Outflows and Inflows of Resources due to Liabilities and Assets to be recognized in Current Pension Expense

	O	Outflows		ows	Net Outflows		
	of R	of Resources		ources	C	of Resources	
1. Due to Liabilities	\$	102,556	\$	0	\$	102,556	
2. Due to Assets		562,098		0		562,098	
3. Total	\$	664,654	\$	0	\$	664,654	

#### B. Outflows and Inflows of Resources by Source to be recognized in Current Pension Expense

	Outflows	Inflows	<b>Net Outflows</b>
	of Resources	of Resources	of Resources
1. Differences between expected and actual experience \$	84,814	\$ 0	\$ 84,814
2. Assumption changes	17,742	0	17,742
3. Net difference between projected and actual			
earnings on pension plan investments	562,098	0	562,098
4. Total	664,654	\$ 0	\$ 664,654

#### C. Deferred Outflows and Deferred Inflows of Resources by Source to be recognized in Future Pension Expenses

	Deferred Out	flows	Deferred Inflows		Net Deferred Outflow	
_	of Resource	es	of Resources		of Reso	ources
1. Differences between expected and actual experience	\$	197,058	\$	0	\$	197,058
2. Assumption changes		41,222		0		41,222
3. Net difference between projected and actual						
earnings on pension plan investments	2,	248,390		0		2,248,390
4. Total	\$ 2,4	486,670	\$	0	\$	2,486,670

#### D. Deferred Outflows and Deferred Inflows of Resources by Year to be recognized in Future Pension Expenses

Year Ending December 31	erred Outflows Resources
2016	\$ 664,654
2017	664,654
2018	595,266
2019	562,096
2020	0
Thereafter	0
Total	\$ 2,486,670

### SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS CURRENT PERIOD

#### CALENDAR YEAR ENDED DECEMBER 31, 2015

A. Total pension liability	
1. Service Cost	\$ 789,221
2. Interest on the Total Pension Liability	3,429,032
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the Total Pension Liability	281,872
5. Changes of assumptions	58,964
6. Benefit payments, including refunds	
of employee contributions	(2,040,059)
7. Net change in total pension liability	\$ 2,519,030
8. Total pension liability – beginning	 46,468,094
9. Total pension liability – ending	\$ 48,987,124
B. Plan fiduciary net position	
1. Contributions – employer	\$ 1,105,091
2. Contributions – employee	350,591
3. Net investment income	199,453
4. Benefit payments, including refunds	
of employee contributions	(2,040,059)
5. Other (Net Transfer)	 483,935
6. Net change in plan fiduciary net position	\$ 99,011
7. Plan fiduciary net position – beginning	 40,182,766
8. Plan fiduciary net position – ending	\$ 40,281,777
C. Net pension liability/(asset)	\$ 8,705,347
D. Plan fiduciary net position as a percentage	
of the total pension liability	82.23%
E. Covered Valuation payroll	\$ 7,574,305
F. Net pension liability as a percentage	
of covered valuation payroll	114.93%

### SENSITIVITY OF NET PENSION LIABILITY/(ASSET) TO THE SINGLE DISCOUNT RATE ASSUMPTION

	Current Single Discount							
	19	1% Decrease Rate Assumption				1% Increase		
		6.47%		7.47%	8.47%			
Total Pension Liability	\$	55,392,787	\$	48,987,124	\$	43,721,117		
Plan Fiduciary Net Position		40,281,777		40,281,777		40,281,777		
Net Pension Liability/(Asset)	\$	15,111,010	\$	8,705,347	\$	3,439,340		

Arlington Heights Park Dist

Section B

## SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION MULTIYEAR SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

#### Last 10 Calendar Years

(schedule to be built prospectively from 2014)

Calendar year ending December 31,	 2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Total Pension Liability										
Service Cost	\$ 789,221									
Interest on the Total Pension Liability	3,429,032									
Benefit Changes	0									
Difference between Expected and Actual Experience	281,872									
Assumption Changes	58,964									
Benefit Payments and Refunds	 (2,040,059)									
Net Change in Total Pension Liability	2,519,030									
Total Pension Liability - Beginning	46,468,094									
Total Pension Liability - Ending (a)	\$ 48,987,124									
Plan Fiduciary Net Position										
Employer Contributions	\$ 1,105,091									
Employee Contributions	350,591									
Pension Plan Net Investment Income	199,453									
Benefit Payments and Refunds	(2,040,059)									
Other	 483,935									
Net Change in Plan Fiduciary Net Position	99,011									
Plan Fiduciary Net Position - Beginning	 40,182,766									
Plan Fiduciary Net Position - Ending (b)	\$ 40,281,777									
Net Pension Liability/(Asset) - Ending (a) - (b)	8,705,347									
Plan Fiduciary Net Position as a Percentage										
of Total Pension Liability	82.23%									
Covered Valuation Payroll	\$ 7,574,305									
Net Pension Liability as a Percentage										
of Covered Valuation Payroll	114.93%									

#### MULTIYEAR SCHEDULE OF CONTRIBUTIONS

#### Last 10 Calendar Years

Calendar Year	A	ctuarially				Co	Contribution			Covered	<b>Actual Contribution</b>		
Ending		etermined			Actual	Deficiency			,	<b>Valuation</b>	as a % of		
December 31,	cember 31, Contribution			Co	ntribution	(	(Excess)			Payroll	Covered Valuation Payroll		
2015	¢	1 105 001	*	¢	1 105 001	¢		0	¢	7 574 205	14 500/		
2015	\$	1,105,091	*	\$	1,105,091	\$		0	\$	7,574,305	14.59%		

<sup>\*</sup> Estimated based on contribution rate of 14.59% and covered valuation payroll of \$7,574,305. This number should be verified by the auditor.

#### NOTES TO SCHEDULE OF CONTRIBUTIONS

### SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS USED IN THE CALCULATION OF THE 2015 CONTRIBUTION RATE\*

Valuation Date:

Notes Actuarially determined contribution rates are calculated as of December 31 each

year, which is 12 months prior to the beginning of the fiscal year in which

contributions are reported.

Methods and Assumptions Used to Determine 2015 Contribution Rates:

Actuarial Cost Method Aggregate Entry Age Normal

Amortization Method Level Percentage of Payroll, Closed
Remaining Amortization Period Non-Taxing bodies: 10-year rolling period.

Taxing bodies (Regular, SLEP and ECO groups): 28-year closed period until

remaining period reaches 15 years (then 15-year rolling period).

Early Retirement Incentive Plan liabilities: a period up to 10 years selected by

the Employer upon adoption of ERI.

SLEP supplemental liabilities attributable to Public Act 94-712 were financed over 23 years for most employers (two employers were financed over 32 years).

Asset Valuation Method 5-Year smoothed market; 20% corridor

Wage growth 4.00%

Price Inflation 3.0% – approximate; No explicit price inflation assumption is used in this

valuation.

Salary Increases 4.40% to 16.00% including inflation

Investment Rate of Return 7.50%

Retirement Age Experience-based table of rates that are specific to the type of eligibility

condition. Last updated for the 2011 valuation pursuant to an experience study

of the period 2008 - 2010.

Mortality RP-2000 Combined Healthy Mortality Table, adjusted for mortality

improvements to 2020 using projection scale AA. For men 120% of the table rates were used. For women 92% of the table rates were used. For disabled lives, the mortality rates are the rates applicable to non-disabled lives set

forward 10 years.

Other Information:

Notes There were no benefit changes during the year.

<sup>\*</sup> Based on Valuation Assumptions used in the December 31, 2013 actuarial valuation

#### **DEVELOPMENT OF MARKET VALUE OF ASSETS**

#### Market Value of Assets as of December 31, 2015

5. Net Market Value	\$ 40,281,777
4. Miscellaneous Adjustment*	6,588
3. Annuitant Reserve	22,436,188
2. Employer Contribution Reserve (EAF assets from IMRF)	9,505,385
1. Employee Contribution Reserve (MDF Assets from IMRF)	\$ 8,333,616

<sup>\*</sup> Includes an adjustment factor of .000163582 on Items 1 through 4 to ensure that Market Value of Assets for all employers balances to the total Market Value of IMRF. Miscellaneous adjustments are due to various items such as suspended annuity reserve, disability benefit reserve, death benefit reserve, supplemental benefit reserve, employers with no assets, etc.

### SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS USED IN THE CALCULATION OF THE TOTAL PENSION LIABILITY

#### Methods and Assumptions Used to Determine Total Pension Liability:

Actuarial Cost Method Entry Age Normal
Asset Valuation Method Market Value of Assets

Price Inflation 2.75%

Salary Increases 3.75% to 14.50%

Investment Rate of Return 7.47%

Retirement Age Experience-based table of rates that are specific to the type of eligibility

condition. Last updated for the 2014 valuation pursuant to an experience study

of the period 2011-2013.

Mortality For non-disabled retirees, an IMRF specific mortality table was used with fully

generational projection scale MP-2014 (base year 2014). The IMRF specific rates were developed from the RP-2014 Blue Collar Health Annuitant Mortality Table with adjustments to match current IMRF experience. For disabled retirees, an IMRF specific mortality table was used with fully generational projection scale MP-2014 (base year 2014). The IMRF specific rates were developed from the RP-2014 Disabled Retirees Mortality Table applying the same adjustment that were applied for non-disabled lives. For active members, an IMRF specific mortality table was used with fully generational projection scale MP-2014 (base year 2014). The IMRF specific rates were developed from the RP-2014 Employee

Mortality Table with adjustments to match current IMRF experience.

Other Information:

Notes There were no benefit changes during the year.

A detailed description of the actuarial assumptions and methods can be found in the December 31, 2015 Illinois Municipal Retirement Fund annual actuarial valuation report.



#### CALCULATION OF THE SINGLE DISCOUNT RATE

GASB Statement No. 68 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a "risk-free" rate is required, as described in the following paragraph.

The Single Discount Rate (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.50%; the municipal bond rate is 3.57%; and the resulting single discount rate is 7.47%.

The tables in this section provide background for the development of the single discount rate.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities).

Expected Contributions are developed based on the following:

- Member Contributions for current members
- Normal Cost contributions for current members
- Unfunded Liability contributions for current and future members.

The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years.

The **Present Values of Projected Benefit Payments** table shows the development of the Single Discount Rate (SDR). It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.

## SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION OF CONTRIBUTIONS

28         1,576,655         70,949         98,788         565,720         735,45°           29         1,426,246         64,181         88,370         555,983         708,53°           30         1,266,301         56,984         77,324         546,414         680,72°           31         1,118,936         50,352         67,323         537,010         654,68°           32         970,781         43,685         57,345         527,768         628,79°           33         802,966         36,133         46,793         518,685         601,61°           34         631,241         28,406         36,660         509,758         574,82°           35         478,650         21,539         28,036         500,984         550,560           36         369,213         16,615         21,994         492,362         530,97°           37         276,153         12,427         16,615         483,888         512,936           39         144,600         6,507         9,060         467,375         482,944           40         105,789         4,761         6,744         459,331         470,836           42         52,341         2,355         3,545 <th>Year</th> <th>Payroll for Current Employees</th> <th>Contributions from Current Employees</th> <th>Normal Cost Contributions</th> <th>UAL Contributions</th> <th colspan="3">Total Contributions</th>	Year	Payroll for Current Employees	Contributions from Current Employees	Normal Cost Contributions	UAL Contributions	Total Contributions		
1         7,293,287         \$         328,198         \$         524,523         \$         512,892         \$         1,259,553           2         6,814,452         306,620         485,335         467,573         1,229,520           4         6,010,476         270,471         422,089         518,506         1,211,666           5         5,660,0083         254,704         306,919         546,688         1,193,49           6         5,360,305         241,214         375,363         576,916         1,193,49           7         5,066,622         229,348         356,309         597,108         1,182,84           8         4,860,000         218,700         338,876         618,007         1,175,84           9         4,648,702         209,192         323,217         639,637         1,172,04           10         4,440,085         199,804         307,828         662,025         1,170,12           11         4,248,924         191,202         293,728         685,196         1,170,12           12         4,085,484         183,847         282,023         709,177         1,175,04           13         3,912,812         176,076         269,324         733,999	0	¢ 7.574.205						
2         6,814,452         306,650         485,335         467,573         1,259,53           3         6,396,323         287,834         449,185         422,188         1,229,200           4         6,010,476         270,471         422,089         518,066         1,211,065           5         5,660,083         254,704         396,919         546,688         1,198,419           6         5,260,305         241,214         375,363         576,916         1,193,49           7         5,096,622         229,348         356,390         597,108         1,182,84           8         4,860,000         218,700         338,876         618,007         1,175,204           9         4,648,702         209,192         323,217         639,637         1,172,04           10         4,440,085         199,804         307,828         662,025         1,169,65           11         4,248,924         191,202         293,728         662,192         1,171,12,14           12         4,085,484         183,847         282,023         709,177         1,175,04           13         3,912,812         176,076         269,324         733,999         1,179,121           14 <td< td=""><td></td><td></td><td>\$ 328 198</td><td>\$ 524 523</td><td>\$ 512.892</td><td>\$ 1.365.612</td></td<>			\$ 328 198	\$ 524 523	\$ 512.892	\$ 1.365.612		
3         6,396,323         287,834         449,185         492,188         1,229,201           4         6,010,476         270,471         422,089         518,506         1,211,06           5         5,660,083         254,704         396,919         546,688         1,198,311           6         5,360,305         241,214         375,363         576,916         1,193,49           7         5,966,622         229,348         366,300         597,108         1,182,847           8         4,860,000         218,700         338,876         618,007         1,175,48           9         4,648,702         209,192         323,217         639,637         1,172,68           10         4,440,085         199,804         307,828         662,025         1,169,65           11         4,248,924         191,202         293,728         685,196         1,170,12           12         4,085,444         183,847         282,023         709,177         1,175,44           13         3,912,812         176,076         269,324         733,999         1,179,39           14         3,276,467         167,691         255,384         721,366         1,144,44           15         3,5								
4         6,010,476         270,471         422,089         518,506         1,211,066           5         5,660,003         224,704         306,919         546,688         1,198,311           6         5,360,305         241,214         375,363         576,916         1,193,491           7         5,096,622         229,348         386,390         597,108         1,182,441           8         4,860,000         218,700         338,876         618,007         1,175,582           9         4,648,702         209,192         323,217         639,637         1,172,044           10         4,440,085         199,804         307,828         662,025         1,169,637           11         4,248,924         191,202         293,728         685,196         1,170,12           12         4,085,484         183,847         282,023         709,177         1,175,04           13         3,912,812         176,766         269,324         733,999         1,179,391           14         3,726,467         167,691         255,384         721,366         1,144,44           15         3,552,812         159,877         242,775         708,951         1,111,60           16         <								
5         5,660,083         254,704         396,919         546,688         1,198,314           6         5,260,305         241,214         375,363         576,916         1,193,49           7         5,096,622         229,348         356,390         597,108         1,182,84           8         4,860,000         218,700         338,876         618,007         1,175,82           9         4,648,702         209,192         323,217         639,637         1,172,04           10         4,440,085         199,804         307,828         662,025         1,169,65           11         4,248,924         191,202         293,728         668,196         1,1710,12           12         4,085,484         183,847         282,023         709,177         1,175,04           13         3,912,812         176,076         269,324         733,999         1,179,39           14         3,726,467         167,691         255,384         721,366         1,144,44           15         3,52,812         159,877         242,775         708,951         1,111,60           16         3,375,335         151,890         229,639         696,749         1,078,27           17         3,1								
6         5,360,305         241,214         375,363         576,916         1,193,49,49           7         5,096,622         229,348         366,300         597,108         1,182,84           8         4,860,000         218,700         338,876         618,007         1,175,84           9         4,648,702         209,192         323,217         696,637         1,172,04           10         4,440,085         199,804         307,828         662,025         1,169,63           11         4,248,924         191,202         293,728         685,196         1,170,12           12         4,085,484         183,847         282,023         709,177         1,175,04           13         3,912,812         176,076         269,324         733,999         1,179,39           14         3,752,467         167,691         255,384         721,366         1,144,44           15         3,552,812         159,877         242,775         708,951         1,111,60           16         3,375,335         151,800         229,639         696,749         1,078,271           17         3,187,663         143,445         215,919         684,757         1,044,12           18 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td></td<>								
7         5,096,622         229,348         356,390         597,108         1,182,844           8         4,860,000         218,700         338,876         618,007         1,175,588           9         4,648,702         209,192         323,217         639,637         1,172,044           10         4,440,085         199,804         307,828         662,025         1,169,651           11         4,248,924         191,202         293,728         685,196         1,170,122           12         4,085,484         183,847         282,023         709,177         1,175,047           13         3,912,812         176,076         269,324         733,999         1,179,391           14         3,726,467         167,691         255,384         721,366         1,144,44           15         3,552,812         159,877         242,775         708,951         1,111,60           16         3,375,335         151,890         229,659         696,749         1,078,27           17         3,187,663         143,445         215,919         684,757         1,044,12           18         3,008,178         135,368         202,563         672,972         1,010,90           19								
8         4,860,000         218,700         338,876         618,007         1,175,58           9         4,648,702         209,192         323,217         639,637         1,172,04           10         4,440,085         199,804         307,828         662,025         1,169,65           11         4,248,924         191,202         293,728         685,196         1,170,12           12         4,085,484         183,847         282,023         709,177         1,175,04           13         3,912,812         176,076         269,324         733,999         1,179,39           14         3,726,467         167,691         255,384         721,366         1,144,44           15         3,552,812         159,877         242,775         708,951         1,111,60           16         3,375,335         151,890         229,639         696,749         1,078,27           17         3,187,663         143,445         215,919         684,757         1,044,12           18         3,008,178         135,368         202,563         672,972         1,010,00           20         2,657,799         119,601         177,117         650,007         946,72           21         2,9								
9		, ,						
10         4,440,085         199,804         307,828         662,025         1,169,651           11         4,248,924         191,202         293,728         685,196         1,170,122           12         4,085,484         183,847         282,023         709,177         1,175,047           13         3,912,812         176,076         269,324         733,999         1,179,393           14         3,726,467         167,691         255,384         721,366         1,144,44           15         3,552,812         159,877         242,775         708,951         1,111,60           16         3,375,335         151,890         229,639         696,749         1,078,27           17         3,187,663         143,445         215,919         684,757         1,044,12           18         3,008,178         135,368         202,563         667,2972         1,010,00           19         2,833,820         127,522         189,693         661,390         978,60           20         2,657,799         119,601         177,117         650,007         946,72           21         2,492,639         112,169         164,869         638,820         915,85           22								
111         4,248,924         191,202         293,728         685,196         1,170,12           12         4,085,484         183,847         282,023         709,177         1,175,04           13         3,912,812         176,076         269,324         733,999         1,179,39           14         3,726,467         167,691         255,384         721,366         1,144,44           15         3,552,812         159,877         242,775         708,951         1,111,60           16         3,375,335         151,890         229,639         696,749         1,078,271           17         3,187,663         143,445         215,919         684,757         1,044,12           18         3,008,178         135,368         202,563         672,972         1,010,90           19         2,833,820         127,522         189,693         661,390         978,60           20         2,657,799         119,601         177,117         650,007         946,72           21         2,492,639         112,169         164,869         638,820         915,85           22         2,344,438         105,500         154,133         627,825         887,45           23         2,209								
12         4,085,484         183,847         282,023         709,177         1,175,04           13         3,912,812         176,076         269,324         733,999         1,179,39           14         3,726,467         167,691         255,384         721,366         1,144,41           15         3,552,812         159,877         242,775         708,951         1,111,60           16         3,375,335         151,890         229,639         696,749         1,078,27           17         3,187,663         143,445         215,919         684,757         1,044,12           18         3,008,178         135,368         202,563         672,972         1,010,00           19         2,833,820         127,522         189,693         661,390         978,60           20         2,657,799         119,601         177,117         650,007         946,72           21         2,492,639         112,169         164,869         638,820         915,85           22         2,344,438         105,500         154,133         627,825         887,45           23         2,209,538         99,429         144,164         617,020         806,12           24         2,077,456<								
13         3,912,812         176,076         269,324         733,999         1,179,399           14         3,726,467         167,691         255,384         721,366         1,144,44           15         3,552,812         159,877         242,775         708,951         1,111,60           16         3,375,335         151,890         229,639         696,749         1,078,27*           17         3,187,663         143,445         215,919         684,757         1,041,12           18         3,008,178         135,368         202,563         672,972         1,010,90           19         2,833,820         127,522         189,693         661,390         978,60           20         2,657,799         119,601         177,117         650,007         946,72           21         2,492,639         112,169         164,869         638,820         915,85           22         2,344,438         105,500         154,133         627,825         887,45           23         2,205,538         99,429         144,164         617,020         860,61           24         2,077,456         93,486         134,718         606,401         834,60           25         1,950,794 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
14         3,726,467         167,691         255,384         721,366         1,144,44           15         3,552,812         159,877         242,775         708,951         1,111,60           16         3,375,335         151,890         229,639         696,749         1,078,271           17         3,187,663         143,445         215,919         684,757         1,041,12           18         3,008,178         135,368         202,563         672,972         1,010,90           19         2,833,820         127,522         189,693         661,390         978,60           20         2,657,799         119,601         177,117         650,007         946,72           21         2,492,639         112,169         164,869         638,820         915,85           22         2,344,438         105,500         154,133         627,825         887,45           23         2,209,538         99,429         144,164         617,020         860,61           24         2,077,456         93,486         134,718         606,401         834,60           25         1,950,794         87,786         125,533         595,964         809,28           26         1,836,482								
15         3,552,812         159,877         242,775         708,951         1,111,60           16         3,375,335         151,890         229,639         696,749         1,078,279           17         3,187,663         143,445         215,919         684,757         1,044,12           18         3,008,178         135,368         202,563         672,972         1,010,41           19         2,833,820         127,522         189,693         661,390         978,600           20         2,657,799         119,601         177,117         650,007         946,72           21         2,492,639         112,169         164,869         638,820         915,851           22         2,344,438         105,500         154,133         627,825         887,451           23         2,209,538         99,429         144,164         617,020         860,611           24         2,077,456         93,486         134,718         606,401         83,402           25         1,950,794         87,786         125,533         595,964         809,28           26         1,836,482         82,642         117,080         585,707         785,42           27         1,714,662								
16         3,375,335         151,890         229,639         696,749         1,078,27*           17         3,187,663         143,445         215,919         684,757         1,044,12           18         3,008,178         135,368         202,563         672,972         1,010,90           19         2,833,820         127,522         189,693         661,390         978,60           20         2,657,799         119,601         177,117         650,007         946,72           21         2,492,639         112,169         164,869         638,820         915,85           22         2,344,438         105,500         154,133         627,825         887,451           23         2,209,538         99,429         144,164         617,020         860,61           24         2,077,456         93,486         134,718         606,401         834,60           25         1,950,794         87,786         125,533         595,964         809,28           26         1,836,482         82,642         117,080         585,707         785,422           27         1,714,462         77,151         108,447         575,627         761,22           28         1,576,655								
17         3,187,663         143,445         215,919         684,757         1,044,12           18         3,008,178         135,368         202,563         672,972         1,010,90           19         2,833,820         127,522         189,693         661,390         978,60           20         2,657,799         119,601         177,117         650,007         946,72           21         2,492,639         112,169         164,869         638,820         915,835           22         2,344,438         105,500         154,133         627,825         887,845           23         2,209,538         99,429         144,164         617,020         860,612           24         2,077,456         93,486         134,718         606,401         834,60           25         1,950,794         87,786         125,533         595,964         809,28           26         1,836,482         82,642         117,080         585,707         785,422           27         1,714,462         77,151         108,447         575,627         761,22           28         1,576,655         70,949         98,788         565,720         735,45           29         1,426,246								
18         3,008,178         135,368         202,563         672,972         1,010,90           19         2,833,820         127,522         189,693         661,390         978,60           20         2,657,799         119,601         177,117         650,007         946,72           21         2,492,639         112,169         164,869         638,820         915,85           22         2,344,438         105,500         154,133         627,825         887,45           23         2,209,538         99,429         144,164         617,020         860,611           24         2,077,456         93,486         134,718         606,401         834,60           25         1,950,794         87,786         125,533         595,964         809,28           26         1,836,482         82,642         117,080         585,707         785,42           27         1,714,462         77,151         108,447         575,627         761,22           28         1,576,655         70,949         98,788         565,720         735,45           29         1,426,246         64,181         88,370         555,983         708,53           30         1,266,301         56								
19         2,833,820         127,522         189,693         661,390         978,600           20         2,657,799         119,601         177,117         650,007         946,722           21         2,492,639         112,169         164,869         638,820         915,853           22         2,344,438         105,500         154,133         627,825         887,451           23         2,209,538         99,429         144,164         617,020         860,613           24         2,077,456         93,486         134,718         606,401         834,662           25         1,950,794         87,786         125,533         595,964         809,28           26         1,836,482         82,642         117,080         585,707         785,422           27         1,714,462         77,151         108,447         575,627         761,222           28         1,576,655         70,949         98,788         565,720         735,45*           29         1,426,246         64,181         88,370         555,983         708,53           30         1,266,301         56,984         77,324         546,414         680,72           31         1,118,936 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td></t<>								
20         2,657,799         119,601         177,117         650,007         946,72-2           21         2,492,639         112,169         164,869         638,820         915,851           22         2,344,438         105,500         154,133         627,825         887,451           23         2,209,538         99,429         144,164         617,020         860,613           24         2,077,456         93,486         134,718         606,401         834,60           25         1,950,794         87,786         125,533         595,964         809,28           26         1,836,482         82,642         117,080         585,707         785,422           27         1,714,462         77,151         108,447         575,627         761,222           28         1,576,655         70,949         98,788         565,720         735,45*           29         1,426,246         64,181         88,370         555,983         708,53*           30         1,266,301         56,984         77,324         546,414         680,72*           31         1,118,936         50,352         67,323         537,010         654,68*           32         970,781								
21         2,492,639         112,169         164,869         638,820         915,851           22         2,344,438         105,500         154,133         627,825         887,451           23         2,209,538         99,429         144,164         617,020         860,612           24         2,077,456         93,486         134,718         606,401         834,60           25         1,950,794         87,786         125,533         595,964         809,282           26         1,836,482         82,642         117,080         585,707         785,422           27         1,714,462         77,151         108,447         575,627         761,222           28         1,576,655         70,949         98,788         565,720         735,45*           29         1,426,246         64,181         88,370         555,983         708,53*           30         1,266,301         56,984         77,324         546,414         680,72*           31         1,118,936         50,352         67,323         537,010         654,68*           32         970,781         43,685         57,345         527,768         628,79*           33         802,966         36,1				*				
22         2,344,438         105,500         154,133         627,825         887,453           23         2,209,538         99,429         144,164         617,020         860,613           24         2,077,456         93,486         134,718         606,401         834,604           25         1,950,794         87,786         125,533         595,964         809,283           26         1,836,482         82,642         117,080         585,707         785,422           27         1,714,462         77,151         108,447         575,627         761,222           28         1,576,655         70,949         98,788         565,720         735,457           29         1,426,246         64,181         88,370         555,983         708,533           30         1,266,301         56,984         77,324         546,414         680,723           31         1,118,936         50,352         67,323         537,010         654,683           32         970,781         43,685         57,345         527,768         628,793           33         802,966         36,133         46,793         518,685         601,61           34         631,241         28,406 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
23         2,209,538         99,429         144,164         617,020         860,61           24         2,077,456         93,486         134,718         606,401         834,60           25         1,950,794         87,786         125,533         595,964         809,28           26         1,836,482         82,642         117,080         585,707         785,422           27         1,714,462         77,151         108,447         575,627         761,222           28         1,576,655         70,949         98,788         565,720         735,457           29         1,426,246         64,181         88,370         555,983         708,534           30         1,266,301         56,984         77,324         546,414         680,722           31         1,118,936         50,352         67,323         537,010         654,683           32         970,781         43,685         57,345         527,768         628,793           33         802,966         36,133         46,793         518,685         601,61           34         631,241         28,406         36,660         509,758         574,822           35         478,650         21,539								
24         2,077,456         93,486         134,718         606,401         834,60           25         1,950,794         87,786         125,533         595,964         809,28           26         1,836,482         82,642         117,080         585,707         785,429           27         1,714,462         77,151         108,447         575,627         761,222           28         1,576,655         70,949         98,788         565,720         735,457           29         1,426,246         64,181         88,370         555,983         708,534           30         1,266,301         56,984         77,324         546,414         680,722           31         1,118,936         50,352         67,323         537,010         654,683           32         970,781         43,685         57,345         527,768         628,793           33         802,966         36,133         46,793         518,685         601,61           34         631,241         28,406         36,660         509,758         574,82           35         478,650         21,539         28,036         500,984         550,56           36         369,213         16,615								
25         1,950,794         87,786         125,533         595,964         809,28           26         1,836,482         82,642         117,080         585,707         785,42°           27         1,714,462         77,151         108,447         575,627         761,22°           28         1,576,655         70,949         98,788         565,720         735,45°           29         1,426,246         64,181         88,370         555,983         708,53°           30         1,266,301         56,984         77,324         546,414         680,72°           31         1,118,936         50,352         67,323         537,010         654,68°           32         970,781         43,685         57,345         527,768         628,79°           33         802,966         36,133         46,793         518,685         601,61           34         631,241         28,406         36,660         509,758         574,82°           35         478,650         21,539         28,036         500,984         550,56           36         369,213         16,615         21,994         492,362         530,97           37         276,153         12,427         <								
26         1,836,482         82,642         117,080         585,707         785,42°           27         1,714,462         77,151         108,447         575,627         761,22°           28         1,576,655         70,949         98,788         565,720         735,45°           29         1,426,246         64,181         88,370         555,983         708,53°           30         1,266,301         56,984         77,324         546,414         680,72°           31         1,118,936         50,352         67,323         537,010         654,68°           32         970,781         43,685         57,345         527,768         628,79°           33         802,966         36,133         46,793         518,685         601,61           34         631,241         28,406         36,660         509,758         574,82°           35         478,650         21,539         28,036         500,984         550,56           36         369,213         16,615         21,994         492,362         530,97           37         276,153         12,427         16,615         483,888         512,93           38         196,014         8,821         1								
27         1,714,462         77,151         108,447         575,627         761,22           28         1,576,655         70,949         98,788         565,720         735,45'           29         1,426,246         64,181         88,370         555,983         708,53           30         1,266,301         56,984         77,324         546,414         680,72           31         1,118,936         50,352         67,323         537,010         654,683           32         970,781         43,685         57,345         527,768         628,79           33         802,966         36,133         46,793         518,685         601,61           34         631,241         28,406         36,660         509,758         574,82           35         478,650         21,539         28,036         500,984         550,56           36         369,213         16,615         21,994         492,362         530,97           37         276,153         12,427         16,615         483,888         512,93           38         196,014         8,821         11,969         475,560         496,35           40         105,789         4,761         6,744								
28         1,576,655         70,949         98,788         565,720         735,45°           29         1,426,246         64,181         88,370         555,983         708,53°           30         1,266,301         56,984         77,324         546,414         680,72°           31         1,118,936         50,352         67,323         537,010         654,68°           32         970,781         43,685         57,345         527,768         628,79°           33         802,966         36,133         46,793         518,685         601,61°           34         631,241         28,406         36,660         509,758         574,82°           35         478,650         21,539         28,036         500,984         550,50°           36         369,213         16,615         21,994         492,362         530,97°           37         276,153         12,427         16,615         483,888         512,936           38         196,014         8,821         11,969         475,560         496,350           39         144,600         6,507         9,060         467,375         482,94°           40         105,789         4,761         6,744<						761,224		
29         1,426,246         64,181         88,370         555,983         708,53-30           30         1,266,301         56,984         77,324         546,414         680,722           31         1,118,936         50,352         67,323         537,010         654,683           32         970,781         43,685         57,345         527,768         628,793           33         802,966         36,133         46,793         518,685         601,61           34         631,241         28,406         36,660         509,758         574,822           35         478,650         21,539         28,036         500,984         550,561           36         369,213         16,615         21,994         492,362         530,970           37         276,153         12,427         16,615         483,888         512,930           38         196,014         8,821         11,969         475,560         496,350           39         144,600         6,507         9,060         467,375         482,944           40         105,789         4,761         6,744         459,331         470,830           42         52,341         2,355         3,545						735,457		
30         1,266,301         56,984         77,324         546,414         680,72           31         1,118,936         50,352         67,323         537,010         654,68           32         970,781         43,685         57,345         527,768         628,79           33         802,966         36,133         46,793         518,685         601,61           34         631,241         28,406         36,660         509,758         574,82           35         478,650         21,539         28,036         500,984         550,56           36         369,213         16,615         21,994         492,362         530,97           37         276,153         12,427         16,615         483,888         512,93           38         196,014         8,821         11,969         475,560         496,35           39         144,600         6,507         9,060         467,375         482,94           40         105,789         4,761         6,744         459,331         470,83           41         74,825         3,367         4,889         451,426         459,68           42         52,341         2,355         3,545         443,6			64,181	88,370		708,534		
32         970,781         43,685         57,345         527,768         628,793           33         802,966         36,133         46,793         518,685         601,61           34         631,241         28,406         36,660         509,758         574,822           35         478,650         21,539         28,036         500,984         550,560           36         369,213         16,615         21,994         492,362         530,970           37         276,153         12,427         16,615         483,888         512,930           38         196,014         8,821         11,969         475,560         496,350           39         144,600         6,507         9,060         467,375         482,942           40         105,789         4,761         6,744         459,331         470,836           41         74,825         3,367         4,889         451,426         459,683           42         52,341         2,355         3,545         443,657         449,553           43         40,841         1,838         2,901         436,021         440,761           44         32,344         1,455         2,336         428,	30			77,324	546,414	680,722		
33         802,966         36,133         46,793         518,685         601,61           34         631,241         28,406         36,660         509,758         574,82           35         478,650         21,539         28,036         500,984         550,56           36         369,213         16,615         21,994         492,362         530,97           37         276,153         12,427         16,615         483,888         512,93           38         196,014         8,821         11,969         475,560         496,35           39         144,600         6,507         9,060         467,375         482,942           40         105,789         4,761         6,744         459,331         470,836           41         74,825         3,367         4,889         451,426         459,683           42         52,341         2,355         3,545         443,657         449,553           43         40,841         1,838         2,901         436,021         440,764           44         32,344         1,455         2,336         428,517         432,303           45         25,241         1,136         1,835         421,142	31	1,118,936	50,352	67,323	537,010	654,685		
34         631,241         28,406         36,660         509,758         574,82           35         478,650         21,539         28,036         500,984         550,56           36         369,213         16,615         21,994         492,362         530,976           37         276,153         12,427         16,615         483,888         512,930           38         196,014         8,821         11,969         475,560         496,350           39         144,600         6,507         9,060         467,375         482,942           40         105,789         4,761         6,744         459,331         470,830           41         74,825         3,367         4,889         451,426         459,683           42         52,341         2,355         3,545         443,657         449,557           43         40,841         1,838         2,901         436,021         440,761           44         32,344         1,455         2,336         428,517         432,300           45         25,241         1,136         1,835         421,142         424,113           46         18,552         835         1,347         413,894	32	970,781	43,685	57,345	527,768	628,798		
35       478,650       21,539       28,036       500,984       550,566         36       369,213       16,615       21,994       492,362       530,976         37       276,153       12,427       16,615       483,888       512,936         38       196,014       8,821       11,969       475,560       496,356         39       144,600       6,507       9,060       467,375       482,943         40       105,789       4,761       6,744       459,331       470,836         41       74,825       3,367       4,889       451,426       459,683         42       52,341       2,355       3,545       443,657       449,557         43       40,841       1,838       2,901       436,021       440,761         44       32,344       1,455       2,336       428,517       432,300         45       25,241       1,136       1,835       421,142       424,112         46       18,552       835       1,347       413,894       416,076         47       12,909       581       940       406,770       408,29         48       9,905       446       719       399,769 <t< td=""><td>33</td><td>802,966</td><td>36,133</td><td>46,793</td><td>518,685</td><td>601,611</td></t<>	33	802,966	36,133	46,793	518,685	601,611		
36         369,213         16,615         21,994         492,362         530,976           37         276,153         12,427         16,615         483,888         512,936           38         196,014         8,821         11,969         475,560         496,356           39         144,600         6,507         9,060         467,375         482,942           40         105,789         4,761         6,744         459,331         470,831           41         74,825         3,367         4,889         451,426         459,683           42         52,341         2,355         3,545         443,657         449,557           43         40,841         1,838         2,901         436,021         440,760           44         32,344         1,455         2,336         428,517         432,300           45         25,241         1,136         1,835         421,142         424,111           46         18,552         835         1,347         413,894         416,076           47         12,909         581         940         406,770         408,29           48         9,905         446         719         399,769         40	34	631,241	28,406	36,660	509,758	574,823		
37         276,153         12,427         16,615         483,888         512,930           38         196,014         8,821         11,969         475,560         496,350           39         144,600         6,507         9,060         467,375         482,943           40         105,789         4,761         6,744         459,331         470,831           41         74,825         3,367         4,889         451,426         459,683           42         52,341         2,355         3,545         443,657         449,557           43         40,841         1,838         2,901         436,021         440,760           44         32,344         1,455         2,336         428,517         432,300           45         25,241         1,136         1,835         421,142         424,113           46         18,552         835         1,347         413,894         416,070           47         12,909         581         940         406,770         408,29           48         9,905         446         719         399,769         400,93           49         7,720         347         561         392,889         393,79	35	478,650	21,539	28,036	500,984	550,560		
38         196,014         8,821         11,969         475,560         496,350           39         144,600         6,507         9,060         467,375         482,943           40         105,789         4,761         6,744         459,331         470,836           41         74,825         3,367         4,889         451,426         459,683           42         52,341         2,355         3,545         443,657         449,557           43         40,841         1,838         2,901         436,021         440,760           44         32,344         1,455         2,336         428,517         432,300           45         25,241         1,136         1,835         421,142         424,113           46         18,552         835         1,347         413,894         416,070           47         12,909         581         940         406,770         408,29           48         9,905         446         719         399,769         400,93           49         7,720         347         561         392,889         393,79	36	369,213	16,615	21,994	492,362	530,970		
39     144,600     6,507     9,060     467,375     482,942       40     105,789     4,761     6,744     459,331     470,836       41     74,825     3,367     4,889     451,426     459,683       42     52,341     2,355     3,545     443,657     449,553       43     40,841     1,838     2,901     436,021     440,760       44     32,344     1,455     2,336     428,517     432,300       45     25,241     1,136     1,835     421,142     424,113       46     18,552     835     1,347     413,894     416,070       47     12,909     581     940     406,770     408,29       48     9,905     446     719     399,769     400,93       49     7,720     347     561     392,889     393,79	37	276,153	12,427	16,615	483,888	512,930		
40         105,789         4,761         6,744         459,331         470,836           41         74,825         3,367         4,889         451,426         459,68           42         52,341         2,355         3,545         443,657         449,55'           43         40,841         1,838         2,901         436,021         440,766           44         32,344         1,455         2,336         428,517         432,300           45         25,241         1,136         1,835         421,142         424,112           46         18,552         835         1,347         413,894         416,076           47         12,909         581         940         406,770         408,29           48         9,905         446         719         399,769         400,93           49         7,720         347         561         392,889         393,79	38	196,014	8,821	11,969	475,560	496,350		
40         105,789         4,761         6,744         459,331         470,836           41         74,825         3,367         4,889         451,426         459,68           42         52,341         2,355         3,545         443,657         449,55'           43         40,841         1,838         2,901         436,021         440,766           44         32,344         1,455         2,336         428,517         432,300           45         25,241         1,136         1,835         421,142         424,112           46         18,552         835         1,347         413,894         416,076           47         12,909         581         940         406,770         408,29           48         9,905         446         719         399,769         400,93           49         7,720         347         561         392,889         393,79		144,600	6,507	9,060	467,375	482,943		
42     52,341     2,355     3,545     443,657     449,55'       43     40,841     1,838     2,901     436,021     440,76'       44     32,344     1,455     2,336     428,517     432,30'       45     25,241     1,136     1,835     421,142     424,11'       46     18,552     835     1,347     413,894     416,076       47     12,909     581     940     406,770     408,29       48     9,905     446     719     399,769     400,93       49     7,720     347     561     392,889     393,79'	40	105,789	4,761	6,744		470,836		
43     40,841     1,838     2,901     436,021     440,76       44     32,344     1,455     2,336     428,517     432,30       45     25,241     1,136     1,835     421,142     424,113       46     18,552     835     1,347     413,894     416,076       47     12,909     581     940     406,770     408,29       48     9,905     446     719     399,769     400,93       49     7,720     347     561     392,889     393,79	41	74,825	3,367	4,889	451,426	459,683		
44     32,344     1,455     2,336     428,517     432,304       45     25,241     1,136     1,835     421,142     424,113       46     18,552     835     1,347     413,894     416,076       47     12,909     581     940     406,770     408,29       48     9,905     446     719     399,769     400,934       49     7,720     347     561     392,889     393,793	42	52,341	2,355	3,545	443,657	449,557		
45     25,241     1,136     1,835     421,142     424,113       46     18,552     835     1,347     413,894     416,076       47     12,909     581     940     406,770     408,29       48     9,905     446     719     399,769     400,933       49     7,720     347     561     392,889     393,793	43	40,841	1,838	2,901	436,021	440,760		
46     18,552     835     1,347     413,894     416,070       47     12,909     581     940     406,770     408,29       48     9,905     446     719     399,769     400,93-       49     7,720     347     561     392,889     393,79-	44	32,344	1,455	2,336	428,517	432,308		
47     12,909     581     940     406,770     408,29       48     9,905     446     719     399,769     400,93-       49     7,720     347     561     392,889     393,79-	45	25,241	1,136	1,835	421,142	424,113		
48     9,905     446     719     399,769     400,934       49     7,720     347     561     392,889     393,793	46	18,552	835	1,347	413,894	416,076		
49 7,720 347 561 392,889 393,79	47	12,909	581	940	406,770	408,291		
	48	9,905	446	719	399,769	400,934		
50 5,166 232 374 386,127 386,733	49	7,720	347	561	392,889	393,797		
,	50	5,166	232	374	386,127	386,733		

## SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION OF CONTRIBUTIONS (CONCLUDED)

Year	Payroll for Current Employees	Contributions from Current Employees	Normal Cost Contributions	UAL Contributions	Total Contributions		
51	\$ 2,541	\$ 114	\$ 182	\$ 379,482	\$ 379,778		
52	1,196	54	85	379,482	373,089		
53	731	33	52	366,532	366,616		
54	190	9	14	360,223	360,246		
55	0	0	0	354,024	354,024		
56	0	0	0	347,931	347,931		
57	0	0	0	341,943	341,943		
58	0	0	0	336,058	336,058		
59	0	0	0	330,274	330,274		
60	0	0	0	324,590	324,590		
61	0	0	0	319,003	319,003		
62	0	0	0	313,513	313,513		
63	0	0	0	308,117	308,117		
64	0	0	0	302,814	302,814		
65	0	0	0	297,603	297,603		
66	0	0	0	292,481	292,481		
67	0	0	0	287,447	287,447		
68	0	0	0	282,500	282,500		
69	0	0	0	277,638	277,638		
70	0	0	0	277,038	277,859		
70	0	0	0	268,163			
72	0	0	0		268,163		
73	0	0	0	263,548 259,012	263,548 259,012		
73 74	0	0	0	254,554			
75	0	0	0		254,554		
75 76	0	0	0	250,173	250,173		
76 77	0	0	0	245,868 241,636	245,868		
78	0	0	0	237,477	241,636 237,477		
78 79	0	0	0	233,390	233,390		
80	0	0	0	229,373	229,373		
81	0	0	0	225,426	225,426		
82	0	0	0	221,546	221,546		
83	0	0	0	217,733	217,733		
84	0	0	0	217,733			
85	0	0	0	210,303	213,986		
86	0	0	0	206,683	210,303		
	0	0	0	200,083	206,683		
87 88	0	0	0	199,630	203,126 199,630		
89	0	0	0				
				196,194	196,194		
90	0	0	0	192,818	192,818		
91 92	0	0	0	189,499	189,499		
	0		0	186,238	186,238		
93	0	0	0	183,032	183,032		
94 05	0	0	0	179,882	179,882		
95 06	0	0	0	176,786 173,744	176,786		
96	0	0	0		173,744		
97	0	0	0	170,754	170,754		
98	0	0	0	167,815	167,815		
99	0	0	0	164,927	164,927		
100	0	0	0	162,088	162,088		

## SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION OF PLAN FIDUCIARY NET POSITION

Year	Projected Beginning Plan Net Position	-		ojected Benefit Payments	Projected Investment Earnings at 7.50%	Projected Ending Plan Net Position		
	(a)	(b)		(c)	(d)	(e)=(a)+(b)-(c)+(d)		
1	\$ 40,281,777	\$ 1,365,612	\$	2,118,726	\$ 2,993,402	\$ 42,522,065		
2	42,522,065	1,259,559		2,301,638	3,150,783	44,630,769		
3	44,630,769	1,229,208		2,478,116	3,301,320	46,683,181		
4	46,683,181	1,211,066		2,693,071	3,446,668	48,647,844		
5	48,647,844	1,198,310		2,912,162	3,585,481	50,519,473		
6	50,519,473	1,193,493		3,125,876	3,717,806	52,304,895		
7	52,304,895	1,182,847		3,332,784	3,843,702	53,998,660		
8	53,998,660	1,175,583		3,539,513	3,962,855	55,597,585		
9	55,597,585	1,172,046		3,754,744	4,074,719	57,089,605		
10	57,089,605	1,169,656		3,965,515	4,178,771	58,472,518		
11	58,472,518	1,170,125		4,151,819	4,275,647	59,766,471		
12	59,766,471	1,175,047		4,312,185	4,366,969	60,996,303		
13	60,996,303	1,179,399		4,481,035	4,453,150	62,147,816		
14	62,147,816	1,144,441		4,654,058	4,531,855	63,170,054		
15	63,170,054	1,111,603		4,830,656	4,600,811	64,051,812		
16	64,051,812	1,078,279		5,025,287	4,658,549	64,763,352		
17	64,763,352	1,044,121		5,204,362	4,704,063	65,307,173		
18	65,307,173	1,010,903		5,350,326	4,738,251	65,706,002		
19	65,706,002	978,605		5,479,582	4,762,215	65,967,240		
20	65,967,240	946,724		5,625,187	4,775,272	66,064,049		
21	66,064,049	915,858		5,745,717	4,776,958	66,011,148		
22	66,011,148	887,458		5,851,907	4,768,035	65,814,734		
23	65,814,734	860,613		5,929,336	4,749,464	65,495,474		
24	65,495,474	834,604		6,003,463	4,721,832	65,048,448		
25	65,048,448	809,283		6,073,051	4,684,811	64,469,491		
26	64,469,491	785,429		6,120,821	4,638,752	63,772,850		
27	63,772,850	761,224		6,154,031	4,584,389	62,964,432		
28	62,964,432	735,457		6,198,074	4,521,188	62,023,003		
29	62,023,003	708,534		6,234,473	4,448,249	60,945,312		
30	60,945,312	680,722		6,252,625	4,365,729	59,739,138		
		654,685			4,274,784			
31 32	59,739,138			6,239,697		58,428,910		
	58,428,910	628,798		6,216,895	4,176,403	57,017,216		
33	57,017,216	601,611		6,203,853	4,070,005	55,484,980		
34	55,484,980	574,823		6,200,718	3,954,216	53,813,301		
35	53,813,301	550,560		6,178,274	3,828,774	52,014,361		
36	52,014,361	530,970		6,100,875	3,695,982	50,140,438		
37	50,140,438	512,930		6,018,987	3,557,788	48,192,169		
38	48,192,169	496,350		5,913,743	3,414,933	46,189,709		
39	46,189,709	482,943		5,777,405	3,269,275	44,164,522		
40	44,164,522	470,836		5,629,114	3,122,401	42,128,645		
41	42,128,645	459,683		5,474,574	2,974,990	40,088,743		
42	40,088,743	449,557		5,308,263	2,827,748	38,057,785		
43	38,057,785	440,760		5,132,009	2,681,592	36,048,128		
44	36,048,128	432,308		4,954,566	2,537,091	34,062,961		
45	34,062,961	424,113		4,776,327	2,394,465	32,105,212		
46	32,105,212	416,076		4,599,612	2,253,844	30,175,520		
47	30,175,520	408,291		4,421,372	2,115,394	28,277,833		
48	28,277,833	400,934		4,241,158	1,979,433	26,417,042		
49	26,417,042	393,797		4,061,188	1,846,237	24,595,888		

## SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION OF PLAN FIDUCIARY NET POSITION (CONCLUDED)

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Investment Earnings at 7.50%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)=(a)+(b)-(c)+(d)
51	\$ 22,815,714	\$ 379,778	\$ 3,704,890	\$ 1,588,741	\$ 21,079,344
52	21,079,344	373,089	3,525,904	1,464,858	19,391,386
53	19,391,386	366,616	3,347,542	1,344,590	17,755,051
54	17,755,051	360,246	3,170,298	1,228,157	16,173,156
55	16,173,156	354,024	2,993,934	1,115,780	14,649,025
56	14,649,025	347,931	2,819,049	1,007,685	13,185,592
57	13,185,592	341,943	2,646,117	904,075	11,785,492
58	11,785,492	336,058	2,475,530	805,132	10,451,152
59	10,451,152	330,274	2,307,715	711,023	9,184,734
60	9,184,734	324,590	2,143,127	621,893	7,988,089
61	7,988,089	319,003	1,982,294	537,861	6,862,659
62	6,862,659	313,513	1,825,725	459,017	5,809,464
63	5,809,464	308,117	1,673,799	385,423	4,829,204
64	4,829,204	302,814	1,526,878	317,118	3,922,258
65	3,922,258	297,603	1,385,388	254,115	3,088,588
66	3,088,588	292,481	1,249,730	196,396	2,327,735
67	2,327,735	287,447	1,120,208	143,916	1,638,890
68	1,638,890	282,500	997,085	96,604	1,020,909
69	1,020,909	277,638	880,654	54,364	472,257
70	472,257	272,859	771,251	17,067	0
71	0	268,163	669,194	0	0
72	0	263,548	574,764	0	0
73	0	259,012	488,219	0	0
74	0	254,554	409,779	0	0
75	0	250,173	339,571	0	0
76	0	245,868	277,569	0	0
77	0	241,636	223,605	0	0
78	0	237,477	177,390	0	0
79	0	233,390	138,486	0	0
80	0	229,373	106,307	0	0
81	0	225,426	80,173	0	0
82	0	221,546	59,366	0	0
83	0	217,733	43,133	0	0
84	0	213,986	30,725	0	0
85	0	210,303	21,443	0	0
86	0	206,683	14,654	0	0
87	0	203,126	9,800	0	0
88	0	199,630	6,410	0	0
89	0	196,194	4,093	0	0
90	0	192,818	2,548	0	0
91	0	189,499	1,545	0	0
92	0	186,238	914	0	0
93	0	183,032	526	0	0
94	0	179,882	293	0	0
95 06	0	176,786	157	0	0
96	0	173,744	80	0	0
97	0	170,754	39	0	0
98	0	167,815	18	0	0
99	0	164,927	9	0	0
100	0	162,088	4	0	0

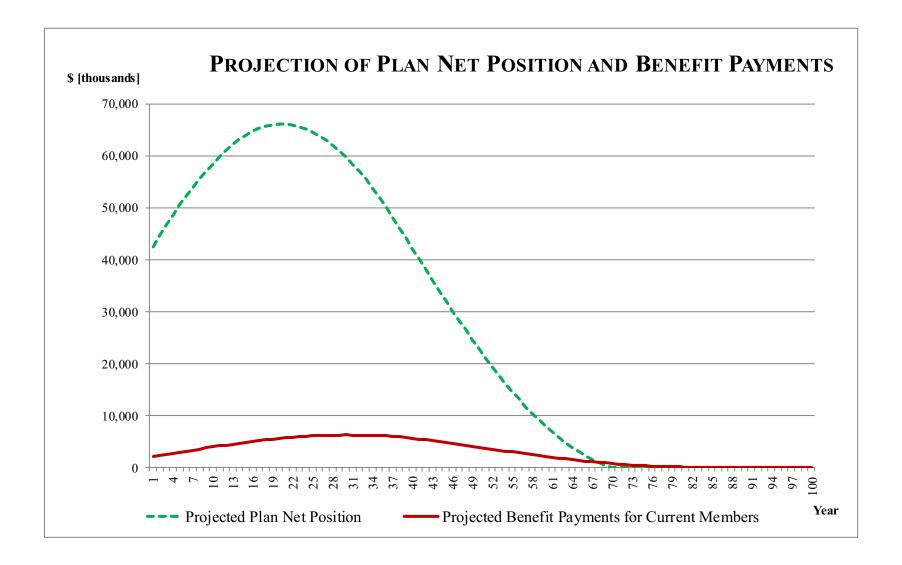
## SINGLE DISCOUNT RATE DEVELOPMENT PRESENT VALUES OF PROJECTED BENEFITS

Year	Projecto Beginning Net Posit	Plan	•	cted Benefit		ed Portion of it Payments	Un	nfunded Portion of Benefit Payments	Funde Payme Expect	t Value of d Benefit nts using ed Return nte (v)	Present V Unfunded Payment Municipa Rate	Benefit s using al Bond	Present V Ben- Payment Single D Rate	efit s using iscount
(a)	(b)			(c)		(d)		(e)		*v^((a)5)	(g)=(e)*vf		(h)=((c)/(1+	<u>`                                    </u>
1		81,777	\$		\$	2,118,726	s	0	\$	2,043,481	\$	0		2,043,801
2		22,065	Ψ	2,301,638	Ψ	2,301,638	Ψ	0	Ψ	2,065,021	Ψ	0		2,065,993
3		30,769		2,478,116		2,478,116		0		2,068,238		0		2,069,862
4		83,181		2,693,071		2,693,071		0		2,090,828		0		2,093,126
5	,	47,844		2,912,162		2,912,162		0		2,103,185		0		2,106,158
6		19,473		3,125,876		3,125,876		0		2,100,029		0		2,103,658
7		04,895		3,332,784		3,332,784		0		2,082,822		0		2,087,076
8		98,660		3,539,513		3,539,513		0		2,057,691		0		2,062,541
9		97,585		3,754,744		3,754,744		0		2,030,525		0		2,035,950
10		89,605		3,965,515		3,965,515		0		1,994,891		0		2,000,849
11		72,518		4,151,819		4,151,819		0		1,942,896		0		1,949,310
12		66,471		4,312,185		4,312,185		0		1,877,154		0		1,883,943
13		96,303		4,481,035		4,481,035		0		1,814,565		0		1,821,699
13		47,816		4,654,058		4,654,058		0		1,753,144		0		1,760,589
15		70,054		4,830,656		4,830,656		0		1,692,713		0		1,700,389
16	,	51,812		5,025,287				0		1,638,060		0		
17		63,352		5,204,362		5,025,287 5,204,362		0		1,578,076		0		1,646,049
18		07,173		5,350,326				0		1,509,149		0		1,586,271
19		06,002		5,479,582		5,350,326		0				0		1,517,463 1,446,149
20		67,240				5,479,582		0		1,437,775		0		
20		64,049		5,625,187		5,625,187		0		1,373,004		0		1,381,435
22	,	-		5,745,717		5,745,717		0		1,304,580		0		1,313,003
		11,148		5,851,907		5,851,907				1,235,991				1,244,362
23		14,734		5,929,336		5,929,336		0		1,164,972		0		1,173,230
24		95,474		6,003,463		6,003,463		0		1,097,243		0		1,105,368
25		48,448		6,073,051		6,073,051		0		1,032,523		0	1	1,040,494
26		69,491		6,120,821		6,120,821		0		968,041				975,821
27		72,850		6,154,031		6,154,031		0		905,389		0		912,953
28		64,432		6,198,074		6,198,074		0		848,250		0		855,605
29		23,003		6,234,473		6,234,473		0		793,704		0		800,837
30		45,312		6,252,625		6,252,625		0		740,479		0		747,368
31		39,138		6,239,697		6,239,697		0		687,393		0		694,006
32		28,910		6,216,895		6,216,895		0		637,099		0		643,430
33		17,216		6,203,853		6,203,853		0		591,407		0		597,472
34		84,980		6,200,718		6,200,718		0		549,868		0		555,681
35	*	13,301		6,178,274		6,178,274		0		509,654		0		515,203
36		14,361		6,100,875		6,100,875		0		468,157		0		473,403
37		40,438		6,018,987		6,018,987		0		429,650		0		434,601
38		92,169		5,913,743		5,913,743		0		392,686		0		397,336
39		89,709		5,777,405		5,777,405		0		356,867		0		361,207
40		64,522		5,629,114		5,629,114		0		323,449		0		327,485
41		28,645		5,474,574		5,474,574		0		292,622		0		296,366
42		88,743		5,308,263		5,308,263		0		263,938		0		267,399
43		57,785		5,132,009		5,132,009		0		237,371		0		240,559
44		48,128		4,954,566		4,954,566		0		213,176		0		216,107
45		62,961		4,776,327		4,776,327		0		191,169		0		193,858
46		05,212		4,599,612		4,599,612		0		171,252		0		173,716
47		75,520		4,421,372		4,421,372		0		153,131		0		155,383
48		77,833		4,241,158		4,241,158		0		136,641		0		138,694
49		17,042		4,061,188		4,061,188		0		121,715		0		123,582
50	24,5	95,888		3,882,863		3,882,863		0		108,251		0		109,947

## SINGLE DISCOUNT RATE DEVELOPMENT PRESENT VALUES OF PROJECTED BENEFITS (CONCLUDED)

Year		Projected eginning Plan Net Position	Pı	rojected Benefit Payments	Funded Portion of Benefit Payments	Un	funded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)		(b)		(c)	(d)		(e)	(f)=(d)*v^((a)5)	` ′	(h)=((c)/(1+sdr)^(a5)
51	\$	22,815,714	s	3,704,890	\$ 3,704,890	\$	0	\$ 96,083	\$ 0	\$ 97,619
52	-	21,079,344	-	3,525,904	3,525,904	-	0	85,062	0	86,448
53		19,391,386		3,347,542	3,347,542		0	75,125	0	76,373
54		17,755,051		3,170,298	3,170,298		0	66,183	0	67,304
55		16,173,156		2,993,934	2,993,934		0	58,141	0	59,144
56		14,649,025		2,819,049	2,819,049		0	50,925	0	51,820
57		13,185,592		2,646,117	2,646,117		0	44,466	0	45,262
58		11,785,492		2,475,530	2,475,530		0	38,697	0	39,402
59		10,451,152		2,307,715	2,307,715		0	33,557	0	34,179
60		9,184,734		2,143,127	2,143,127		0	28,990	0	29,536
61		7,988,089		1,982,294	1,982,294		0	24,943	0	25,422
62		6,862,659		1,825,725	1,825,725		0	21,371	0	21,787
63		5,809,464		1,673,799	1,673,799		0	18,225	0	18,586
64		4,829,204		1,526,878	1,526,878		0	15,466	0	15,777
65		3,922,258		1,385,388	1,385,388		0	13,053	0	13,320
66		3,088,588		1,249,730	1,249,730		0	10,954	0	11,181
67		2,327,735		1,120,208	1,120,208		0	9,133	0	9,326
68		1,638,890		997,085	997,085		0	7,562	0	7,724
69		1,020,909		880,654	880,654		0	6,213	0	6,348
70		472,257		771,251	489,647		281,605	3,214	24,597	5,173
71		0		669,194	0		669,194	0	56,436	4,177
72		0		574,764	0		574,764	0	46,802	3,338
73		0		488,219	0		488,219	0	38,384	2,639
74		0		409,779	0		409,779	0	31,107	2,061
75		0		339,571	0		339,571	0	24,889	1,589
76		0		277,569	0		277,569	0	19,643	1,209
77		0		223,605	0		223,605	0	15,279	906
78		0		177,390	0		177,390	0	11,703	669
79		0		138,486	0		138,486	0	8,821	486
80		0		106,307	0		106,307	0	6,538	347
81		0		80,173	0		80,173	0	4,761	244
82		0		59,366	0		59,366	0	3,404	168
83		0		43,133	0		43,133	0	2,388	113
84		0		30,725	0		30,725	0	1,642	75
85		0		21,443	0		21,443	0	1,107	49
86		0		14,654	0		14,654	0	730	31
87		0		9,800	0		9,800	0	472	19
88		0		6,410	0		6,410	0	298	12
89		0		4,093	0		4,093	0	184	7
90		0		2,548	0		2,548	0	110	4
91		0		1,545	0		1,545	0	65	2
92		0		914	0		914	0	37	1
93		0		526	0		526	0	21	1
94		0		293	0		293	0	11	0
95		0		157	0		157	0	6	0
96		0		80	0		80	0	3	0
97		0		39	0		39	0	1	0
98		0		18	0		18	0	1	0
		0		9	0		9	0	0	0
99		· ·					,			· ·
99 100		0		4	0		4	0	0	0

Arlington Heights Park Dist
Section C





GLOSSARY OF TERMS

#### **GLOSSARY OF TERMS**

Actuarial Accrued Liability (AAL)

The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."

Actuarial Assumptions

These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.

Accrued Service

Service credited under the system which was rendered before the date of the actuarial valuation.

Actuarial Equivalent

A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.

Actuarial Cost Method

A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.

Actuarial Gain (Loss)

The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.

Actuarial Present Value (APV)

The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.

Actuarial Valuation

The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.

Actuarial Valuation Date

The date as of which an actuarial valuation is performed.

Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC) A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

#### GLOSSARY OF TERMS (CONTINUED)

Amortization Payment

The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.

Amortization Method

The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be "open" (meaning, reset each year) or "closed" (the number of years remaining will decline each year.

Cost-of-Living Adjustments

Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.

Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan) A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.

Covered Valuation Payroll

The earnings of covered employees for the year ended on the valuation date, which is typically only the pensionable pay and does not include pay above any pay cap. It is not necessarily the same as payroll actually paid because it excludes all pay for people who exited during the year.

Deferred Inflows and Outflows

The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.

Discount Rate

For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically:

- 1. The benefit payments to be made while the pension plans' fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and
- 2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

Entry Age Actuarial Cost Method (EAN)

The EAN is a funding method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit ages(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.

#### GLOSSARY OF TERMS (CONTINUED)

GASB The Governmental Accounting Standards Board is an organization that

exists in order to promulgate accounting standards for governmental

entities.

Fiduciary Net Position The fiduciary net position is the value of the assets of the trust.

Long-Term Expected Rate of

Return

The long-term rate of return is the expected return to be earned over the

entire trust portfolio based on the asset allocation of the portfolio.

Money-Weighted Rate of Return

The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 68, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan

investment expense.

Multiple-Employer Defined Benefit Pension Plan A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.

Municipal Bond Rate The Municipal Bond Rate is the discount rate to be used for those benefit

payments that occur after the assets of the trust have been depleted.

Net Pension Liability (NPL) The NPL is the liability of employers and non-employer contribution

entities to plan members for benefits provided through a defined benefit

pension plan.

Non-Employer Contribution

**Entities** 

Non-employer contribution entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB Accounting statement plan members

are not considered non-employer contribution entities.

Normal Cost The actuarial present value of the pension trust benefits allocated to the

current year by the actuarial cost method.

Other Postemployment

Benefits (OPEB)

All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.

Real Rate of Return The real rate of return is the rate of return on an investment after

adjustment to eliminate inflation.

Service Cost The service cost is the portion of the actuarial present value of projected

benefit payments that is attributed to a valuation year.

#### GLOSSARY OF TERMS (CONCLUDED)

#### **Total Pension Expense**

The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year:

- 1. Service Cost;
- 2. Interest on the Total Pension Liability;
- 3. Current-Period Benefit Changes;
- 4. Employee Contributions (made negative for addition here);
- 5. Projected Earnings on Plan Investments (made negative for addition here);
- 6. Pension Plan Administrative Expense;
- 7. Other Changes in Plan Fiduciary Net Position;
- 8. Recognition of Outflow (Inflow) of Resources due to Liabilities; and
- 9. Recognition of Outflow (Inflow) of Resources due to Assets.

#### Total Pension Liability (TPL)

The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.

### Unfunded Actuarial Accrued Liability (UAAL)

The UAAL is the difference between actuarial accrued liability and valuation assets.

#### Valuation Assets

The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of the GASB Statement No. 68, the valuation asset is equal to the market value of assets.