GRS Gabriel Roeder Smith & Company
Consultants & Actuaries

CITY OF ALLEN PARK EMPLOYEES RETIREMENT SYSTEM

67TH ANNUAL ACTUARIAL VALUATION

DECEMBER 31, 2015

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June 27, 2016

The Board of Trustees
City of Allen Park Employees Retirement System
Allen Park, Michigan

Dear Board Members:

The results of the **67th Annual Actuarial Valuation** of the benefits provided by the City of Allen Park Employees Retirement System are presented in this report.

The date of the valuation was December 31, 2015. The purposes of the valuation are to measure the System's funding progress and to determine an employer contribution rate for the next fiscal year. The results of the valuation may not be applicable for other purposes. Information required by the Governmental Accounting Standard Board Statement No. 67 and Statement No. 68 will be provided in a separate report.

Valuation results, comments and conclusions are contained in Section A. The computed contribution rates shown on page A-2 may be considered as a minimum contribution rate that complies with the System's funding policy. Users of this report should be aware that contributions made at that rate do not guarantee benefit security. Given the importance of benefit security to any retirement system, we suggest that contributions in excess of those presented in this report be considered.

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

The valuation was based upon information, furnished by your onsite Plante Moran contracted staff, concerning Retirement System benefits, financial transactions, and individual members, terminated members, retirees and beneficiaries. Data was checked for internal and year-to-year consistency, but was not audited. We are not responsible for the accuracy or completeness of the data provided. This information is summarized in Section B.

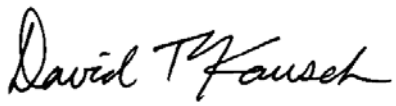
The actuarial methods and assumptions used in the actuarial valuation are summarized in Section C of this report. The assumptions are established by the Board after consulting with the actuary. This report does not include a robust assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of the risks was outside the scope of this assignment. We encourage a review and assessment of investment and other significant risks that may have a material effect on the plan's financial condition.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: plan experience differing from that anticipated by the economic and demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.

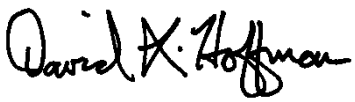
To the best of our knowledge, this report is complete and accurate and was made in accordance with standards of practice prescribed by the Actuarial Standards Board and in compliance with the Retirement System Ordinance. The actuarial assumptions used for the valuation are reasonable.

David Kausch is a Member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The signing individuals are independent of the plan sponsor.

Respectfully submitted,



David T. Kausch, FSA, EA, FCA, MAAA



David L. Hoffman

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SECTION A

VALUATION RESULTS

COMPUTED CONTRIBUTIONS FOR THE FISCAL YEAR BEGINNING JULY 1, 2016

Contributions for	% of Active Member Payroll				
	General Members	Police-Fire Members	Water Department Members	Court Members	Weighted Average
Normal Cost					
Age and service	16.53 %	18.64 %	16.53 %	16.53 %	
Death before retirement	0.22 %	0.28 %	0.22 %	0.22 %	
Disability	1.62 %	1.83 %	1.62 %	1.62 %	
Future refunds	0.71 %	0.32 %	0.71 %	0.71 %	
Service purchases	0.43 %	0.00 %	0.43 %	0.43 %	
Total	19.51 %	21.07 %	19.51 %	19.51 %	
Member Contributions	7.00 %	7.00 %	7.00 %	7.00 %	
City's Normal Cost	12.51 %	14.07 %	12.51 %	12.51 %	13.68 %
Unfunded Actuarial Accrued Liabilities*	64.72 %	20.02 %	64.72 %	64.72 %	30.97 %
City's Total Contribution	**77.23%**	**34.09%**	**77.23%**	**77.23%**	**44.65%**

* *Amortized as a level percent-of-payroll over a period of 23 years for the Police-Fire Members. Amortized as a level dollar amount over a period of 17 remaining years for the General (including Administrative and Appointees), Water Department, and Court Members (starting amortization period of 20 years). Total payroll as of December 31, 2015 was $5,846,208 ($1,491,167 for General groups, $4,355,041 for Police-Fire groups).*

DETERMINING EMPLOYER DOLLAR CONTRIBUTIONS

For any period of time, the percent-of-payroll contribution rate needs to be converted to dollars -- and then promptly contributed to the Retirement System.

There are alternate recommended administrative procedures for making contributions, described as follows:

Procedure 1: At the end of each payroll period, multiply the active member payroll for the period by the employer contribution percent, and then promptly contribute the dollar amount so determined. This procedure should be closely monitored as the payroll of closed groups decline.

Procedure 2: During each fiscal month, contribute the monthly dollar amount shown in the table below:

	Projected Annual Payroll	%	Dollar Contributions	
			Annual	Monthly
General, Water & Court	$1,475,697	77.23%	**$1,139,681**	**$94,973**
Police & Fire	$4,552,480	34.09%	**$1,551,941**	**$129,328**
Total	$6,028,177	44.65%	**$2,691,621**	**$224,301**

For either procedure, if contributions are made on a later schedule, interest should be added at the rate of 0.583% (0.00583) for each month of delay.

It is our understanding that at the August 7, 2014 Board Meeting, the Board adopted to contribute based on Procedure 2 outlined above.

VALUATION ASSETS AND ACTUARIAL ACCRUED LIABILITIES

In financing the actuarial accrued liabilities, valuation assets of $84,328,560 were distributed as follows:

Reserves for	Present Assets Applied to: Member Actuarial Accrued Liabilities	Retired Life Liabilities*	Contingency Reserve	Totals
Members' Contributions				
General, Water & Court Members	$1,982,228			$ 1,982,228
Police & Fire	4,299,618			4,299,618
Totals	6,281,846			6,281,846
Employer Contributions				
General, Water & Court Members	(2,505,308)			(2,505,308)
Police & Fire	3,888,596			3,888,596
Totals	1,383,288			1,383,288
Retired Benefit Payments				
General, Water & Court Members		$28,053,492		28,053,492
Police & Fire		48,609,934		48,609,934
Totals		76,663,426		76,663,426
Totals	**$7,665,134**	**$76,663,426**	**$ none**	**$84,328,560**

* *Based on the assumption that a reserve transfer will be made from the Employer Contribution Reserve to the Retiree Reserve, setting the Retiree Reserve equal to retired life liabilities.*

Assets were applied against actuarial accrued liabilities in determining unfunded actuarial accrued liabilities as follows:

	Retired Lives	Active and Deferred Members	Total
Computed Actuarial Accrued Liabilities	$76,663,426	$30,527,254	$107,190,680
Applied Assets	76,663,426	7,665,134	84,328,560
Unfunded Actuarial Accrued Liabilities	$ 0	$22,862,120	$ 22,862,120

DERIVATION OF EXPERIENCE GAIN (LOSS)
YEAR ENDED DECEMBER 31, 2015

Actual experience will never (except by coincidence) coincide exactly with assumed experience. Gains and losses often cancel each other over a period of years, but sizable year-to-year fluctuations are common. Detail on the derivation of the experience gain (loss) is shown below, along with a year-by-year comparative schedule.

(1)	UAAL* at start of year	$ 23,417,987
(2)	Normal cost from last valuation	1,042,242
(3)	Actual contributions	3,103,546
(4)	Interest accrual: [(1) x .070] + [(2) - (3)] x .0350	1,567,113
(5)	Expected UAAL before changes: (1) + (2) - (3) + (4)	22,923,796
(6)	Change from benefit modifications	33,143
(7)	Change from revised actuarial assumptions	0
(8)	Expected UAAL after changes: (5) + (6) + (7)	22,956,939
(9)	Actual UAAL at end of year	22,862,120
(10)	Gain (loss): (8) - (9)	94,819
(11)	Gain (loss) as percent of actuarial accrued liabilities at start of year ($104,368,019)	0.1%

* *Unfunded actuarial accrued liability.*

Valuation Date December 31	Experience Gain (Loss) as % of Beginning Accrued Liability
2005	(2.6%)
2006	1.0%
2007	(1.5%)
2008	(11.6%)
2009	(4.1%)
2010	(4.4%)
2011	(5.8%)
2012	1.7%
2013	5.5%
2014	5.0%
2015	0.1%

SUMMARY STATEMENT OF SYSTEM RESOURCES AND OBLIGATIONS

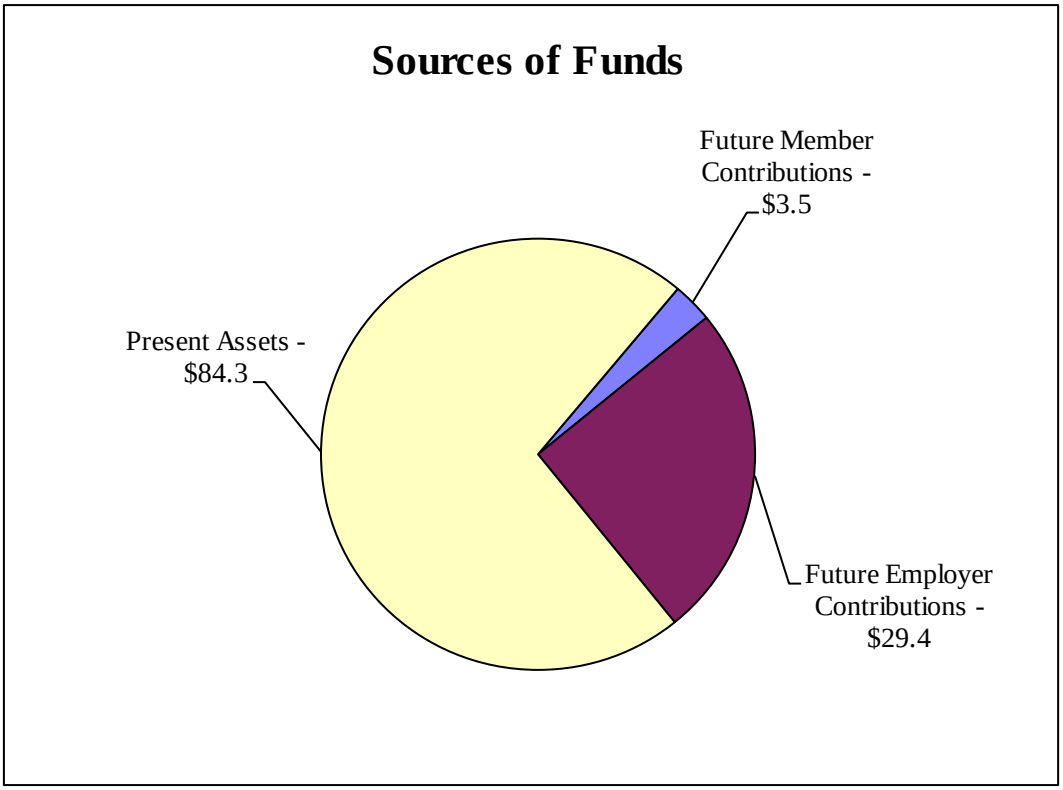
PRESENT RESOURCES AND EXPECTED FUTURE RESOURCES

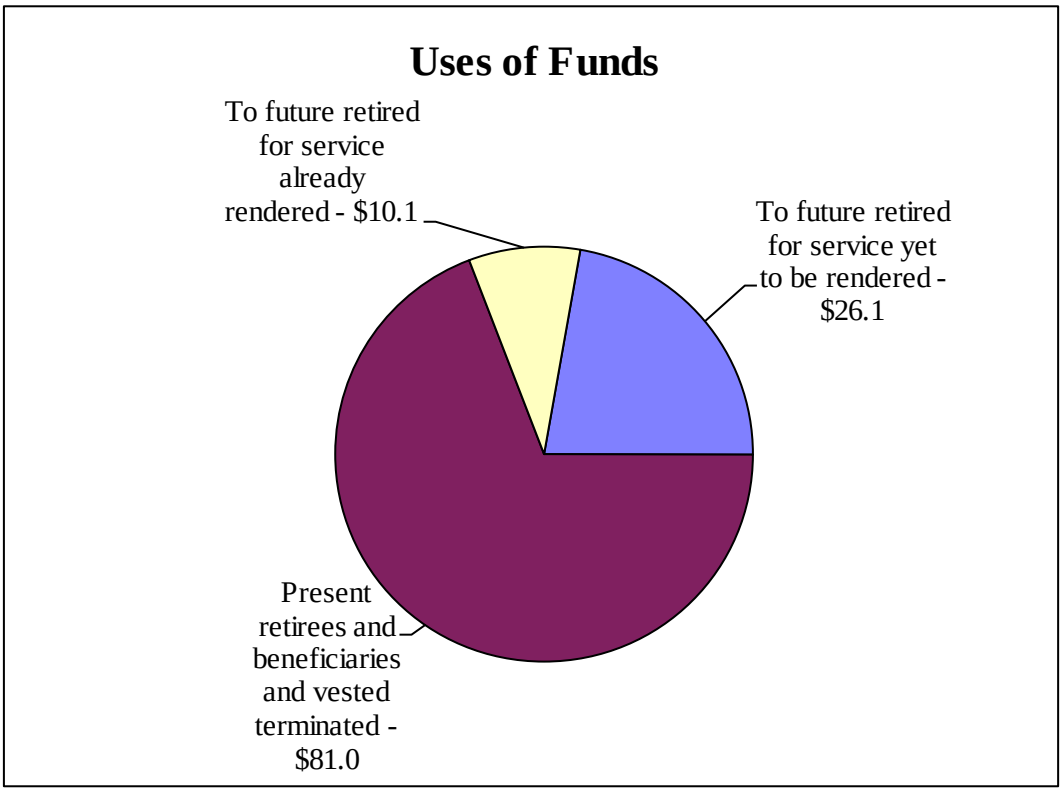
	General, Water & Court Members	Police & Fire	Totals
A. Actuarial value of System assets	$27,530,412	$56,798,148	$84,328,560
B. Present value of expected future employer contributions			
1. For normal costs	1,170,988	5,379,782	6,550,770
2. For unfunded actuarial accrued liability	9,538,412	13,323,708	22,862,120
3. Total	10,709,400	18,703,490	29,412,890
C. Present value of expected future member contributions	715,083	2,823,077	3,538,160
D. Total present and expected future Resources	$38,954,895	$78,324,715	$117,279,610

PRESENT VALUE OF EXPECTED FUTURE BENEFIT PAYMENTS

A. To retirees and beneficiaries	$28,053,492	$48,609,934	$76,663,426
B. To vested terminated members	1,234,794	3,154,148	4,388,942
C. To present active members			
1. Allocated to service rendered prior to valuation date - actuarial accrued liability	7,780,538	18,357,774	26,138,312
2. Allocated to service likely to be rendered after valuation date	1,886,071	8,202,859	10,088,930
3. Total	9,666,609	26,560,633	36,227,242
D. Total present value of expected future benefit payments	$38,954,895	$78,324,715	$117,279,610

FINANCING $117.4 MILLION OF BENEFIT PROMISES
DECEMBER 31, 2015





COMPARATIVE STATEMENT
($ IN THOUSANDS)

Valuation Date December 31	Actuarial Accrued Liability (AAL)	Present Assets	Unfunded Actuarial Accrued Liability (UAAL)	Ratio of Present Assets To AAL	Ratio of UAAL to Valuation Payroll	Employer Contributions As Payroll Percents	
						Gen., Court & Water Members	Police & Fire Members
2000	$ 58,803	$ 67,946	$ (9,143)	115.5 %	(88.0)%	11.79%	6.65%
2001*#	62,922	71,904	(8,982)	114.3 %	(83.4)%	10.50%	6.22%
2002*	68,118	72,436	(4,318)	106.3 %	(40.0)%	13.23%	11.43%
2003 #	73,437	73,490	(53)	100.1 %	(0.5)%	17.39%	14.69%
2004	76,844	76,064	780	99.0 %	7.1 %	17.30%	15.60%
2005	82,928	77,809	5,119	93.8 %	52.2 %	25.77%	16.46%
2006*	86,334	81,926	4,408	94.9 %	47.3 %	27.60%	14.98%
2007*#	90,176	83,991	6,185	93.1 %	69.4 %	32.71%	18.21%
2008*	96,025	79,485	16,540	82.8 %	181.3 %	38.93%	31.23%
2009*	97,732	77,077	20,654	78.9 %	224.4 %	51.99%	28.02%
2010#	98,700	74,681	24,018	75.7 %	313.5 %	79.02%	30.30%
2011	99,812	70,080	29,732	70.2 %	419.4 %	95.58%	36.81%
2012#	101,346	72,804	28,541	71.8 %	419.6 %	77.92%	36.53%
2013*	99,791	75,399	24,392	75.6 %	421.0 %	79.22%	31.01%
2014*	104,368	80,950	23,418	77.6 %	446.0 %	84.88%	33.86%
2015	107,295	84,329	22,966	78.6 %	392.8 %	77.68%	32.47%
2015*	107,191	84,329	22,862	78.7 %	391.1 %	77.23%	34.09%

 # Revised actuarial assumptions or methods.
** Retirement System was amended.*

The Ratio of Valuation Assets to AAL is a traditional measure of a system's funding progress. Except in years when the system is amended or actuarial assumptions are revised, this ratio can be expected to increase gradually toward 100%.

The Ratio of UAAL to Valuation Payroll is another relative index of condition. Unfunded actuarial accrued liabilities represent debt, while active member payroll represents the system's capacity to collect contributions to pay toward debt. The lower the ratio, the greater the financial strength - and vice-versa.

EXPERIENCE

Overall there was a small actuarial gain of $94,819 during the year ended December 31, 2015 (see page A-4). Experience losses were primarily due to higher increases in salary than expected and less than assumed retiree mortality experience. On a market value basis, this year's investments underperformed compared to assumptions (see page B-10); the result of this and the phase-in of 2012-2014 investment gains and losses yielded an asset gain on a funding value basis of $1.7 million, offsetting the losses attributable to salary and retiree mortality.

Payroll for Police members increased substantially this year in part due to overtime (which was not itemized). For purposes of the valuation, the actuarial accrued liability was reduced by one year of wage inflation (3%) for Police members to reflect the non-permanent nature of additional overtime. There was also loss due to a deferred member retiring earlier than expected. As a result, deferred to retired assumptions were adjusted to better align with administrative practice.

ACTUARIAL ASSUMPTIONS

There were no changes made to the actuarial assumptions for the December 31, 2015 actuarial valuation. A complete summary of assumptions is shown on pages C-7 through C-10.

BENEFIT CHANGES

Benefit changes made for the December 31, 2015 valuation includes changes to the benefit formulas for Police and Police Lieutenants and Sergeants. The member contribution rate is now 7% for all members. The complete summary of benefits is shown on pages B-1 through B-3.

The change in benefits increased the Unfunded Actuarial Accrued Liability by $33,143 as of December 31, 2015. Additional information about the impact of the benefit changes is on page A-7.

FUNDING POLICY

The remaining amortization periods are 23 years for Police and Fire and 17 years for General, Water and Court. We recommend that the Board adopt a written Funding Policy to assist in plan governance.

FUNDED STATUS

The ratio of the Actuarial Value of Assets to Actuarial Accrued Liability is 74.3% for General, Water and Court, and 81.0% for Police and Fire. Before the changes in actuarial assumptions and benefits, the ratio was 74.3% for General, Water, and Court, and 80.9% for Police and Fire.

The funded status for the System as a whole is 78.6%, based on the actuarial value of assets. On the basis of the market value of assets, the funded status would be 76.9%. This indicates that deferred losses should decrease the funded status as they become recognized (absent future gains).

ASSET ALLOCATION

The Retirement System does not provide information allocating the market value of assets between General, Court, and Water and Police and Fire. The allocation of the actuarial value of assets is shown on page B-11. We recommend that the System allocate a full reconciliation of the market value of assets each year.

GASB REPORTING STANDARDS

The GASB Statement No. 67 and No. 68 reporting disclosures required for the plan this year will be issued in a separate report.

RESERVE TRANSFERS

The actuarial present value of retirement allowances currently being paid to retired members is less than the balance in the Reserve for Retired Benefit Payments. In order to fully fund retired life liabilities, we recommend a transfer in the amount of $43,550,070 from the Reserve for Employer Contributions to the Reserve for Retired Benefit Payments. The transfer was assumed to have been made as of December 31, 2015 for purposes of this valuation. Our understanding is that this is a bookkeeping entry only, and does not affect funding or benefits. If the System elects to allocate reserves between groups, additional information on retiree liability by group is shown on page A-5.

ASSET CORRIDOR

On May 9, 2012, the Board elected to utilize a corridor in the Funding Value of Assets beginning in the December 31, 2012 valuation. This corridor limits the divergence of the Funding Value relative to the Market Value at 25% (i.e., the Funding Value would be limited to the range of 75% to 125% of the Market Value of Assets). As of December 31, 2015, the ratio of the Funding Value to the Market Value is 102.1%; therefore, the corridor did not affect the December 31, 2015 valuation.

CONCLUSION

The Retirement System's financial objective is to meet long-term benefit obligations through contributions that remain approximately level from year-to-year as a dollar amount for General, Water and Court, and as a percent of active member payroll for Police and Fire. Continued receipt of these contributions is the best guarantee that the System will be able to pay all promised benefits when due.

The System's funded ratio increased this year in part due to timely receipt of employer contributions. This valuation assumes that the plan sponsor will be able to make future contributions on a timely basis. Failure to receive employer contributions on a timely basis could jeopardize the sustainability of the fund. We did not perform an analysis of the ability of the plan sponsor to make future contributions.

OTHER OBSERVATIONS

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

Given the System's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the Retirement System earning 7.00% on the Market Value of Assets), it is expected that:

1. The employer normal cost is sufficient to cover the cost of benefits accruing each year;
2. The Unfunded Actuarial Accrued Liabilities (UAAL) will continue to be fully amortized; and
3. The funded status of the Retirement System will continue to increase gradually towards a 100% funded ratio.

Limitations of Funded Status Measurements

Unless otherwise indicated, a funded status measurement presented in this report is based upon the Actuarial Accrued Liability (AAL) and the Funding Value of Assets (FVA). Unless otherwise indicated, with regard to any funded status measurements presented in this report:

1. The measurement is inappropriate for assessing the sufficiency of Retirement System assets to cover the estimated cost of settling the Retirement System's benefit obligations, for example: transferring the liability to an unrelated third party in a market value type transaction.
2. The measurement is dependent upon the Actuarial Cost Method which, in combination with the Retirement System's amortization policy, affects the timing and amounts of future contributions. The amounts of future contributions will most certainly differ from those assumed in this report due to future actual experience differing from assumed experience based upon the actuarial assumptions. A funded status measurement in this report of 100% is not synonymous with no required future contributions. Even though the funded status is over 100%, the Retirement System would still require future normal cost contributions (i.e., contributions to cover the cost of active membership accruing an additional year of service credit).
3. The measurement would produce a different result if the Market Value of Assets (MVA) were used instead of the FVA, unless the MVA is used in the measurement.

Limitations of Project Scope

Actuarial standards do not require the actuary to evaluate the ability of the plan sponsor or other contributing entities 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.

SECTION B

BENEFIT PROVISIONS AND VALUATION DATA

SUMMARY OF BENEFIT PROVISIONS EVALUATED DECEMBER 31, 2015

Regular Retirement

Eligibility

General: Age 53 with 10 (8 for Administrative/Appointees) or more years of service. Closed to new AFSCME hires effective October 2005 and Administrative/Appointee new hires effective January 2008.

Police & Fire: Age 52 with 10 or more years of service if hired before December 31, 2012; age 55 with 25 or more years of service if hired on or after January 1, 2013.

By ordinance definition, normal retirement age is equal to the eligibility age plus 5 years.

Annual Amount

Administrative/Appointees: 2.9% of FAC times service. Maximum benefit is 75% of FAC.

Police hired before December 16, 2008: 2.9% of FAC times service accrued before July 1, 2013, plus 2.25% of FAC times service accrued between July 1, 2013 and June 30, 2015, plus 2.50% of FAC times service accrued on and after July 1, 2015. Maximum benefit is 75% of FAC (80% for Police Chief).

Police hired after December 16, 2008 and before January 1, 2013: 2.5% of FAC times service accrued before July 1, 2013, plus 2.25% of FAC times service accrued between July 1, 2013 and June 30, 2015, plus 2.50% of FAC times service accrued on and after July 1, 2015. Maximum benefit is 75% of FAC.

Police and Police Lieutenants & Sergeants hired after January 1, 2013: 2.0% of FAC times service accrued before July 1, 2015, plus 2.50% of FAC times service accrued on and after July 1, 2015. Maximum benefit is 75% of FAC.

Police and Police Lieutenants & Sergeants hired after July 1, 2015: 2.25% of FAC times service. Maximum benefit is 75% of FAC.

Police Lieutenants & Sergeants Hired Before July 1, 2015: 2.9% of FAC times service accrued before July 1, 2013, plus 2.25% of FAC times service accrued between July 1, 2013 and June 30, 2015, plus 2.50% of FAC times service accrued on and after July 1, 2015. Maximum benefit is 75% of FAC.

Fire Lieutenants & Sergeants: 2.9% of FAC times service accrued before July 1, 2013 plus 2.25% of FAC times service accrued after July 1, 2013. Maximum benefit is 75% of FAC.

Fire hired before July 1, 2008: 2.9% of FAC times service accrued before July 1, 2013 plus 2.50% of FAC times service accrued after July 1, 2013. Maximum benefit is 75% of FAC (80% for Fire Chief).

Fire hired after July 1, 2008 and before January 1, 2013: 2.5% of FAC times service. Maximum benefit is 75% of FAC.

Fire hired after January 1, 2013: 2.0% of FAC times service. Maximum benefit is 75% of FAC.

General: 2.9% of FAC times service accrued before April 1, 2014 plus 2.5% of FAC times service accrued after April 1, 2014. Maximum benefit is 75% of FAC.

In the event of any discrepancy between what is outlined in this Summary of Benefits and individual contracts, the provisions within the contracts shall supersede.

Type of Final Average Compensation

Average of the covered compensations paid during the highest 3 consecutive years (5 consecutive for Police or Fire members hired on or after January 1, 2013) of service out of the last 10 years of service.

Firefighters hired after July 1, 2008 and Police hired after December 16, 2008 shall not have their overtime included in the FAC. Police and Fire members hired on or after January 1, 2013 shall include base wages only. Prospectively commencing July 1, 2013, Fire hired on or before December 31, 2012 shall have overtime and lump sum payments excluded from FAC.

Annuity Withdrawal

Up to 2 Police and Fire members and 3 Lieutenants and Sergeants may elect to withdraw 50% of their accumulated contributions at retirement. The benefit otherwise payable is actuarially reduced based upon PBGC assumptions. This is not available to Police and Fire members hired on or after January 1, 2013.

Deferred Retirement (Vested Benefit)

Eligibility

Termination at any age with 10 (8 for Administrative/Appointees) or more years of service.

Annual Amount

Computed in the same manner as regular retirement based upon service and FAC at time of termination.

Duty Disability Retirement

Eligibility

No age or service requirements.

Annual Amount

To normal retirement age (retirement eligibility age plus 5 years): 66 2/3% of final compensation at time of disability. At normal retirement age the benefit is recomputed based on a regular retirement formula with additional service credit granted from the date of disability to the date of recomputation and a final average compensation based upon the pay of the rank during the 3 years preceding normal retirement date. Worker's compensation payments are offset.

In the event of any discrepancy between what is outlined in this Summary of Benefits and individual contracts, the provisions within the contracts shall supersede.

Non-Duty Disability Retirement

Eligibility

10 or more years of service.

Annual Amount

Police and Lieutenants & Sergeants: Computed based on a regular retirement formula (with service as of the date of disability). Minimum benefit is 20% of FAC.

All other groups: To normal retirement age (or until recovered from disability): Computed in the same manner as regular retirement, but using a 2% benefit multiplier. At normal retirement age, the benefit is recomputed based on a regular retirement formula (with service as of the date of disability). Minimum benefit is 20% of FAC.

Duty Death Before Retirement

Eligibility

No age or service requirements.

Annual Amount

To the surviving spouse until death, age 62, or remarriage, whichever occurs first, a benefit of 50% of deceased member's final compensation (75% for Lieutenants & Sergeants, and Police & Fire). If there is no surviving spouse, unmarried children under age 18 receive equal shares of 50%, (75% for Lieutenants & Sergeants, and Police & Fire) of the deceased member's final compensation.

Worker's compensation payments are offset.

Non-Duty Death Before Retirement

Eligibility

10 or more years of service and attainment of voluntary retirement age or 15 or more years of service.

Annual Amount

Computed in the same manner as regular retirement but actuarially reduced in accordance with a 100% joint and survivor election.

Death after Retirement Survivor's Pension

Payable to a surviving spouse (of a Lieutenant or Sergeant), if any, upon the death of a retired member who was receiving a straight life pension. Spouse's pension equals 70% of the straight life pension the deceased retiree was receiving.

Member Contributions

7.0% of covered compensation for all eligible employees. Covered compensation includes base salary, longevity, and pay in lieu of vacation time. For Lieutenants & Sergeants and Firefighters, overtime and pay in lieu of holiday pay. For Lieutenants & Sergeants, Police Officers and Firefighters, up to 10 days of unused vacation time and 42 days of unused sick time.

In the event of any discrepancy between what is outlined in this Summary of Benefits and individual contracts, the provisions within the contracts shall supersede.

RETIREES AND BENEFICIARIES COMPARATIVE STATEMENT

Year Ended December 31*	Added to Rolls No.	Added to Rolls Annual Pensions@	Removed from Rolls No.	Removed from Rolls Annual Pensions#	Rolls End of Year No.	Rolls End of Year Annual Pensions	Average Pension	Present Value of Pension	No. Active Per Retired	Pensions as a % of Pay
1995	9	$ 252,846	4	$ 16,282	124	$1,989,132	$16,041	$20,738,167	1.4	27.6 %
1996	7	132,618	8	51,593	123	2,070,157	16,830	21,301,094	1.5	26.9 %
1997	5	170,333	2	10,980	126	2,229,510	17,695	22,967,013	1.6	24.7 %
1998	2	73,587	1	4,932	127	2,298,165	18,096	23,408,199	1.6	25.5 %
1999	11	336,451	2	20,391	136	2,614,225	19,222	26,706,290	1.5	28.0 %
2000	3	89,448	7	55,293	132	2,648,380	20,063	26,867,023	1.6	25.5 %
2001	6	133,560	7	148,237	131	2,633,703	20,105	26,856,381	1.6	24.5 %
2002	11	348,496	3	75,278	139	2,906,921	20,913	29,833,759	1.5	27.0 %
2003	10	365,532	4	54,369	145	3,218,084	22,194	35,766,859	1.3	30.5 %
2004	4	131,904	2	23,681	147	3,326,306	22,628	37,196,728	1.3	31.3 %
2005	28	1,128,076	2	21,063	173	4,433,319	25,626	51,215,945	0.9	47.4 %
2006	16	502,037	7	165,373	182	4,769,983	26,209	53,477,694	0.8	52.8 %
2007	20	785,842	9	151,775	193	5,404,051	28,000	60,160,954	0.8	61.3 %
2008	19	743,733	3	37,524	209	6,110,260	29,236	67,228,096	0.7	67.0 %
2009	5	138,063	2	38,115	212	6,210,208	29,293	67,661,780	0.7	67.5 %
2010	20	627,490	5	65,361	227	6,772,337	29,834	73,857,811	0.5	88.4 %
2011	9	265,620	6	129,561	230	6,908,395	30,037	74,533,739	0.4	97.5 %
2012	5	128,793	5	142,161	230	6,895,027	29,978	73,695,255	0.4	101.4 %
2013	2	52,485	2	14,879	230	6,932,633	30,142	73,116,820	0.4	119.6 %
2014	6	186,157	12	251,720	224	6,867,070	30,657	77,266,519	0.4	130.8 %
2015	2	77,884	5	64,112	221	6,880,842	31,135	76,663,426	0.4	117.7 %

 # Includes adjustments due to attainment of age 65.
** Does not include DROP members.*
@ Includes beneficiaries of deceased retirees.

RETIREES AND BENEFICIARIES – DECEMBER 31, 2015
TABULATED BY TYPE OF PENSIONS BEING PAID

Type of Pensions Being Paid	No.	Annual Pensions
Age and Service Pensions		
Regular pension - benefit terminating at death of retiree	56	$ 1,420,992
Option A pension - joint and survivor benefit	78	2,862,332
Option B pension - modified joint and survivor benefit	21	574,130
Survivor pension	48	1,587,274
Total age and service pensions	203	$ 6,444,728
Casualty Pensions		
Duty disability		
Regular pension	4	$ 107,553
Option A pension		
Survivor pension	3	66,748
Totals	7	174,301
Non-duty disability		
Option A pension	5	140,085
Survivor pension	2	55,415
Totals	7	195,500
Pension to survivor beneficiary of deceased member - non-duty death	4	66,313
Total casualty pensions	18	436,114
Total Pensions Being Paid	**221**	**$6,880,842**

RETIREES AND BENEFICIARIES – DECEMBER 31, 2015
TABULATED BY ATTAINED AGES

Attained Ages	Age and Service		Casualty		Totals	
	No.	Annual Allowances	No.	Annual Allowances	No.	Annual Allowances
Under 40						
40 - 44	1	$ 39,450			1	$ 39,450
45 - 49	10	518,860	2	$ 73,036	12	591,896
50 - 54	34	1,426,095	2	79,163	36	1,505,258
55 - 59	40	1,444,062	1	27,570	41	1,471,632
60 - 64	36	1,237,824	4	97,083	40	1,334,907
65 - 69	25	761,182	4	114,018	29	875,200
70 - 74	22	502,961			22	502,961
75 - 79	12	236,385	2	18,299	14	254,684
80 - 84	13	192,481	2	24,999	15	217,480
85 - 89	9	79,908	1	1,946	10	81,854
90 & Over	1	5,520			1	5,520
Totals	**203**	**$6,444,728**	**18**	**$436,114**	**221**	**$6,880,842**

Also included in the valuation are 13 deferred members that are not shown in the table above and 4 members with pending benefits or refunds.

COMPARATIVE STATEMENT

Valuation Date December 31	Active Members	Active Members in Valuation				
		Valuation Payroll	Average Age	Average Service	Average Pay	% Inc.
1995	179	$ 7,207,186	41.1	11.4	$ 40,264	3.3%
1996	179	7,702,081	41.4	11.4	43,028	6.9%
1997	189	8,519,683	41.7	11.0	45,078	4.8%
1998	199	9,023,188	41.9	11.1	45,343	0.6%
1999	202	9,335,616	41.5	10.7	46,216	1.9%
2000	211	10,383,761	41.8	11.0	49,212	6.5%
2001	209	10,768,665	42.4	11.7	51,525	4.7%
2002	204	10,783,586	42.0	11.9	52,861	2.6%
2003	188	10,539,218	42.1	11.9	56,060	6.1%
2004	185	10,635,766	42.4	12.3	57,491	2.6%
2005	157	9,358,177	41.7	10.9	59,606	3.7%
2006	148	9,037,043	42.2	11.6	61,061	2.4%
2007	148	8,817,298	41.1	10.8	59,576	(2.4)%
2008	136	9,123,164	40.3	10.5	67,082	12.6%
2009	138	9,205,906	40.9	11.1	66,709	(0.6)%
2010	117	7,660,963	39.9	11.4	65,478	(1.8)%
2011	103	7,088,572	40.4	12.2	68,821	5.1%
2012	92	6,801,883	41.0	13.0	73,934	7.4%
2013	85	5,794,143	41.6	13.4	68,166	(7.8)%
2014	85	5,250,588	41.8	13.6	61,772	(9.4)%
2015	87	5,846,208	42.4	14.3	67,198	8.8%

ACTIVE MEMBERS ADDED TO AND REMOVED FROM ROLLS

Year Ended December 31	Added During Year		Terminations During Year								Active Members End of Year
			Normal Retirement		Disability Retirement		Died-in-Service		Withdrawal		
	A	E	A	E	A	E	A	E	A	E	
2011	0	14	4	2.0	1	0.4	0	0.1	9	1.9	103
2012	3	6*	1	0.8	2	0.5	0	0.1	11	1.5	92
2013	1	5*	1	0.8	0	0.4	0	0.1	7	1.2	85
2014	5	3*	1	0.3	1	0.4	0	0.1	3	1.0	85
2015	2	0*	0	1.3	0	0.4	0	0.1	0	1.0	87
5-Year Totals	11	28	7	5.2	4	2.1	0	0.5	30	6.6	

* *Reflects Police & Fire only, since General group is closed to new hires.*
A = Actual
E = Expected

ACTIVE MEMBERS – DECEMBER 31, 2015
BY ATTAINED AGE AND YEARS OF SERVICE
GENERAL, COURT AND WATER DEPARTMENT

Attained Age	Years of Service to Valuation Date							No.	Valuation Payroll	Average Pay
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus			
35-39			1	2				3	$ 138,543	$ 46,181
40-44				4	2			6	348,271	58,045
45-49			2	4	1			7	390,774	55,825
50-54				4	3	1		8	487,523	60,940
55-59			2					2	126,056	63,028
Totals			**5**	**14**	**6**	**1**		**26**	**$ 1,491,167**	**$ 57,353**

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 46.7 years
Service: 18.0 years

ACTIVE MEMBERS – DECEMBER 31, 2015
BY ATTAINED AGE AND YEARS OF SERVICE
POLICE AND FIRE MEMBERS

Attained Age	Years of Service to Valuation Date							No.	Valuation Payroll	Average Pay
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus			
20-24	1							1	$ 18,619	$ 18,619
25-29	3							3	115,896	38,632
30-34	3	7	1					11	705,345	64,122
35-39	1	4	2	2				9	642,723	71,414
40-44	2	3		6	1			12	802,771	66,898
45-49	1	1	2	6	13			23	1,908,448	82,976
50-54			1		1			2	161,239	80,620
Totals	**11**	**15**	**6**	**14**	**15**			**61**	**$ 4,355,041**	**$ 71,394**

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 40.6 years
Service: 12.7 years

DEVELOPMENT OF FUNDING VALUE OF ASSETS

Year Ended December 31:	2013	2014	2015	2016	2017	2018
Assumed Investment Return	**7.5%**	**7.5%**	**7.0%**	**7.0%**	**7.0%**	**7.0%**
A. Funding Value Beginning of Year	$72,804,464	$75,398,785	$80,950,032			
B. Market Value End of Year	82,380,318	85,837,172	82,569,087			
C. Market Value Beginning of Year	72,942,550	82,380,318	85,837,172			
D. Non-Investment Net Cash Flow	(4,847,083)	(1,558,497)	(3,839,555)			
E. Investment Income						
E1. Market Total: B - C - D	14,284,851	5,015,351	571,470			
E2. Amount for Immediate Recognition	5,278,569	5,596,465	5,532,118			
E3. Amount for Phased-In Recognition: E1-E2	9,006,282	(581,114)	(4,960,648)			
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.25 x E3	2,251,571	(145,279)	(1,240,162)			
F2. First Prior Year	819,835	2,251,571	(145,279)	$ (1,240,162)		
F3. Second Prior Year	(1,412,847)	819,835	2,251,571	(145,279)	$ (1,240,162)	
F4. Third Prior Year	504,276	(1,412,848)	819,835	2,251,569	(145,277)	$ (1,240,162)
F5. Total Recognized Investment Gain	2,162,835	1,513,279	1,685,965	866,128	(1,385,439)	(1,240,162)
G. Total Return Recognized this Year: E2 + F5	7,441,404	7,109,744	7,218,083			
H. Preliminary Funding Value End of Year: A + D + G	75,398,785	80,950,032	84,328,560			
H1. 125% of Market Value End of Year:	102,975,398	107,296,465	103,211,359			
H2. 75% of Market Value End of Year:	61,785,239	64,377,879	61,926,815			
H3. Funding Value End of Year: H, but not greater than H1, nor less than H2	**75,398,785**	**80,950,032**	**84,328,560**			
I. Difference between Market & Funding Value: B-H3	6,981,533	4,887,140	(1,759,473)	(2,625,601)	(1,240,162)	
J. Recognized Rate of Return	**10.6%**	**9.5%**	**9.1%**			
K. Market Value Rate of Return	**20.3%**	**6.1%**	**0.7%**			
L. Ratio of Funding Value to Market Value	**91.5%**	**94.3%**	**102.1%**			

The Funding Value of Assets recognizes assumed investment income (line E2) fully each year. Differences between actual and assumed investment income (line E3) are phased-in over a closed 4-year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will tend to be greater than market value. The Funding Value of Assets is **unbiased** with respect to Market Value. At any time it may be either greater or less than Market Value. If actual and assumed rates of investment income are exactly equal for 3 consecutive years, the Funding Value will become equal to Market Value.

ALLOCATION OF FUNDING VALUE OF ASSETS
AS OF DECEMBER 31, 2015

	General, Water, and Court	Police & Fire	Total
A. Funding Value at Beginning of Year	$26,296,952	$54,653,080	$80,950,032
B. Contributions			
B1. Member	108,943	295,452	404,395
B2. Employer	1,303,905	1,395,246	2,699,151
B3. Total = B1+B2	1,412,848	1,690,698	3,103,546
C. Disbursements*	2,530,318	4,412,783	6,943,101
D. Non-investment cash flow = B3-C	(1,117,470)	(2,722,085)	(3,839,555)
E. Average Asset Value During Year = A+(D/2)	25,738,217	53,292,038	79,030,255
F. Ratio	32.57%	67.43%	100.00%
G. Allocation of Investment Return	2,350,930	4,867,153	7,218,083
H. Funding Value at End of Year = A+D+G	**$27,530,412**	**$56,798,148**	**$84,328,560**

* *Actual Disbursements made during the year are not reported by division. The allocation shown is estimated based on retirement benefits and refunds as reported on the valuation date in the census data.*

SUMMARY OF CURRENT ASSET INFORMATION

Balance Sheet

Current Assets (Funding Value*)		Reserves for	
Cash	$ 0	Employees' Contributions	$ 6,281,846
Receivables	154,121	Employer Contributions	42,779,323
Short-Term Investments	1,547,673	Retired Benefit Payments	33,113,356
Common Stock	57,622,826	Undistributed Investment Income	394,562
Bonds	20,369,444	Market Value Adjustment	1,759,473
Other	2,875,023		
Market Value Adjustment	1,759,473		
Valuation	$84,328,560	Total Reserves	$84,328,560

* *Market Value of assets was reported to be $82,569,087 (see page B-10).*

Revenues and Expenditures

	2015	2014
Balance - January 1,	$80,950,032	$75,398,785
Revenues		
Employees' Contributions	404,395	426,203
Employer Contributions	2,699,151	5,028,314
Recognized Investment Income	7,406,554	7,277,328
Miscellaneous (Class Action, etc.)	0	8,332
Total	10,510,100	12,740,177
Expenditures		
Benefit Payments	6,864,673	6,911,331
Refund of Member Contributions	78,428	101,684
Administrative and Investment Expenses	188,471	175,916
Total	7,131,572	7,188,930
Balance - December 31,	$84,328,560	$80,950,032
Ratio of Net Investment Income to Mean Assets	9.1 %	9.5 %

SECTION C

VALUATION PROCEDURES

BASIC FINANCIAL OBJECTIVE AND OPERATION OF THE RETIREMENT SYSTEM

Benefit Promises Made Which Must Be Paid For. A retirement program is an orderly means of handing out, keeping track of, and financing contingent pension promises to a group of employees. As each member of the retirement program acquires a unit of service credit they are, in effect, handed an "IOU" which reads: "The Employees Retirement System promises to pay you one unit of retirement benefits, payments in cash commencing when you retire."

The principal related financial question is: ***When shall the money required to cover the "IOU" be contributed?*** This year, when the benefit of the member's service is received? Or, some future year when the "IOU" becomes a cash demand?

The constitution of the State of Michigan is directed to the question:

> "Financial benefits arising on account of service rendered in each fiscal year shall be funded during that year and such funding shall not be used for financing unfunded accrued liabilities."

The Retirement System meets this constitutional requirement by having the following ***Financial Objective: To establish and receive contributions, expressed as percents of member payroll, which will remain approximately level from year-to-year*** and not have to be increased for future generations of taxpayers.

Translated into actuarial terminology, a level percent-of-payroll contribution objective means that the contribution rate must be at least:

> ***Normal Cost*** (the actuarial present value of benefits likely to be paid on account of members' service being rendered in the current year)
>
> . . . plus . . .
>
> ***Interest on the Unfunded Actuarial Accrued Liability*** (the difference between the actuarial accrued liability and current system assets).

If contributions to the retirement program are less than the preceding amount, the difference, plus investment earnings not realized thereon, will have to be contributed at some later time, or, benefits will have to be reduced, to satisfy the fundamental fiscal equation under which all retirement programs must operate; that is:

B = C + I - E

Benefit payments to any group of members and their beneficiaries cannot exceed the sum of:

Contributions received on behalf of the group

. . . plus . . .

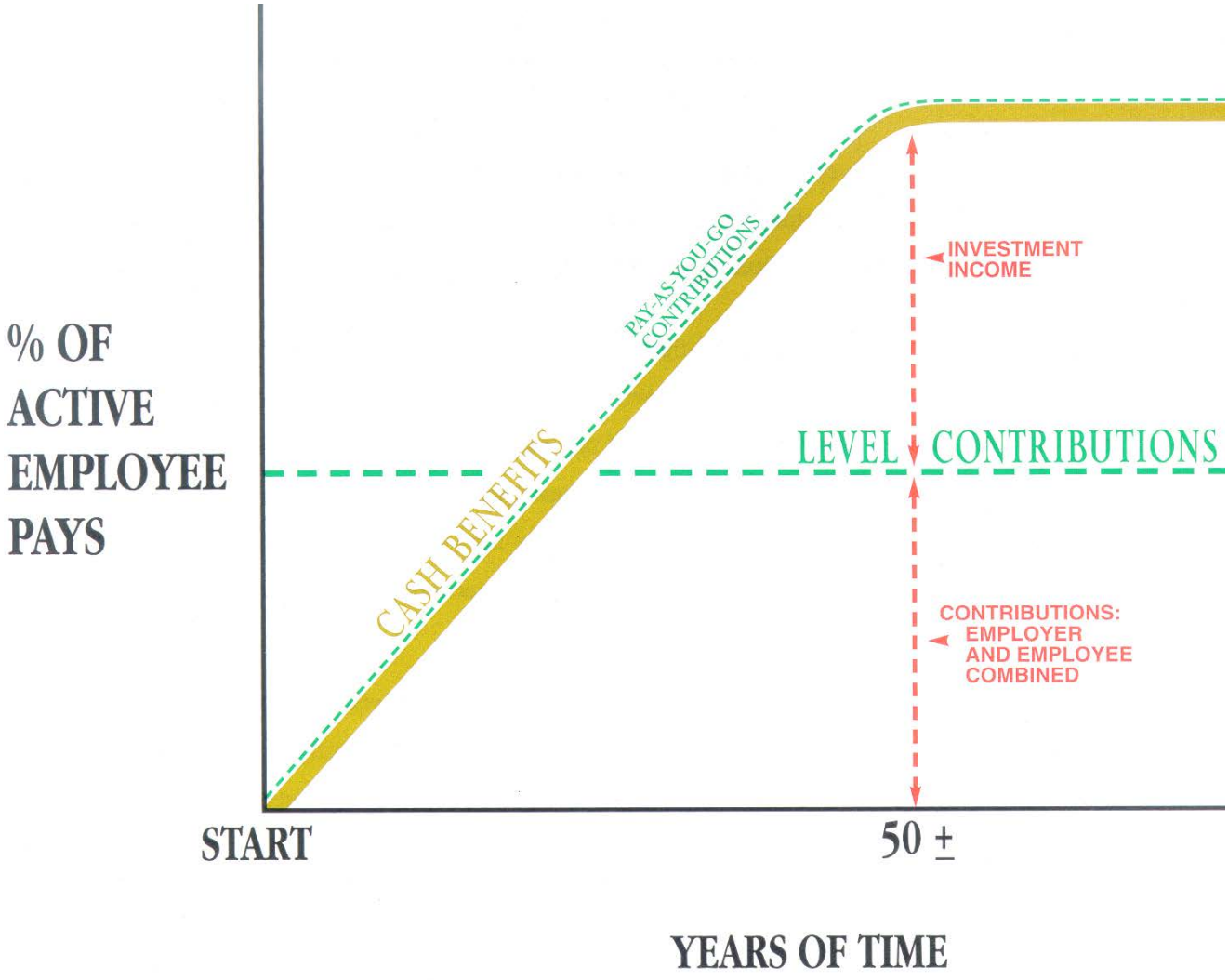
Investment earnings received and not required for immediate payment of benefits

. . . minus . . .

Expenses of operating the program.

A by-product of the level percent-of-payroll contribution objective is the accumulation of invested assets. **Investment income on invested assets becomes the major contributor to the retirement program**, and the amount is directly related to the amount of contributions and investment performance.

Computed Contribution Rate Needed To Finance Benefits. From a given schedule of benefits and from the data furnished, the contribution rate is calculated ***by means of an actuarial valuation*** – the technique of assigning monetary values to the risks assumed in operating a retirement program.



CASH BENEFITS LINE. This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

LEVEL CONTRIBUTION LINE. Determining the level contribution line requires detailed assumptions concerning a variety of experiences in future decades, including:

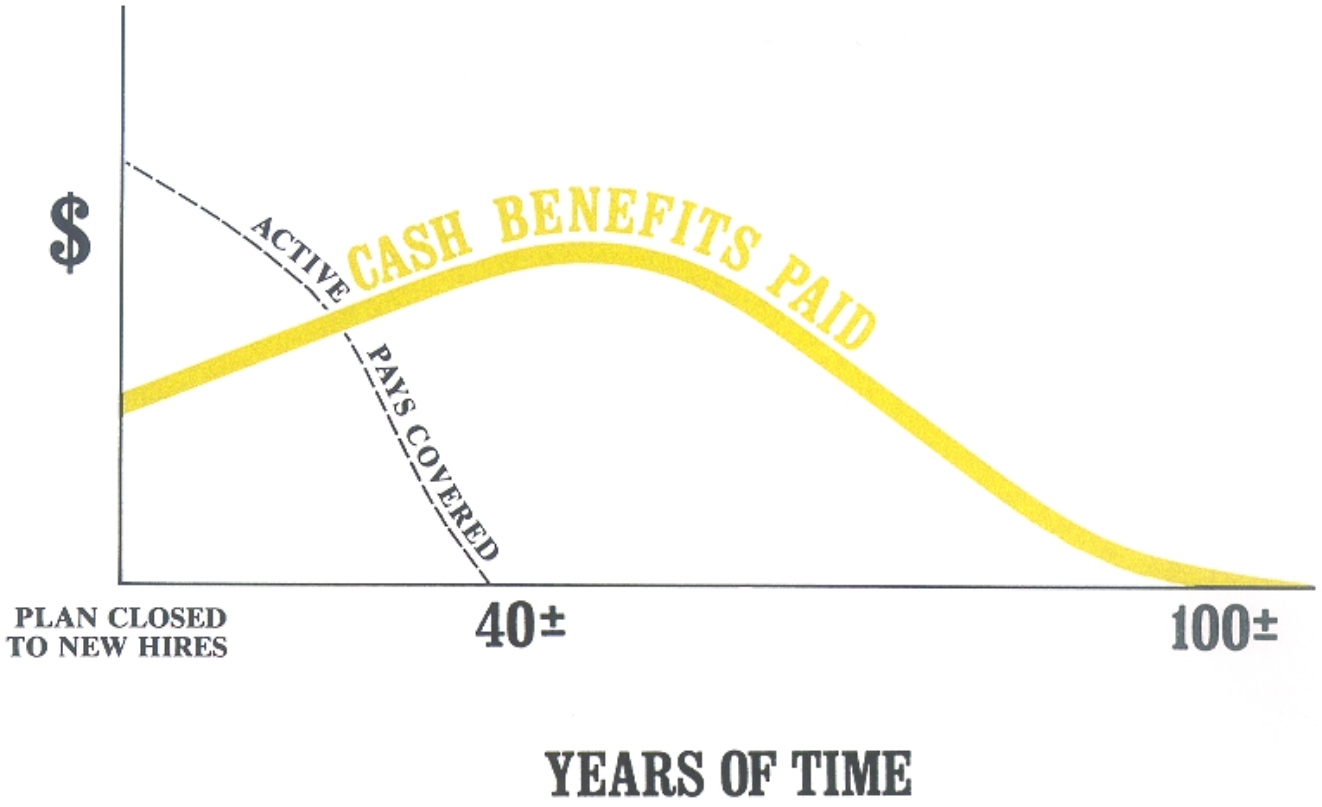
Economic Risk Areas

- Rates of investment return
- Rates of pay increase
- Changes in active member group size

Non-Economic Risk Areas

- Ages at actual retirement
- Rates of mortality
- Rates of withdrawal of active members (turnover)
- Rates of disability

A CLOSED PENSION PLAN

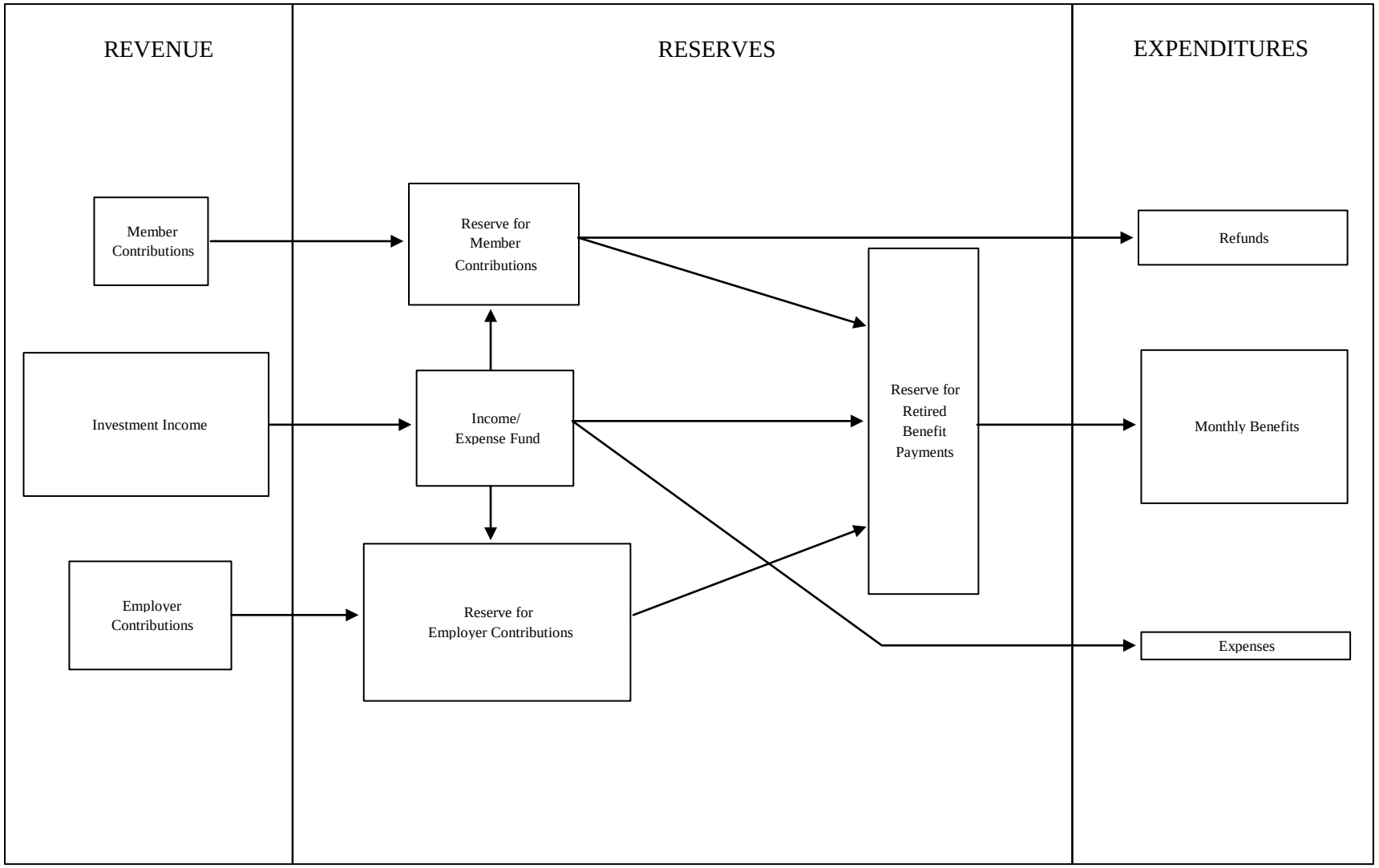


A plan becomes closed when no new hires are admitted to active membership. The persons covered by the plan at the time of closing continue their normal activities and continue to be covered by the plan, until the last survivor dies.

CASH BENEFITS LINE. After a pension plan becomes closed, the usual pattern is for cash benefits to continue to increase for decades of time. Eventually the cash benefits will peak, and then gradually decrease over more decades of time, ultimately to zero. The last cash benefit is likely to occur a century after the time the plan is closed.

The precise amounts of cash benefits cannot be known now, and must be estimated by assumptions of future experiences in a variety of financial risk areas.

FLOW OF MONEY THROUGH THE RETIREMENT SYSTEM



ACTUARIAL METHODS

Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using an individual ***entry-age normal cost method*** having the following characteristics:

(i) The annual normal costs for each individual active member, payable from the date of employment to the date of retirement, are sufficient to accumulate the portion of the value of the member's benefit at the time of retirement; and

(ii) Each annual normal cost is a constant percentage of the member's year-by-year projected covered pay. For funding purposes, the normal cost is based on the benefits in effect in the year of service rendered.

Financing of Unfunded Actuarial Accrued Liabilities. Unfunded actuarial accrued liabilities were amortized by level percent-of-payroll (principal and interest combined) over a period of 23 future years for Police and Fire (starting amortization period of 25 years), and as a level dollar amount over a period of 17 future years for General, Water Department and Court Members (starting amortization period of 20 years). Police and Fire payroll is assumed to grow with wage inflation. General, Water Department and Court payroll is assumed to decline as the closed population decreases. Amortization rates are developed by projecting the unfunded actuarial accrued liabilities to the beginning of the fiscal year for which rates are determined.

Asset Valuation Method. The prior year's valuation assets are increased by contributions and reduced by refunds and benefit payments. An amount equal to the assumed investment return net of expenses for the year is then added. Differences between actual return on a market value basis and an assumed return are phased-in over a four-year period. Valuation assets are restricted to a range of 75% to 125% of Market Value of Assets. Valuation assets are allocated based on actual contributions and estimated disbursements by member classification.

ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

The contribution requirements and benefit values of the System are calculated by applying actuarial assumptions to the benefit provisions and census data furnished, using the actuarial cost methods described on the previous page.

The rationale for the actuarial assumptions is as follows.

The principal areas of financial risk which require assumptions about future plan activities are:

- Long-term rates of investment return to be generated by the assets of the System.
- Patterns of pay increases to members.
- Rates of mortality among members, retirees and beneficiaries.
- Rates of withdrawal of active members (without entitlement to a retirement benefit).
- Rates of disability among members.
- The age patterns of actual retirements.

The monetary effect of each assumption is calculated for the length of time for which each present covered person survives.

Actual experience of the System will not coincide exactly with assumed experience. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments (usually small) to the computed contribution rate.

From time to time it becomes appropriate to modify one or more of the assumptions, to reflect experience trends (but not random year-to-year fluctuations). Actuarial assumptions were last reviewed and updated based on a report issued December 11, 2014 and adopted by the Board January 14, 2015 for use in the December 31, 2014 actuarial valuation. The rationale for the actuarial assumptions is included in the report issued December 11, 2014.

All actuarial assumptions are estimates of future experience, not market measures.

The rate of investment return is 7.0% (net of expenses) per year, compounded annually. This assumption is used to make money payable at one point in time equal in value to an amount of money payable at another point in time. The assumed real rate of return (the net return in excess of the wage inflation rate) is 4.0%

The wage inflation assumption is 3.0%.

The price inflation assumption is 2.5% (not explicit in the valuation).

Economic experience during the last 5 years has been as follows:

		Year Ended December 31,					
		2015	**2014**	**2013**	**2012**	**2011**	**Average**
1)	Nominal rate of return[#]	9.1 %	9.5 %	10.6 %	9.6 %	(1.4)%	7.4 %
2)	Increase in CPI	0.7 %	0.8 %	1.5 %	1.7 %	3.0 %	1.5 %
3)	Average salary increase	8.8 %	(9.4)%	(7.8)%	7.4 %	5.1 %	0.5 %
4)	Spread between recognized return and average salary increase						
	Actual						6.9%
	Assumed						4.0%*

 # The nominal rate of return was computed using the approximate formula: i = I divided by 1/2 (A+B-I), where I is realized investment income net of expenses, A is the beginning of year asset value and B is the end of year asset value.

** 3.5% during 2010 - 2013.*

The rates of salary increase used for individual members are in accordance with the following table. This assumption is used to project a member's current salary to the salaries upon which benefit amounts will be based.

Sample Ages	Salary Increase Assumptions for an Individual Member		
	Merit & Seniority	**Base (Economic)**	**Increase Next Year**
20	3.8%	3.0%	6.8%
25	3.6%	3.0%	6.6%
30	2.8%	3.0%	5.8%
35	2.3%	3.0%	5.3%
40	1.9%	3.0%	4.9%
45	1.5%	3.0%	4.5%
50	1.1%	3.0%	4.1%
55	0.7%	3.0%	3.7%
Ref	93		

If the number of active members remains constant, then the total active member payroll will increase 3.0% annually, the base portion of the individual salary increase assumptions.

The mortality table used to measure post-retirement mortality is the RP-2014 Healthy Annuitant Mortality Table for males and females projected five years to 2019, with MP-2014. The provision for future mortality improvement is the projection to 2019. Sample values follow:

Sample Attained Ages	Single Life Retirement Values					
	Present Value of $1 Monthly for Life		Percent Dying Next Year		Future Life Expectancy (years)	
	Men	Women	Men	Women	Men	Women
55	$137.11	$141.85	0.5328%	0.3471%	28.92	31.44
60	129.40	134.62	0.7387%	0.4918%	24.73	27.02
65	119.79	125.47	1.0439%	0.7430%	20.70	22.74
70	108.05	114.22	1.5588%	1.1702%	16.85	18.67
75	94.16	100.88	2.4452%	1.9042%	13.26	14.86
80	78.51	85.68	4.0602%	3.1777%	10.01	11.41
Ref:	1208 x 1.00 sb 0	1209 x 1.00 sb 0				

For pre-retirement mortality, the RP-2014 Employee Mortality Table for males and females projected to 2019 with MP-2014 is used. Ten percent of pre-retirement deaths were assumed to be Duty related.

The RP-2014 Disabled Retiree Mortality Table projected to 2019 with MP-2014 is used for current disability retirees for projecting disability costs.

Published mortality tables have been extended to high and low ages using a cubic spline method.

The rates of retirement used to measure the probability of eligible members retiring during the next year were as follows:

Retirement Ages	General, Water & Court	Retirement Ages	Police & Fire
		52	40%
53	25%	53	40%
54	25%	54	40%
55	25%	55	40%
56	25%	56	40%
57	25%	57	40%
58	25%	58	40%
59	25%	59	40%
60	30%	60+	100%
61	40%		
62	50%		
63	60%		
64	70%		
65	80%		
66+	100%		
Ref	1395		2160

In addition to the retirement probabilities shown above, it was assumed that at least 50% of remaining eligible members would retire upon accruing the maximum pension of 75% of FAC. Also, Police and Fire members hired on or after January 1, 2013 are assumed to retire at a rate of 60% upon first (age) eligibility at age 55.

Rates of separation from active membership are represented by the following table (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members remaining in employment.

Sample Ages	Years of Service	% of Active Members Separating within Next Year	
		General, Water & Court	Police & Fire
ALL	0	9.00%	N/A
	1	9.00%	
	2	8.00%	
	3	8.00%	
	4	5.50%	
20	5 & Over	5.00%	3.50%
25		5.00%	3.50%
30		4.50%	2.90%
35		3.55%	1.50%
40		1.45%	0.60%
45		0.75%	0.50%
50		0.75%	0.50%
55		0.75%	0.50%
Ref		337 55	1 54

This assumption measures the probabilities of members remaining in employment. The rates do not apply to members eligible to retire and do not include separation on account of disability.

Rates of disability were as follows:

Sample Ages	% of Active Members Becoming Disabled within Next Year	
	Men	Women
20	0.15%	0.15%
25	0.18%	0.18%
30	0.20%	0.20%
35	0.29%	0.29%
40	0.42%	0.42%
45	0.65%	0.65%
50	1.05%	1.05%
55	1.84%	1.84%
Ref	16	16

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS
DECEMBER 31, 2015

Marriage Assumption:	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing:	Beginning of (Fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
Decrement Timing:	Decrements of all types are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and turnover do not operate during retirement eligibility.
Liability Adjustments:	Age and Service Retirement Present Values were adjusted by 3% for Police and Fire members (excluding Sergeants and Lieutenants) hired before December 16, 2008 and 9% for Police and Fire Chiefs hired before December 16, 2008 to account for the additional amount included in the FAC due to unused sick leave and unused vacation time. Police and Fire Actuarial Accrued Liabilities were increased by 2% to account for FAC calculations using pay prior to pay cuts. Police hired after December 16, 2008 and Firefighters hired after July 1, 2008 were given no adjustment. Age and Service retirement present values were adjusted by 3% to account for annuity withdrawal, with the exception of Police hired after December 16, 2008 and Firefighters hired after July 1, 2008. A 0.43% load was added to the Normal Cost to reflect Military Service Purchases for General, Water Department, and Court Members. Police members were reported as having a significant amount of overtime in this year's reported payroll which was not itemized. For purposes of the valuation, liabilities were reduced by one year' wage inflation to reflect the potential short term nature of overtime utilization.
Data Assumptions:	There were four members whose payment status was undetermined as of the December 31, 2015 valuation. Two of the members were valued as receiving a retirement benefit and three were valued as receiving a deferred retirement benefit. Estimated liability for these members was adjusted by 20% to reflect data uncertainty.

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS (CONTINUED)
DECEMBER 31, 2015

Option Factors (as of the date of this report):	Option factors are based upon 7.5% interest and 90% of the 1983 Group Annuity Mortality Table with a 90% Unisex Blend. General, Water and Court members are assumed to elect straight life annuities. 90% of Police and Fire Chiefs, Lieutenants and Sergeants hired before July 2008 are assumed to elect unreduced 70% Joint and Survivor.
Incidence of Contributions:	Contributions are assumed to be received each month throughout the year based upon the computed monthly dollar amount shown in this report.
Benefit Service:	Exact Fractional service is used to determine the amount of benefit payable.
Deferred Retirement:	Terminated members with a vested benefit are assumed to retire at first eligibility for voluntary retirement.

Actuarial Accrued Liability. The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability."

Accrued Service. The service credited under the plan which was rendered before the date of the actuarial valuation.

Actuarial Assumptions. Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turn-over and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as "actuarial funding method."

Actuarial Equivalent. A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.

Actuarial Present Value. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Amortization. Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

Experience Gain (Loss). A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

Normal Cost. The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost." Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

Reserve Account. An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

Unfunded Actuarial Accrued Liability. The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability."

Valuation Assets. The value of current plan assets recognized for valuation purposes.

Value of $1,000/month Retirement Benefit to an Individual Who Retires at Age 55 in an Environment of 2.5% Inflation

	Inflation Rate
Age	2.5%
55	$1,000
56	976
57	952
58	929
59	906
60	884
65	781
70	690
75	610
80	539
85	477

The life expectancy of a 55-year-old male retiree is to age 84. The life expectancy for a 55-year-old female retiree is to age 86. Half of the people will outlive their life expectancy. The effects of even moderate amounts of inflation can be significant for those who live to an advanced age.

SECTION D

ADDITIONAL DISCLOSURE INFORMATION

GASB Statements No. 67 and No. 68 are the accounting standards which replaced GASB Statements No. 25 and No. 27. GASB Statement No. 67 is first effective for fiscal year 2014 and GASB Statement No. 68 is first effective for fiscal year 2015. A separate GASB Statements No. 67 and No. 68 report has been issued outside of this report. This section contains historical GASB Statements No. 25 and No. 27 reporting information for prior fiscal years and illustrative information for fiscal year 2015.

STATEMENT OF MARKET VALUE OF PLAN NET ASSETS
AS OF DECEMBER 31

	2015	2014
Assets:		
Cash and short-term investments	$ 1,701,794	$ 2,400,938
Bonds	20,369,444	22,683,840
Stocks	57,622,826	59,728,265
Other	2,875,023	1,024,130
Total Assets	82,569,087	85,837,172
Liabilities		
Payables	0	0
Net assets held in trust for pension benefits*	$82,569,087	$85,837,172

* *A schedule of funding progress for the plan is presented on page D-4.*

STATEMENT OF CHANGES IN PLAN NET ASSETS
FOR THE FISCAL YEARS ENDED DECEMBER 31

	2015	2014
Additions:		
Contributions		
Employer	$ 2,699,151	$ 5,028,314
Plan members	404,395	426,203
Total	3,103,546	5,454,518
Investment Income	758,769*	5,191,267*
Total Additions	3,862,315	10,645,784
Deductions:		
Benefits	6,864,673	6,911,331
Refunds of contributions	78,428	101,684
Expenses	187,299	175,916
Total Deductions	7,130,400	7,188,930
Net Increase	(3,268,085)	3,456,854
Net assets held in Trust Fund:		
Beginning of year	85,837,172	82,380,318
End of year	82,569,087	85,837,172

* *Estimated based on reported financial transactions and beginning and end of year market values.*

Plan Description. The City of Allen Park Employees Retirement System is a single-employer defined benefit pension plan that covers employees of the City of Allen Park.

The plan provides retirement, disability, and death benefits to plan members and their beneficiaries.

Contributions. Effective July 1, 2015, Police members contribute 7% of annual salary.
Effective July 1, 2015, General members contribute 7% of annual salary.
Effective July 1, 2013, Fire members contribute 7% of annual salary.

The employer's funding policy provides for periodic employer contributions based upon a ***fundamental financial objective of having rates of contribution which remain relatively level from generation to generation of the City of Allen Park citizens.*** To determine the employer contribution rates and to assess the extent to which the fundamental financial objective is being achieved, the System has actuarial valuations prepared annually. In preparing these valuations, the entry age actuarial cost method is used to determine normal cost and actuarial accrued liabilities.

Unfunded actuarial accrued liabilities (full funding credit) are amortized by level percent-of-payroll contributions over a period of 23 future years for Police and Fire members (starting amortization period of 25 years), and level dollar amounts over a period of 17 remaining years for General, Water Department and Court members (starting amortization period of 20 years).

On the basis of the December 31, 2015 actuarial valuation, the employer rates for the fiscal year beginning July 1, 2016 were determined to be as follows:

Contributions for	Percents of Covered Active Member Payroll
Normal Cost	13.68 %
Accrued Liabilities	30.97 %
Total Employer Rate	44.65 %

SCHEDULE OF FUNDING PROGRESS
(DOLLAR AMOUNTS IN MILLIONS)

Actuarial Valuation 12/31	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b)-(a)	Funded Ratio (a)/(b)	Covered Payroll (c)	UAAL as a Percent of Covered Payroll [(b)-(a)]/(c)
1995*	$ 39.7	$ 39.7	$ 0.0	100.0 %	$ 7.2	- %
1996*	44.8	42.2	(2.6)	106.2	7.5	-
1997*	49.5	45.7	(3.8)	108.3	8.5	-
1998*	56.2	48.7	(7.5)	115.4	9.0	-
1999*	62.3	54.6	(7.7)	114.1	9.3	-
2000	67.9	58.8	(9.1)	115.5	10.4	-
2001*@	71.9	62.9	(9.0)	114.3	10.8	-
2002*	72.4	68.1	(4.3)	106.3	10.8	-
2003	73.5	73.4	(0.1)	100.1	10.5	-
2004*	76.1	76.8	0.7	99.1	11.0	6.4
2005	77.8	82.9	5.1	93.8	9.8	52.0
2006	81.9	86.3	4.4	94.9	9.3	47.3
2007*	84.0	90.2	6.2	93.1	8.9	69.7
2008	79.5	96.0	16.5	82.8	9.1	181.3
2009	77.1	97.7	20.6	78.9	9.2	224.4
2010@	74.7	98.7	24.0	75.7	7.7	313.5
2011	70.1	99.8	29.7	70.2	7.1	419.4
2012	72.8	101.3	28.5	71.8	6.8	419.6
2013*	75.4	99.8	24.4	75.6	5.8	421.0
2014*@	81.0	104.4	23.4	77.6	5.3	446.0
2015*	84.3	107.2	22.9	78.6	5.8	391.1

@ Revised actuarial assumptions or methods.
** Retirement System benefits amended.*

SCHEDULE OF EMPLOYER PENSION CONTRIBUTIONS

Year Ended December 31	Annual Required Contribution*
1995	$ 937,643
1996	759,774
1997	824,087
1998	750,645
1999	783,153
2000	666,474
2001	848,414
2002	907,141
2003	872,008
2004	1,288,684
2005	1,740,077
2006	1,871,800
2007	1,916,145
2008	1,962,336
2009	2,545,881
2010	3,177,149
2011	2,971,831
2012	4,032,657#
2013	3,334,274@
2014	2,302,748^
2015	2,699,151

* *Since it was reported to the actuary that the City's practice is to contribute the monthly dollar amounts shown on page A-2 in the actuarial valuation report, the annual required contributions shown in the Schedule of Employer Contributions are the actual contributions made by the City in the fiscal year.*

\# *The City reported actual employer contributions of $2,758,177 for the year ending December 31, 2012. The annual required contribution shown is based on the reported amount of unpaid contributions totaling $1,274,480.*

@ *Based on our understanding of City procedure (see footnote above), we estimate that the Annual Required Contribution was $3,334,274. The City reported actual employer contributions of $1,719,721 for the year ending December 31, 2013.*

^ *Based on our understanding of City procedure (see footnote above), we estimate that the Annual Required Contribution was $2,302,748. The City reported actual employer contributions of $5,028,314 for the year ending December 31, 2014.*

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

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

Valuation date	December 31, 2015
Actuarial cost method	Entry Age
Amortization method	
General (AFSCME)	Level dollar, closed
Police & Fire	Level percent, closed
Remaining amortization period	
General (AFSCME)	17 years (out of 20)
Police & Fire	23 years (out of 25)
Asset valuation method	4-year smoothed market
Actuarial assumptions:	
Investment rate of return	7.0%
Projected salary increases*	3.0% - 6.8%
Cost-of-living adjustments	N/A
Payroll Growth	3.0%
Group Size – General	Closed Population
Group Size – Police & Fire	Stable Population
*Includes price inflation at	2.5%

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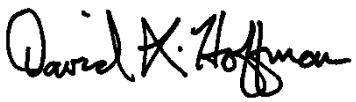
June 27, 2016

Mr. Robert Cady, Finance Director
City of Allen Park
16630 Southfield Road, Suite 3100
Allen Park, Michigan 48101

Dear Mr. Weise:

Enclosed are 15 copies of the report of the 67th Annual Actuarial Valuation of the City of Allen Park Employees Retirement System. We would be pleased to meet with the Board to review the report.

Sincerely,



David L. Hoffman

DLH:mrb
Enclosures

cc: Alan Young & Associates (one report copy)