

City of Allen Park  
Employees Retirement System  
73rd Annual Actuarial Valuation  
December 31, 2021



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May 3, 2022

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

Dear Board Members:

The results of the 73rd 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, 2021. 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 (GASB) Statement Nos. 67 and No. 68 will be provided in a separate report.

Valuation results, comments and conclusion 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 the City of Allen Park 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.

This report was prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

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.

Jeffrey T. Tebeau and Derek Henning are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The signing actuaries are independent of the plan sponsor.

Respectfully submitted,  
Gabriel, Roeder, Smith & Company



Jeffrey T. Tebeau, FSA, EA, FCA, MAAA



Derek Henning, ASA, EA, MAAA

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## **SECTION A**

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### **VALUATION RESULTS**

## Computed Contributions for the Fiscal Year Beginning July 1, 2022

Contributions for	% of Active Member Payroll				Weighted Average
	General Members	Police & Fire Members	Water Department Members	Court Members	
Normal Cost					
Age and service	14.17 %	16.91 %	14.17 %	14.17 %	
Death before retirement	0.18 %	0.21 %	0.18 %	0.18 %	
Disability	0.39 %	3.07 %	0.39 %	0.39 %	
Future refunds	0.76 %	0.34 %	0.76 %	0.76 %	
Service purchases	0.20 %	0.20 %	0.20 %	0.20 %	
Total	15.70 %	20.73 %	15.70 %	15.70 %	
Member Contributions	7.00 %	7.00 %	7.00 %	7.00 %	
City's Normal Cost	8.70 %	13.73 %	8.70 %	8.70 %	12.86 %
Unfunded Actuarial Accrued Liabilities*	66.30 %	20.76 %	66.30 %	66.30 %	28.21 %
<b>City's Total Contribution</b>	<b>75.00%</b>	<b>34.49%</b>	<b>75.00%</b>	<b>75.00%</b>	<b>41.07%</b>

\* Amortized as a level percent-of-payroll over a period of 17 remaining years for the Police & Fire members (starting amortization period of 25 years). Amortized as a level dollar amount over a period of 11 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, 2021 was \$6,440,955 (\$1,100,224 for General groups, \$5,340,731 for Police & Fire groups).

# Computed Contributions for the Fiscal Year Beginning July 1, 2022

## 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
<b>General</b>	\$ 296,203	75.00%	<b>\$ 222,152</b>	<b>\$ 18,513</b>
<b>Water</b>	167,363	75.00%	<b>125,522</b>	<b>10,460</b>
<b>Court</b>	615,281	75.00%	<b>461,461</b>	<b>38,455</b>
<b>Police &amp; Fire</b>	5,562,544	34.49%	<b>1,918,521</b>	<b>159,877</b>
<b>Total</b>	<b>\$6,641,391</b>	<b>41.07%</b>	<b>\$2,727,656</b>	<b>\$227,305</b>

For either procedure, if contributions are made on a later schedule, interest should be added at the rate of 0.5625% (0.005625) 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 \$101,765,980 were distributed as follows:

Reserves for				Totals
	Retired Life Liabilities*	Member Actuarial Accrued Liabilities	Contingency Reserve	
Members' Contributions				
General, Water & Court Members		\$ 1,556,052		\$ 1,556,052
Police & Fire		3,577,743		3,577,743
Totals		5,133,795		5,133,795
Employer Contributions				
General, Water & Court Members		807,820		807,820
Police & Fire		6,916,480		6,916,480
Totals		7,724,300		7,724,300
Retired Benefit Payments				
General, Water & Court Members	\$30,675,870			30,675,870
Police & Fire	58,232,015			58,232,015
Totals	88,907,885			88,907,885
<b>Totals</b>	<b>\$88,907,885</b>	<b>\$12,858,095</b>	<b>\$ none</b>	<b>\$101,765,980</b>

\* 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	\$88,907,885	\$32,475,352	\$121,383,237
Applied Assets	88,907,885	12,858,095	101,765,980
Unfunded Actuarial Accrued Liabilities	\$ 0	\$19,617,257	\$ 19,617,257



## Derivation of Experience Gain (Loss) Year Ended December 31, 2021

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	\$ 23,021,474
(2)	Normal cost from last valuation	1,329,526
(3)	Actual contributions	3,599,447
(4)	Interest accrual: $[(1) \times .0675] + [(2) - (3)] \times .03375$	1,477,340
(5)	Expected UAAL before changes: $(1) + (2) - (3) + (4)$	22,228,893
(6)	Change from benefit modifications	(4,065)
(7)	Change from revised actuarial assumptions	0
(8)	Expected UAAL after changes: $(5) + (6) + (7)$	22,224,828
(9)	Actual UAAL at end of year	19,617,257
(10)	Gain (loss): $(8) - (9)$	2,607,571
(11)	Gain (loss) as percent of actuarial accrued liabilities at start of year (\$119,307,073)	2.2%

\* *Unfunded Actuarial Accrued Liability.*

Valuation Date December 31	Experience Gain (Loss) as % of Beginning Accrued Liability
2012	1.7%
2013	5.5%
2014	5.0%
2015	0.1%
2016	0.2%
2017	(0.3)%
2018	(3.3)%
2019	3.2%
2020	2.0%
2021	2.2%



# Summary Statement of System Resources and Obligations

## Present Resources and Expected Future Resources

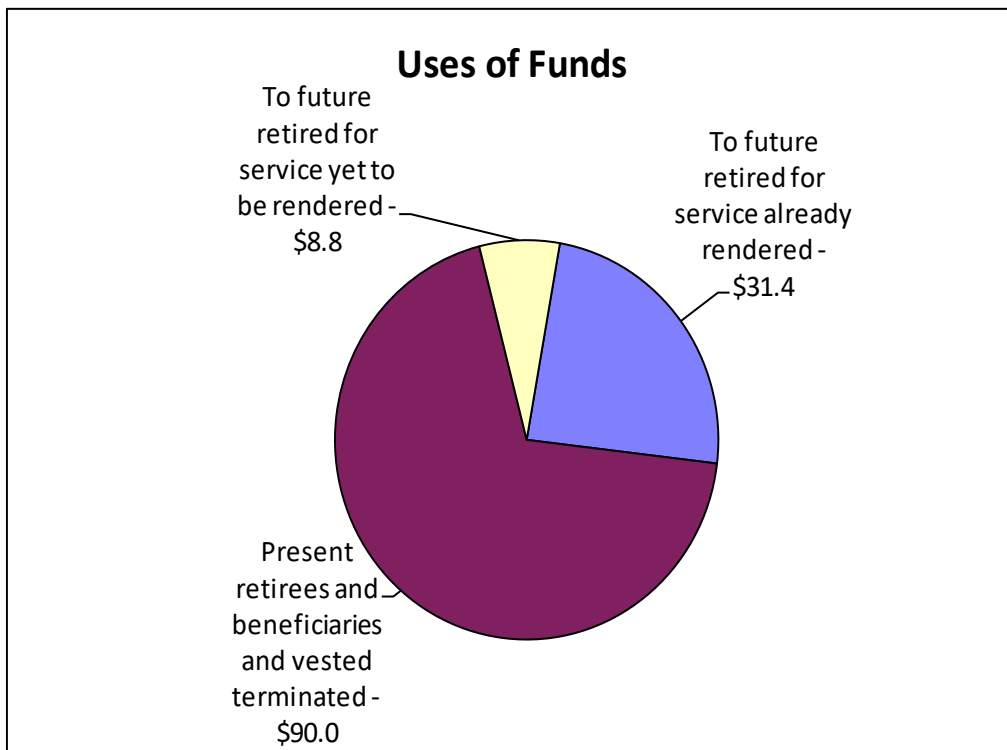
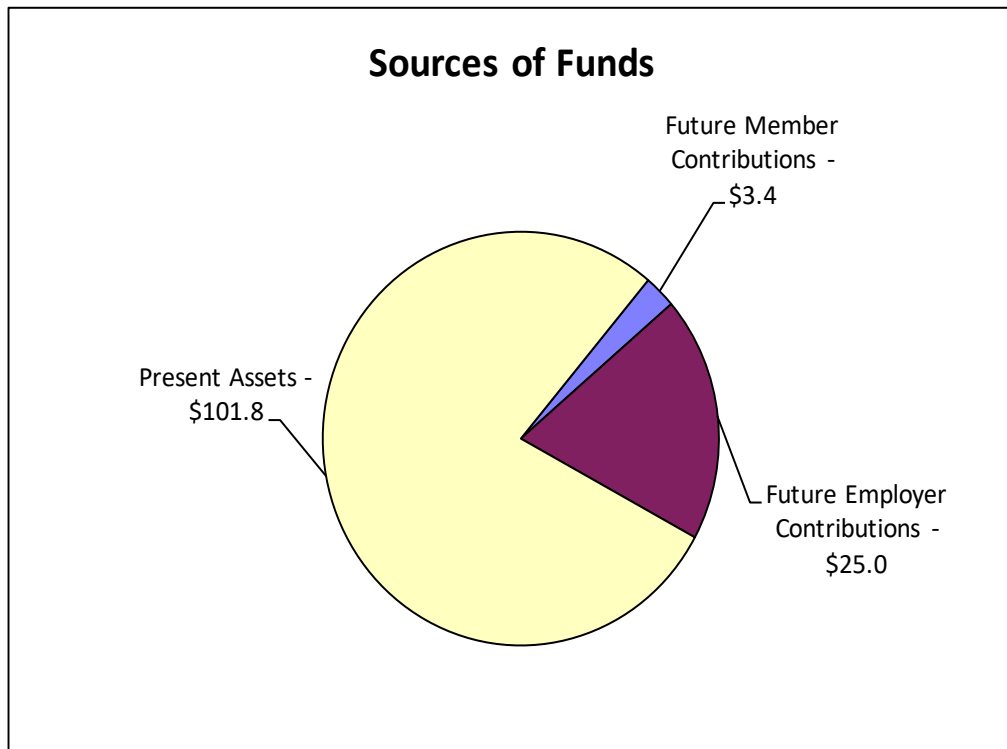
	General, Water & Court Members	Police & Fire	Totals
A. Actuarial value of System assets	\$33,039,742	\$68,726,238	\$ 101,765,980
B. Present value of expected future employer contributions			
1. For normal costs	438,191	4,956,734	5,394,925
2. For unfunded actuarial accrued liability	5,668,164	13,949,093	19,617,257
3. Total	6,106,355	18,905,827	25,012,182
C. Present value of expected future member contributions	374,738	3,023,437	3,398,175
D. Total present and expected future Resources	\$39,520,835	\$90,655,502	\$130,176,337

## Present Value of Expected Future Benefit Payments

A. To retirees and beneficiaries	\$30,675,870	\$58,232,015	\$ 88,907,885
B. To vested terminated members	508,997	608,990	1,117,987
C. To present active members			
1. Allocated to service rendered prior to valuation date - actuarial accrued liability	7,523,039	23,834,326	31,357,365
2. Allocated to service likely to be rendered after valuation date	812,929	7,980,171	8,793,100
3. Total	8,335,968	31,814,497	40,150,465
D. Total present value of expected future benefit payments	\$39,520,835	\$90,655,502	\$130,176,337



# Financing \$130.2 Million of Benefit Promises December 31, 2021



## 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
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*	107,191	84,329	22,862	78.7 %	391.1 %	77.23%	34.09%
2016*	108,399	86,900	21,499	80.2 %	346.4 %	73.52%	31.64%
2017*	110,309	88,899	21,411	80.6 %	339.5 %	79.07%	31.32%
2018	112,757	88,162	24,594	78.2 %	378.7 %	82.60%	35.11%
2019*	112,129	91,536	20,593	81.6 %	316.1 %	77.17%	31.32%
2020*#	119,307	96,286	23,021	80.7 %	352.7 %	85.77%	37.02%
2021	121,387	101,766	19,621	83.8 %	304.6 %	75.00%	34.66%
2021*	121,383	101,766	19,617	83.8 %	304.6 %	75.00%	34.49%

\* Retirement System was amended.

# Revised actuarial assumptions and/or methods.

**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.



# Comments, Recommendations and Conclusion

## Experience

Overall there was an actuarial gain of \$2.6 million during the year ended December 31, 2021 (see page A-4). On a market value basis, this year's investments overperformed compared to the assumption of 6.75% (see page B-13); the result of this and the phase-in of 2018-2020 investment gains and losses yielded an asset gain on a funding value basis of \$3.5 million; this was somewhat offset by actuarial losses attributable to higher than expected individual salary increases.

## Funded Status

The ratio of the Funding Value of Assets to Actuarial Accrued Liability is 85.4% for General, Water and Court, and 83.1% for Police & Fire.

The funded status for the System as a whole is 83.8%, based on the Funding Value of Assets. On the basis of the Market Value of Assets, the funded status would be 93.9%. This indicates that deferred asset gains should increase the funded status as they become recognized (absent future losses).

## Amortization Schedule

The remaining amortization periods are 17 years for Police & Fire and 11 years for General, Water and Court. As both amortization schedules wind down in the future (around 5 to 10 years), the computed contributions may become more volatile. In an effort to mitigate the potential adverse effects of this scenario, we suggest the Board consider implementing a "layered" amortization schedule, in which new actuarial gains and losses each valuation year are individually amortized.

## Asset Allocation

The Retirement System does not provide information allocating the Market Value of Assets between General, Court, and Water and Police & Fire. The allocation of the actuarial value of assets is shown on page B-14. We recommend that the System allocate a full reconciliation of the market value of assets each year.

## Valuation Assumptions

There were no assumption changes for this valuation.

# Comments, Recommendations and Conclusion

## Benefit Changes

The December 31, 2021 valuation incorporates benefit changes for certain APPOA/APPLSA members. The benefit changes impacted such members hired on or after July 1, 2020 as follows:

- Benefit multiplier of 2.0% for all years of service;
- FAC is the average of base salaries during the highest 5 out of the last 10 years of service (member contributions are also based on base salary);
- Regular retirement eligibility at age 55 with 25 years of service; and
- Not eligible for annuity withdrawal.

The net impact of these changes is an approximate decrease of \$4 thousand in the actuarial accrued liability as of December 31, 2021 and a decrease in the computed City contribution rate for Police & Fire of 0.17% of payroll. Since these benefit changes only impact post-7/1/2020 Police hires, the reduction in the normal cost for this group will occur gradually over time as the current members are replaced (due to retirement, etc.) with members hired on/after 7/1/2020. The long-term anticipated reduction in normal cost for this group as a result of the benefit changes is anticipated to be in the range of 5%-6%.

## Reserve Transfers

The actuarial present value of retirement allowances currently being paid to retired members is greater 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 \$52,382,543 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, 2021 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.

## GASB Reporting Standards

The GASB Statement Nos. 67 and 68 reporting disclosures required for the plan this year will be issued in a separate report.

## 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 & 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 relies, in part, on 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 6.75% 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 be fully amortized after the respective amortization periods end; 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 if the funded status were 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.

## Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions due to changing conditions; 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. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

1. **Investment Risk** – actual investment returns may differ from the expected returns;
2. **Asset/Liability Mismatch Risk** – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
3. **Contribution Risk** – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll, or other relevant contribution base;
4. **Salary and Payroll Risk** – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
5. **Longevity Risk** – members may live longer or shorter than expected and receive pensions for a period of time other than assumed; and
6. **Other Demographic Risks** – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.



## Plan Maturity Measures

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

	<u>2021</u>	<u>2020</u>	<u>2019</u>
Ratio of the market value of assets to total payroll	17.69	15.72	14.75
Ratio of actuarial accrued liability to payroll	18.85	18.28	17.21
Ratio of actives to retirees and beneficiaries	0.35	0.38	0.40
Ratio of net cash flow to market value of assets	-3.8%	-4.3%	-4.3%
Duration of the actuarial accrued liability	11.60	11.82	11.44

### Ratio of Market Value of Assets to Payroll

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 2.0 times the payroll, a return on assets 5% different than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll.

### Ratio of Actuarial Accrued Liability to Payroll

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

The ratio of liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 2.5 times the payroll, a change in liability 2% other than assumed would equal 5% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in liability (and also plan sponsor contributions) as a percentage of payroll.

### Ratio of Actives to Retirees and Beneficiaries

A young plan with many active members and few retirees will have a high ratio of actives to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.

## **Ratio of Net Cash Flow to Market Value of Assets**

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

## **Duration of Actuarial Accrued Liability**

The duration of the actuarial accrued liability may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, a duration of 10 indicates that the liability would increase approximately 10% if the assumed rate of return were lowered 1%.

## **Additional Risk Assessment**

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests, and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability.

## **SECTION B**

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### **BENEFIT PROVISIONS AND VALUATION DATA**

# Summary of Benefit Provisions Evaluated December 31, 2021

Closed to new AFSCME hires effective October 2005 and Administrative/Appointee new hires effective January 2008.

## Regular Retirement

### Police Lieutenants & Sergeants

#### **Eligibility**

Hired prior to 7/1/2020: Age 52 & 10 years of service.

Hired on/after 7/1/2020: Age 55 & 25 years of service.

#### **Benefit Amount**

Multiplier x Service x Final Average Compensation (FAC) based on the following schedule:

		Service Before 7/1/2013	Service Between 7/1/2013- 7/1/2015	Service After 7/1/2015	Maximum Benefit Lesser of:	
					% Max	\$ Max*
Before	7/1/2008	2.90%	2.25%	2.50%	75%	\$90,000
Between	7/1/2008 – 1/1/2013	2.50%	2.25%	2.50%	75%	\$90,000
Between	1/1/2013 – 7/1/2015	2.00%	2.00%	2.50%	75%	\$90,000
Between	7/1/2015 – 7/1/2020	-	-	2.25%	75%	\$90,000
After	7/1/2020	-	-	2.00%	75%	\$90,000

\* Effective January 1, 2021 (previously \$80,000).

#### **Final Average Compensation**

FAC is computed as follows:

- Hired prior to 7/1/2020: The average of the *covered compensations* paid during the highest 3 consecutive years of service out of the last 10 years of service.
- Hired on/after 7/1/2020: The average of the *base salaries* paid during the highest 5 consecutive years of service out of the last 10 years of service.

Members hired on or after July 1, 2008 shall not have their overtime included in the 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.*



# Summary of Benefit Provisions Evaluated December 31, 2021

## Police Officers

### **Eligibility**

Hired prior to 7/1/2020: Age 52 & 10 years of service.

Hired on/after 7/1/2020: Age 55 & 25 years of service.

### **Benefit Amount**

Multiplier x Service x Final Average Compensation (FAC) based on the following schedule:

	If Hired:	Service	Service	Service	Maximum Benefit Lesser of:	
		Before 7/1/2013	Between 7/1/2013- 7/1/2015	After 7/1/2015	% Max	\$ Max
Before	12/16/2008	2.90%	2.25%	2.50%	75%	\$70,000
Between	12/16/2008-1/1/2013	2.50%	2.25%	2.50%	75%	\$70,000
Between	1/1/2013 – 7/1/2015	2.00%	2.00%	2.50%	75%	\$70,000
Between	7/1/2015 – 7/1/2020	-	-	2.25%	75%	\$70,000
After	7/1/2020	-	-	2.00%	75%	\$70,000

### **Final Average Compensation**

FAC is computed as follows:

- Hired prior to 7/1/2020: The average of the *covered compensations* paid during the highest 3 consecutive years of service out of the last 10 years of service.
- Hired on/after 7/1/2020: The average of the *base salaries* paid during the highest 5 consecutive years of service out of the last 10 years of service.

Members hired on or after December 16, 2008 shall not have their overtime included in the 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.*



# Summary of Benefit Provisions Evaluated December 31, 2021

## **Fire**

### ***Eligibility***

Age 52 & 10 years of service if hired before January 1, 2013.

Age 55 & 25 years of service if hired on or after January 1, 2013.

### ***Benefit Amount***

Multiplier x Service x Final Average Compensation (FAC) based on the following schedule:

		Service Before <u>7/1/2013</u>	Service After <u>7/1/2013</u>	Maximum Benefit Lesser of:	
				<u>% Max</u>	<u>\$ Max*</u>
Before	7/1/2008	2.90%	2.50%	75% (80% Chief)	n/a
Between	7/1/2008 - 12/31/2012	2.50%	2.50%	75%	\$80,000
Between	1/1/2013 - 12/31/2018	2.50%	2.50%	n/a	\$80,000
On/After	1/1/2019	-	2.00%	n/a	\$70,000

\* Applicable dollar maximums for Sergeant, Lieutenant and Captain is \$90,000 for Tiers 2/3 and \$80,000 for Tier 4.

### ***Final Average Compensation***

FAC is computed as the average of the covered compensations paid during the highest 3 consecutive years of service out of the last 10 years of service for members hired before January 1, 2013 and the average of the highest 5 consecutive years out of 10 for members hired on or after January 1, 2013.

Members hired on or after July 1, 2008 shall not have their overtime included in the FAC. Members hired on or after January 1, 2013, FAC will include base salary only.

## **General**

### ***Eligibility***

Age 53 & 10 years of service.

### ***Benefit Amount***

Multiplier x Service x Final Average Compensation (FAC) based on the following schedule:

Service Before <u>3/28/2014</u>	Service After <u>3/28/2014</u>	<u>% Max</u>
2.90%	2.50%	75%

### ***Final Average Compensation***

FAC is computed as the average of the covered compensations paid during the highest 3 consecutive years of service out of the last 10 years of service.

*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.*



# Summary of Benefit Provisions Evaluated December 31, 2021

## Administrative/Appointees

**Eligibility:** Age 53 & 8 years of service or 25 years of service and any age.

**Benefit Amount:** Multiplier x Service x FAC based on the following schedule:

Service Before 7/1/2013	Service After 7/1/2013	% Max
2.90%	2.50%	75%

### **Final Average Compensation**

FAC is computed as the average of the covered compensations paid during the highest 3 consecutive years of service out of the last 10 years of service.

## Court

**Eligibility:** Age 53 & 10 years of service.

**Benefit Amount:** Multiplier x Service x FAC based on the following schedule:

Service Before 7/1/2017	Service After 7/1/2017	% Max
2.90%	2.50%	75%

### **Final Average Compensation**

FAC is computed as the average of the covered compensations paid during the highest 3 consecutive years of service out of the last 10 years of service.

## **Annuity Withdrawal**

Up to 2 Police and Fire members and 3 Lieutenants and Sergeants may elect to withdraw 50% of their contributions at retirement. The benefit otherwise payable is actuarially reduced based upon the 7-year Treasury rate for retirements through June 30, 2022 for IAFF and for retirements through June 30, 2023 for APPOA/APPLSA; based upon the 10-year Treasury rate for retirements thereafter. This is not available to Fire members hired on or after January 1, 2013, or APPOA/APPLSA after July 1, 2020.

## **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.

*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.*



# Summary of Benefit Provisions Evaluated December 31, 2021

## 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. For Fire members, the benefit is recomputed at retirement eligibility age.

## Non-Duty Disability Retirement

### **Eligibility**

10 (8 for Administrative/Appointees) 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.

*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.*





# Summary of Benefit Provisions Evaluated December 31, 2021

## Non-Duty Death Before Retirement

### **Eligibility**

10 (8 for Administrative/Appointees) 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 or a member of the Allen Park Police Officers Association), 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 (7.0% of base pay for APPOA/APPLSA members hired on/after July 1, 2020). Covered compensation includes base salary, longevity, and pay in lieu of vacation time. For eligible Lieutenants & Sergeants and Firefighters, overtime and pay in lieu of holiday pay. For eligible 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		Removed from Rolls		Rolls End of Year		Average Pension	Present Value of Pension	No.	Pensions
	No.	Annual Pensions@	No.	Annual Pensions#	No.	Annual Pensions			Active Per Retired	as a % of Pay
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 %
2016	4	121,547	1	35,024	224	6,967,365	31,104	76,810,323	0.4	112.3 %
2017	8	338,206	6	135,668	226	7,169,903	31,725	78,786,392	0.4	113.7 %
2018	7	229,908	5	75,077	228	7,324,734	32,126	80,242,944	0.4	112.8 %
2019	8	334,784	16	449,169	220	7,210,349	32,774	79,650,259	0.4	110.7 %
2020	9	366,749	10	174,966	219	7,402,132	33,800	83,854,970	0.4	113.4 %
2021	14	553,805	7	108,075	226	7,847,862	34,725	88,907,885	0.4	121.8 %

# Includes adjustments due to attainment of age 65.

\* Does not include DROP members.

@ Includes beneficiaries of deceased retirees.



## Retirees and Beneficiaries – December 31, 2021 Tabulated by Type of Pensions Being Paid

Type of Pensions Being Paid	No.	Annual Pensions
<b>Age and Service Pensions</b>		
Regular pension - benefit terminating at death of retiree	60	\$1,544,715
Regular pension - automatic 70% to survivor	15	1,008,065
Option A pension - joint and survivor benefit	79	3,441,627
Option B pension - modified joint and survivor benefit	27	722,995
Survivor pension	28	652,643
<b>Total age and service pensions</b>	<b>209</b>	<b>\$7,370,045</b>
<b>Casualty Pensions</b>		
Duty disability		
Regular pension	5	\$ 136,336
Survivor pension	1	23,972
<b>Totals</b>	<b>6</b>	<b>160,308</b>
Non-duty disability		
Regular pension	1	45,553
Option A pension	5	157,138
Option B pension	1	27,204
Survivor pension	1	28,212
<b>Totals</b>	<b>8</b>	<b>258,107</b>
Pension to survivor beneficiary of deceased member - non-duty death	3	59,402
<b>Total casualty pensions</b>	<b>17</b>	<b>477,817</b>
<b>Total Pensions Being Paid</b>	<b>226</b>	<b>\$7,847,862</b>

## Retirees and Beneficiaries – December 31, 2021 Tabulated by Attained Ages

Attained Ages	Age and Service		Casualty		Totals	
	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions
35 - 39						
40 - 44			1	\$ 24,984	1	\$ 24,984
45 - 49			1	42,960	1	42,960
50 - 54	17	\$ 713,277	3	84,296	20	797,573
55 - 59	21	1,041,358	1	27,204	22	1,068,562
60 - 64	36	1,506,227	3	124,995	39	1,631,222
65 - 69	38	1,367,176	1	27,570	39	1,394,746
70 - 74	34	1,218,827	3	61,232	37	1,280,059
75 - 79	25	828,603	3	73,188	28	901,791
80 - 84	17	365,494			17	365,494
85 - 89	6	149,308			6	149,308
90 & Over	15	179,775	1	11,388	16	191,163
<b>Totals</b>	<b>209</b>	<b>\$7,370,045</b>	<b>17</b>	<b>\$477,817</b>	<b>226</b>	<b>\$7,847,862</b>

The benefits for ex-spouses in receipt of DRO benefits are included with the member's benefits in the above schedule, where applicable.

Also included in the valuation are five deferred members with estimated total annual pensions of \$107,543 that are not shown in the table above, and six members with pending refunds.

## Active Members Comparative Statement

Valuation Date December 31	Active Members	Active Members in Valuation				
		Valuation Payroll	Average			
			Age	Service	Pay	% Inc.
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%
2016	90	6,205,866	42.7	14.6	68,954	2.6%
2017	89	6,306,637	42.6	14.6	70,861	2.8%
2018	89	6,495,009	42.9	14.7	72,978	3.0%
2019	88	6,514,824	43.0	14.8	74,032	1.4%
2020	83	6,526,884	43.1	15.3	78,637	6.2%
2021	80	6,440,955	43.4	14.9	80,512	2.4%

### Active Members Added to and Removed from Rolls

Year Ended December 31	Added During Year		Terminations During Year								Active Members End of Year
	A	E*	Normal Retirement		Disability Retirement		Died-in- Service		Withdrawal		
			A	E	A	E	A	E	A	E	
2017	3	1	3	2.6	1	0.5	0	0.1	0	1.0	89
2018	5	5	2	6.0	2	0.4	0	0.1	1	0.9	89
2019	4	4	4	6.9	0	0.4	0	0.1	1	1.0	88
2020	1	3	5	4.6	0	0.4	0	0.1	1	1.0	83
2021	8	9	6	5.8	0	0.4	0	0.1	5	0.9	80
5-Year Totals	21	22	20	25.9	3	2.1	0	0.5	8	4.8	

\* Reflects Police & Fire only, since the General group is closed to new hires.

A = Actual

E = Expected



## Active Members – December 31, 2021 by Attained Age and Years of Service General, Court, and Water Department

Attained Age	Years of Service to Valuation Date							No.	Valuation Payroll
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus		
40-44					1			1	\$ 49,740
45-49				1	5	1		7	436,373
50-54				1	4	2		7	514,481
55-59					1			1	49,840
60					1			1	49,790
<b>Totals</b>				<b>2</b>	<b>12</b>	<b>3</b>		<b>17</b>	<b>\$ 1,100,224</b>

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

Age: 49.6 years  
Service: 23.1 years  
Pay: \$64,719

**Active Members – December 31, 2021**  
**by Attained Age and Years of Service**  
**Police and Fire Members**

Attained Age	Years of Service to Valuation Date							No.	Valuation Payroll
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus		
20-24	2							2	\$ 88,984
25-29	3	2						5	321,621
30-34	1	5						6	406,840
35-39	3	2	7					12	941,115
40-44	5	2	4	2	1			14	1,043,286
45-49		2	2		4			8	766,489
50-54		1	2	1	5	5		14	1,576,657
55-59				1	1			2	195,739
<b>Totals</b>	<b>14</b>	<b>14</b>	<b>15</b>	<b>4</b>	<b>11</b>	<b>5</b>		<b>63</b>	<b>\$ 5,340,731</b>

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

Age: 41.7 years  
Service: 12.7 years  
Pay: \$84,774

## Development of Funding Value of Assets

Year Ended December 31:	2019	2020	2021	2022	2023	2024
<b>Assumed Investment Return</b>	<b>7.0%</b>	<b>7.0%</b>	<b>6.75%</b>	<b>6.75%</b>	<b>6.75%</b>	<b>6.75%</b>
A. Funding Value Beginning of Year	\$88,162,380	\$91,535,961	\$96,285,599			
B. Market Value End of Year	96,088,915	102,634,588	113,931,166			
C. Market Value Beginning of Year	82,867,182	96,088,915	102,634,588			
D. Non-Investment Net Cash Flow	(4,118,265)	(4,438,692)	(4,350,399)			
E. Investment Income						
E1. Market Total: B - C - D	17,339,998	10,984,365	15,646,977			
E2. Amount for Immediate Recognition	6,027,227	6,252,163	6,352,452			
E3. Amount for Phased-In Recognition: E1-E2	11,312,771	4,732,202	9,294,525			
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.25 x E3	2,828,193	1,183,051	2,323,631			
F2. First Prior Year	(2,856,547)	2,828,193	1,183,051	\$ 2,323,631		
F3. Second Prior Year	1,781,472	(2,856,547)	2,828,193	1,183,051	\$ 2,323,631	
F4. Third Prior Year	(288,499)	1,781,470	(2,856,547)	2,828,192	1,183,049	\$ 2,323,632
F5. Total Recognized Investment Gain	1,464,619	2,936,167	3,478,328	6,334,874	3,506,680	2,323,632
G. Total Return Recognized this Year: E2 + F5	7,491,846	9,188,330	9,830,780			
H. Preliminary Funding Value End of Year: A + D + G	91,535,961	96,285,599	101,765,980			
H1. 125% of Market Value End of Year	120,111,144	128,293,235	142,413,958			
H2. 75% of Market Value End of Year	72,066,686	76,975,941	85,448,375			
<b>H3. Funding Value End of Year: H, but not greater than H1, nor less than H2</b>	<b>91,535,961</b>	<b>96,285,599</b>	<b>101,765,980</b>			
I. Difference between Market & Funding Value: B-H3	4,552,954	6,348,989	12,165,186	5,830,312	2,323,632	
<b>J. Recognized Rate of Return</b>	<b>8.7%</b>	<b>10.3%</b>	<b>10.4%</b>			
<b>K. Market Value Rate of Return</b>	<b>21.5%</b>	<b>11.7%</b>	<b>15.6%</b>			
<b>L. Ratio of Funding Value to Market Value</b>	<b>95.3%</b>	<b>93.8%</b>	<b>89.3%</b>			

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 four-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 three consecutive years, the Funding Value will become equal to Market Value.





## Allocation of Funding Value of Assets as of December 31, 2021

	<u>General, Water, and Court</u>	<u>Police &amp; Fire</u>	<u>Total</u>
A. Funding Value at Beginning of Year	\$31,402,754	\$64,882,845	\$96,285,599
B. Contributions			
B1. Member	113,466	373,732	487,198
B2. Employer	1,105,442	2,006,807	3,112,249
B3. Total = B1+B2	<u>1,218,908</u>	<u>2,380,539</u>	<u>3,599,447</u>
C. Disbursements*	2,780,856	5,168,990	7,949,846
D. Non-investment cash flow = B3-C	(1,561,948)	(2,788,451)	(4,350,399)
E. Average Asset Value During Year = A+(D/2)	30,621,780	63,488,620	94,110,400
F. Ratio	32.54%	67.46%	100.00%
G. Allocation of Investment Return	3,198,936	6,631,844	9,830,780
H. Funding Value at End of Year = A+D+G	<b>\$33,039,742</b>	<b>\$68,726,238</b>	<b>\$101,765,980</b>

\* 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	\$ 5,133,795
Receivables	138,345	Employer Contributions	44,322,638
Short-Term Investments	2,649,768	Retired Benefit Payments and UII	64,474,733
Equities	82,475,510	Market Value Adjustment	(12,165,186)
Bonds	27,512,093		
Other	1,155,450		
Market Value Adjustment	(12,165,186)		
Valuation	<u>\$101,765,980</u>	Total Reserves	<u>\$101,765,980</u>

\* Market Value of assets was reported to be \$113,931,166 (see page B-13).

## Revenues and Expenditures

	2021	2020
Balance - January 1,	\$ 96,285,599	\$91,535,961
Revenues		
Employees' Contributions	487,198	443,413
Employer Contributions	3,112,249	2,629,494
Recognized Investment Income	10,113,451	9,471,465
Total	<u>13,712,898</u>	<u>12,544,372</u>
Expenditures		
Benefit Payments	7,949,846	7,511,399
Refund of Member Contributions	0	200
Administrative and Investment Expenses	282,671	283,135
Total	<u>8,232,517</u>	<u>7,794,734</u>
Balance - December 31,	<u>\$101,765,980</u>	<u>\$96,285,599</u>
Ratio of Net Investment Income to Mean Assets	10.4 %	10.3 %



## SECTION C

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### 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 . . .

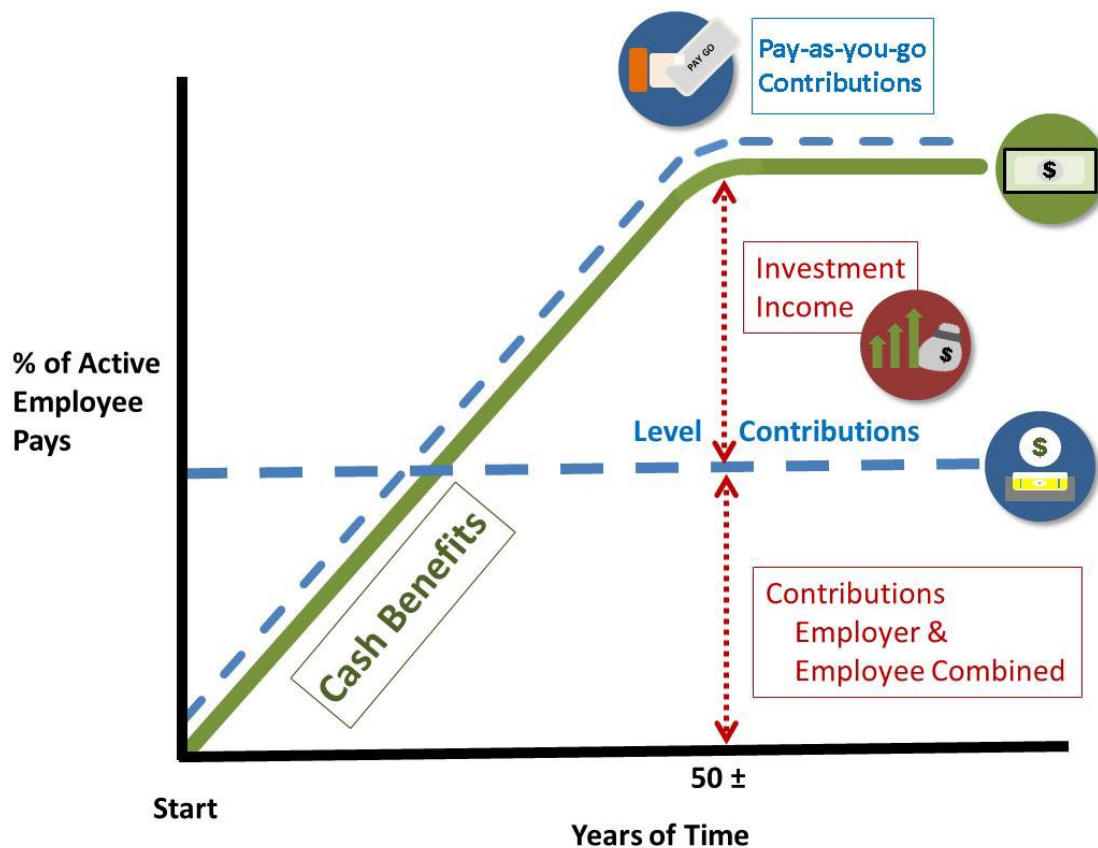
Investment earnings received and not required for immediate payment of benefits

. . . 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.

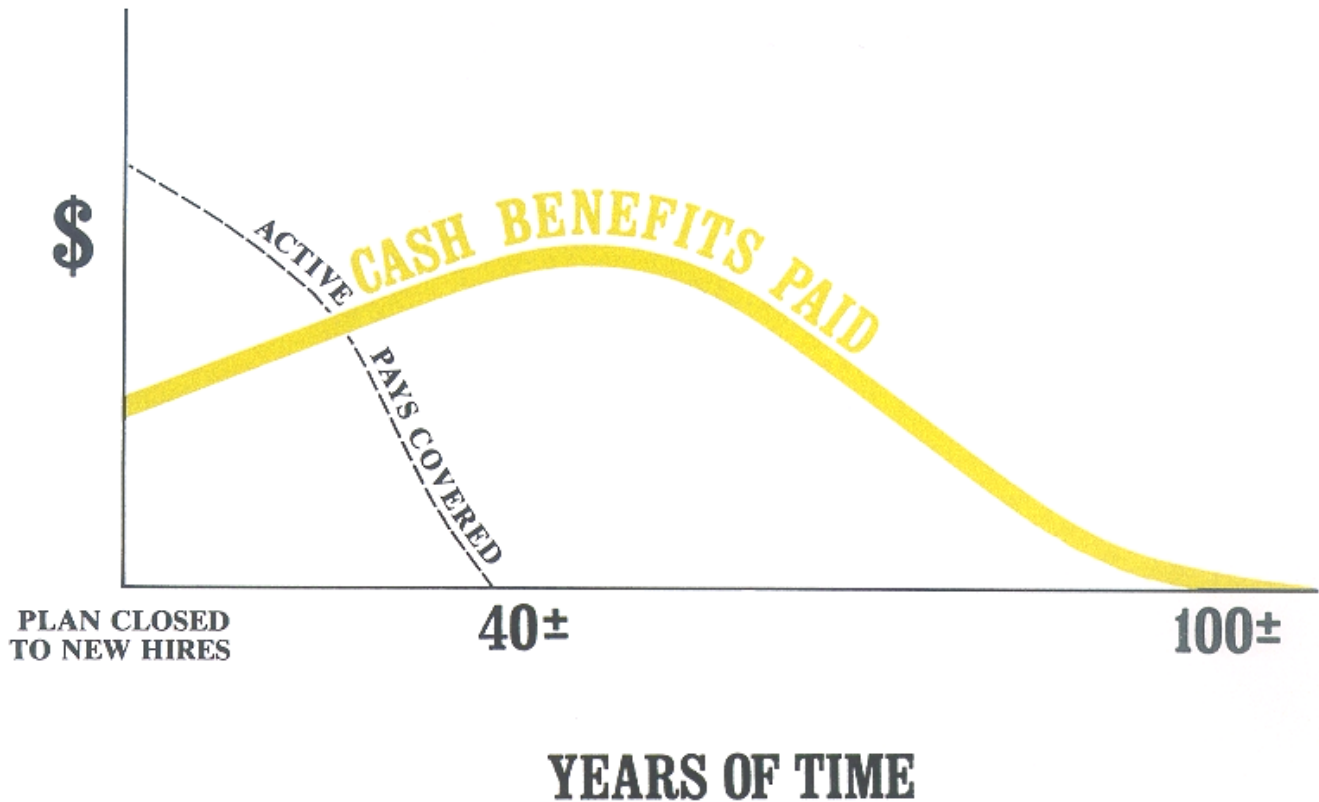


**CASH BENEFITS LINE.** This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

**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

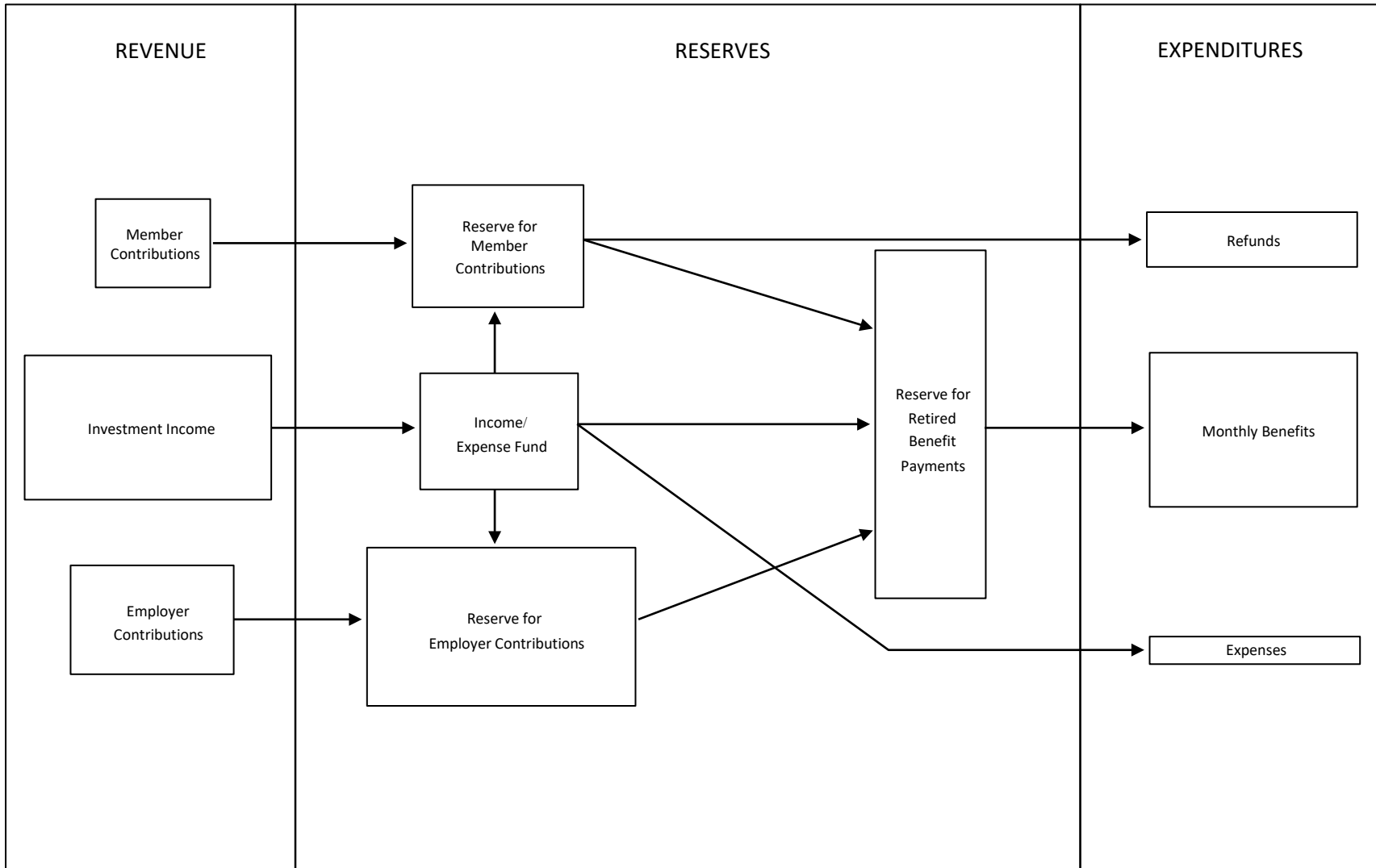


A plan becomes closed when no new hires are admitted to active membership. The persons covered by the plan at the time of closing continue their normal activities and continue to be covered by the plan, until the last survivor dies.

**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 17 future years for Police and Fire (starting amortization period of 25 years), and as a level dollar amount over a period of 11 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.

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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 in the Actuarial Experience Review for the Five-Year Period Ending December 31, 2018 issued March 2, 2020 (with additional economic scenario requested by the Board and issued March 20, 2020) and adopted by the Board May 20, 2020 for use in the December 31, 2020 actuarial valuation.

The rationale for the actuarial assumptions used for the current valuation is included in the Experience Review report issued March 2, 2020.

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

## Valuation Assumptions

**The rate of investment return** is 6.75% (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 2.75%.

**The price inflation assumption** is 2.25% (not explicit in the valuation).

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

	Year Ended December 31,					Average
	2021	2020	2019	2018	2017	
1) Nominal rate of return <sup>#</sup>	10.4 %	10.3 %	8.7 %	4.0 %	7.1 %	8.1 %
2) Increase in CPI	7.0 %	1.4 %	2.3 %	1.9 %	2.1 %	2.9 %
3) Average salary increase	2.4 %	6.2 %	1.4 %	3.0 %	2.8 %	3.1 %
4) Spread between recognized return and average salary increase						
Actual						5.0%
Assumed						4.0%

<sup>#</sup> 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.

**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.

**Police & Fire**

Years of Service	Salary Increase Assumptions for Members with Five or Fewer Years of Service		
	Merit & Seniority	Base (Economic)	Increase Next Year
1	9.10%	2.75%	11.85%
2	8.50%	2.75%	11.25%
3	7.90%	2.75%	10.65%
4	7.30%	2.75%	10.05%
5	6.70%	2.75%	9.45%
Ref	837		

**General, Water and Court**

Years of Service	Salary Increase Assumptions for Members with Five or Fewer Years of Service		
	Merit & Seniority	Base (Economic)	Increase Next Year
1	6.00%	2.75%	8.75%
2	5.70%	2.75%	8.45%
3	5.30%	2.75%	8.05%
4	5.00%	2.75%	7.75%
5	4.60%	2.75%	7.35%
Ref	838		

Sample Ages	Salary Increase Assumptions for Members with Greater Than Five Years of Service		
	Merit & Seniority	Base (Economic)	Increase Next Year
20	3.55%	2.75%	6.30%
25	3.35%	2.75%	6.10%
30	2.55%	2.75%	5.30%
35	2.05%	2.75%	4.80%
40	1.65%	2.75%	4.40%
45	1.25%	2.75%	4.00%
50	0.85%	2.75%	3.60%
55	0.45%	2.75%	3.20%
60	0.35%	2.75%	3.10%
65	0.00%	2.75%	2.75%
Ref	93		

Sample Ages	Salary Increase Assumptions for Members with Greater Than Five Years of Service		
	Merit & Seniority	Base (Economic)	Increase Next Year
20	0.00%	2.75%	2.75%
25	0.00%	2.75%	2.75%
30	0.00%	2.75%	2.75%
35	0.00%	2.75%	2.75%
40	0.00%	2.75%	2.75%
45	0.00%	2.75%	2.75%
50	0.00%	2.75%	2.75%
55	0.00%	2.75%	2.75%
60	0.00%	2.75%	2.75%
65	0.00%	2.75%	2.75%
Ref	1		

If the number of active members remains constant, then the total active member payroll will increase 2.75% annually, the base portion of the individual salary increase assumptions.

The mortality tables used to measure post-retirement mortality are as follows:

<b>Pre-retirement</b>	<p><b>General, Water &amp; Court:</b> PubG-2010 Employee mortality table, sex distinct, with generational mortality improvements from 2010 using scale MP-2019</p> <p><b>Police &amp; Fire:</b> PubS-2010 Employee mortality table, sex distinct, with generational mortality improvements from 2010 using scale MP-2019</p>
<b>Post-retirement Healthy lives</b>	<p><b>General, Water &amp; Court:</b> PubG-2010 Healthy Retiree mortality table, sex distinct, with generational mortality improvements from 2010 using scale MP-2019</p> <p><b>Police &amp; Fire:</b> PubS-2010 Healthy Retiree mortality table, sex distinct, with generational mortality improvements from 2010 using scale MP-2019</p>
<b>Disabled lives</b>	<p><b>General, Water &amp; Court:</b> PubG-2010 Disabled Retiree mortality table, sex distinct, with generational mortality improvements from 2010 using scale MP-2019</p> <p><b>Police &amp; Fire:</b> PubS-2010 Disabled Retiree mortality table, sex distinct, with generational mortality improvements from 2010 using scale MP-2019</p>

Sample values follow:

**Police & Fire**

Sample Ages in 2021	Single Life Retirement Value					
	Actuarial Present Value of \$1 Monthly for Life		Percent Dying Next Year		Future Life Expectancy (Years)	
	Men	Women	Men	Women	Men	Women
50	\$159.45	\$161.84	0.1794%	0.1427%	35.67	37.68
55	151.25	154.32	0.2976%	0.2695%	30.60	32.56
60	140.88	145.03	0.5277%	0.4754%	25.71	27.65
65	128.35	133.74	0.8896%	0.7452%	21.09	23.00
70	113.45	119.96	1.4631%	1.1969%	16.79	18.59
75	96.21	103.67	2.5581%	2.0790%	12.86	14.50
80	77.59	85.84	4.6553%	3.7044%	9.42	10.88

**General, Water and Court**

Sample Ages in 2021	Single Life Retirement Value					
	Actuarial Present Value of \$1 Monthly for Life		Percent Dying Next Year		Future Life Expectancy (Years)	
	Men	Women	Men	Women	Men	Women
50	\$158.36	\$162.87	0.2785%	0.2127%	35.63	38.59
55	150.68	156.38	0.4191%	0.2987%	30.73	33.60
60	141.13	147.99	0.6389%	0.4093%	26.01	28.73
65	129.42	137.19	0.9219%	0.5933%	21.50	23.98
70	115.07	123.58	1.4239%	0.9574%	17.23	19.43
75	98.20	107.13	2.4178%	1.7057%	13.27	15.15
80	79.72	88.57	4.3552%	3.1415%	9.78	11.31

**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	20%	53	40%
54	20%	54	40%
55	20%	55	40%
56	20%	56	40%
57	20%	57	40%
58	20%	58	40%
59	20%	59	40%
60	30%	60+	100%
61	40%		
62	50%		
63	60%		
64	70%		
65	80%		
66+	100%		
Ref	3042		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. Furthermore, for Police groups, it was assumed the rates of retirement would double (to a maximum of 100%) after hitting the dollar benefit max (\$90,000, \$80,000 or \$70,000 depending on group). Also, Fire members hired on or after January 1, 2013 and Police members hired on or after July 1, 2020 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	1
		55	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	
	General, Water & Court	Police-Fire
20	0.02%	0.14%
25	0.02%	0.19%
30	0.02%	0.26%
35	0.05%	0.42%
40	0.08%	0.60%
45	0.20%	0.89%
50	0.29%	1.63%
55	0.38%	2.69%
Ref	1106	1160

# Miscellaneous and Technical Assumptions

## December 31, 2021

<b>Marriage Assumption:</b>	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.
<b>Pay Increase Timing:</b>	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.
<b>Decrement Timing:</b>	Decrements of all types are assumed to occur mid-year.
<b>Eligibility Testing:</b>	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.
<b>Decrement Relativity:</b>	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
<b>Decrement Operation:</b>	Disability and turnover do not operate during retirement eligibility.
<b>Liability Adjustments:</b>	<p>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.</p> <p>Police and Fire Actuarial Accrued Liabilities were increased by 2% to account for FAC calculations using pay prior to pay cuts.</p> <p>Police hired after December 16, 2008 and Firefighters hired after July 1, 2008 were given no adjustment.</p> <p>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 December 31, 2012.</p> <p>A 0.20% load was added to the Normal Cost to reflect Military Service Purchases for all active members.</p>



## Miscellaneous and Technical Assumptions December 31, 2021 (Concluded)

<b>Data Assumptions:</b>	Pay was annualized for any new hires whose pay did not appear to already be annualized.
<b>Option Factors:</b>	Option factors are based upon 7.0% interest and the RP-2014 Healthy Annuitant Mortality Table projected 5 years to 2019 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 and APPOA are assumed to elect unreduced 70% Joint and Survivor.
<b>Incidence of Contributions:</b>	Contributions are assumed to be received each month throughout the year based upon the computed monthly dollar amount shown in this report.
<b>Benefit Service:</b>	Exact fractional service is used to determine the amount of benefit payable.
<b>Deferred Retirement:</b>	Terminated members with a vested benefit are assumed to retire at first eligibility for voluntary retirement.

## Glossary

**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.

## Pensions in an Inflationary Environment

### Value of \$1,000/month Retirement Benefit to an Individual Who Retires at Age 55 in an Environment of 2.25% Inflation

Age	Inflation Rate
	2.25%
55	\$1,000
56	978
57	956
58	935
59	915
60	895
65	801
70	716
75	641
80	573
85	513

The life expectancy of a 55-year-old male retiree is to age 85. The life expectancy for a 55-year-old female retiree is to age 88. 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

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### **ADDITIONAL DISCLOSURE INFORMATION**

**GASB Statement Nos. 67 and 68 are the accounting standards which replaced GASB Statement Nos. 25 and 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 Statement Nos. 67 and 68 report is issued outside of this report. This section contains historical GASB Statement Nos. 25 and 27 reporting information for prior fiscal years and illustrative information for fiscal years 2015 and later.**

## Statement of Market Value of Plan Net Assets as of December 31

	2021	2020
Assets:		
Cash and short-term investments	\$ 2,788,113	\$ 2,226,834
Bonds	27,512,093	26,140,308
Equities	82,475,510	72,839,415
Other	1,155,450	1,428,031
Total Assets	113,931,166	102,634,588
Liabilities		
Payables	0	0
Net assets held in trust for pension benefits*	\$113,931,166	\$102,634,588

\* 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

	2021	2020
Additions:		
Contributions		
Employer	\$ 3,112,249	\$ 2,629,494
Plan members	487,198	443,413
Total	3,599,447	3,072,907
Investment Income	15,929,648	11,267,500
Total Additions	19,529,095	14,340,407
Deductions:		
Benefits	7,949,846	7,511,399
Refunds of contributions	0	200
Expenses	282,671	283,135
Total Deductions	8,232,517	7,794,734
Net Increase	11,296,578	6,545,673
Net assets held in Trust Fund:		
Beginning of year	102,634,588	96,088,915
End of year	113,931,166	102,634,588

**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. The amortization of the unfunded actuarial accrued liability is determined as a level percentage of payroll for Police and Fire, consistent with the financing objective. The amortization of the unfunded actuarial accrued liability is determined as a level dollar amount for General, Water and Court since those groups are closed to new hires.

Unfunded actuarial accrued liabilities (full funding credit) are amortized by level percent-of-payroll contributions over a period of 17 future years for Police and Fire members (starting amortization period of 25 years), and level dollar amounts over a period of 11 remaining years for General, Water Department and Court members (starting amortization period of 20 years).

On the basis of the December 31, 2021 actuarial valuation, the employer rates for the fiscal year beginning July 1, 2022 were determined to be as follows:

Contributions for	Percents of Covered Active Member Payroll		
	General, Water and Court	Police & Fire	Total (Weighted Avg.)
Normal Cost	8.70 %	13.73 %	12.86 %
Accrued Liabilities	66.30 %	20.76 %	28.21 %
Total Employer Rate	75.00 %	34.49 %	41.07 %

## 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)
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
2016*	86.9	108.4	21.5	80.2	6.2	346.4
2017*	88.9	110.3	21.4	80.6	6.3	339.5
2018	88.2	112.8	24.6	78.2	6.5	378.7
2019*	91.5	112.1	20.6	81.6	6.5	316.1
2020*#	96.3	119.3	23.0	80.7	6.5	352.7
2021*	101.8	121.4	19.6	83.9	6.4	304.6

\* Retirement System was amended.

# Revised actuarial assumptions and/or methods.





## Schedule of Employer Pension Contributions

Year Ended December 31	Actuarially Determined Contribution*
2011	\$2,971,831
2012	4,032,657#
2013	3,334,274@
2014	2,302,748^
2015	2,699,151
2016	2,641,242
2017	2,659,008
2018	2,646,084
2019	2,832,930
2020	2,852,070!
2021	2,883,468!

\* 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 actuarially determined contributions shown in the Schedule of Employer Contributions are the actual contributions made by the City in the plan year.

# The City reported actual employer contributions of \$2,758,177 for the year ending December 31, 2012. The Actuarially Determined 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 Actuarially Determined 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 Actuarially Determined Contribution was \$2,302,748. The City reported actual employer contributions of \$5,028,314 for the year ending December 31, 2014.

! Based on our understanding of City procedure (see footnote above), we estimate that the Actuarially Determined Contribution was \$2,852,070 for 2020 and \$2,883,468 for 2021. The City reported actual employer contributions of \$2,629,494 for the year ending December 31, 2020 and \$3,112,249 for the year ending December 31, 2021 (the 12<sup>th</sup> monthly payment for 2020 was scheduled to occur after the valuation date of December 31, 2020).

## 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, 2021
Actuarial cost method	Entry Age
Amortization method	
General (AFSCME)	Level dollar, closed
Police & Fire	Level percent, closed
Remaining amortization period	
General (AFSCME)	11 years (out of 20)
Police & Fire	17 years (out of 25)
Asset valuation method	4-year smoothed market
Actuarial assumptions:	
Investment rate of return	6.75%
Projected salary increases (Police & Fire)*	2.75% - 11.85%
Projected salary increases (General, Water, Court)*	2.75% - 8.75%
Cost-of-living adjustments	N/A
Payroll Growth	2.75%
Group Size – General	Closed Population
Group Size – Police & Fire	Stable Population
<hr/>	
*Includes price inflation at	2.25%

**SECTION E**

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**FUNDING POLICY**

**CITY OF ALLEN PARK  
EMPLOYEES RETIREMENT SYSTEM**

**ACTUARIAL FUNDING POLICY**

**WHEREAS**, the City of Allen Park Employees Retirement System (“Retirement System”) is established and administered pursuant to the City of Allen Park Charter, as amended, the Retirement System Ordinance, as amended, applicable collective bargaining agreements, and applicable state and federal laws including, but not limited to Public Act 314 of 1965, as amended (“Act 314”) [MCL 38.1132 *et seq.*], and

**WHEREAS**, the Board of Trustees of the Retirement System (“Board”) is vested with the authority and fiduciary responsibility for the administration, management and operation of the Retirement System, and

**WHEREAS**, the Board, in consultation with its Actuary, has an obligation to establish the economic and demographic assumptions to be utilized in performing the required actuarial valuation of the Retirement System and in determining the required annual employer contribution to the Retirement System, and

**WHEREAS**, the Board is aware of changes to the accounting and reporting standards approved by the Governmental Accounting Standards Board (GASB) for public pension plans, and

**WHEREAS**, the Board wishes to establish a formal Actuarial Funding Policy addressing the funding objectives and actuarial assumptions to be utilized in determining the funding status of the Retirement System, therefore be it

**RESOLVED**, that the Board hereby adopts the following Actuarial Funding Policy:

**I. GENERAL**

**A. Purpose**

- (1) In light of changes to the GASB financial accounting and reporting standards for public pension plans, the Board of Trustees of the Retirement System desires to establish a formal Actuarial Funding Policy to ensure the systematic funding of future pension obligations of the Retirement System.

## **B. Policy Objectives**

- (1) Maintain adequate levels of assets sufficient to fund all benefits expected to be paid to members and beneficiaries when due.
- (2) Maintain stability of employer contributions rates, consistent with other funding objectives.
- (3) Support the public policy goals of accountability and transparency.
- (4) Monitor material risks to assist in any risk management strategies the Board deems appropriate.
- (5) Promote intergenerational equity. Each generation of members and employers should incur the cost of benefits for the employees who provide services to them, rather than deferring costs to future members and employers.
- (6) Provide a reasonable margin for adverse experience to offset risk.
- (7) Review the Plan's investment return assumption, potentially in conjunction with a periodic asset liability study and in consideration of the Board's risk profile.
- (8) Continue the systematic reduction of the Plan's Unfunded Actuarial Accrued Liabilities (UAAL).

## **II. LEGAL**

### **A. Annual Actuarial Valuation**

- (1) Section 20h(4) of Act 314 [MCL 38.1140h(4)], requires the Retirement System to have an actuarial valuation performed annually as follows:

Except as otherwise provided in this subsection, a system shall have an annual actuarial valuation with assets valued on a market-related basis. The actuarial present value of total projected benefits shall include all pension benefits to be provided by the system to members or beneficiaries pursuant to the terms of the system and any additional statutory or contractual agreements to provide pension benefits through the system that are in force at the actuarial valuation date, including, but not limited to, service credits purchased by members, deferred retirement option plans, early retirement programs, and postretirement adjustment programs. A system that has less than \$20,000,000.00 is only required to have an actuarial valuation as required under this subsection done every other year.

## **B. Annual Employer Contribution**

- (1) The Board is required, pursuant to Section 20m of Act 314 [MCL 38.1140m], to annually certify the annual required contribution to be made by the employer as follows:

The governing board vested with the general administration, management, and operation of a system or other decision-making body that is responsible for implementation and supervision of any system shall confirm in the annual actuarial valuation required under section 20h and the summary annual report required under section 13 that each system under this act provides for the payment of the required employer contribution as provided in this section and shall confirm in the summary annual report that the system has received the required employer contribution for the year covered in the summary annual report. The required employer contribution is the actuarially determined contribution amount. An annual required employer contribution in a system under this act shall consist of a current service cost payment and a payment of at least the annual accrued amortized interest on any unfunded actuarial liability and the payment of the annual accrued amortized portion of the unfunded principal liability. For fiscal years that begin before January 1, 2006, the required employer contribution shall not be determined using an amortization period greater than 40 years. Except as otherwise provided in this section, for fiscal years that begin after December 31, 2005, the required employer contribution shall not be determined using an amortization period greater than 30 years. . . . In a plan year, any current service cost payment may be offset by a credit for amortization of accrued assets, if any, in excess of actuarial accrued liability. A required employer contribution for a system administered under this act shall allocate the actuarial present value of future plan benefits between the current service costs to be paid in the future and the actuarial accrued liability. The governing board vested with the general administration, management, and operation of a system or other decision-making body that is responsible for implementation and supervision of a system shall act upon the recommendation of an actuary and the board and the actuary shall take into account the standards of practice of the actuarial standards board of the American academy of actuaries in making the determination of the required employer contribution.

### **III. POLICY**

#### **A. Actuarial Cost Method**

- (1) The individual entry age normal actuarial cost method of valuation shall be utilized in determining actuarial accrued liability and normal cost with the following characteristics:
  - (a) 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 value of the member's benefit at the time of retirement; and
  - (b) each annual normal cost is a constant percentage of the member's year by year projected covered pay.
- (2) Differences in the past between assumed experience and actual experience (actuarial gains and losses) shall be factored into the actuarial accrued liability.
- (3) The normal cost shall be determined on an individual basis for each active member.

#### **B. Asset Smoothing Method**

- (1) The investment gains or losses of each valuation period, resulting from the difference between actual investment return and assumed investment return, shall be recognized annually in level amounts over a period not to exceed five (5) years in calculating the funding value of assets. The Board's current smoothing method uses a four (4) year valuation period.

#### **C. Amortization Method**

- (1) A level percent of payroll amortization method shall be used to systematically pay off the unfunded actuarial accrued liabilities over a closed amortization period not to exceed 30 years for the stable population of Police & Fire members. The Board's current amortization method for Police & Fire members is a closed 25-year level percent amortization period ending June 30, 2039.
- (2) A level dollar amount amortization method shall be used to systematically pay off the unfunded actuarial accrued liabilities over a closed amortization period determined by the Board in consultation with its actuary for the closed population of General, Water Department and Court members. The Board's current amortization method for General, Water Department and Court members is a closed 20-year level dollar amortization ending June 30, 2033.
- (3) Unfunded liabilities associated with benefit changes or assumption changes shall be funded over a period determined by the Board in consultation with its actuary.
- (4) Unfunded liabilities arising from benefit changes provided to retirees or in conjunction with early retirement incentive programs offered by the employer shall be separately funded over a period determined by the Board in consultation with its actuary.

- (5) In the event that the Retirement System's assets exceed its liabilities, all amortization schedules other than those related to benefit changes for retirees or early retirement incentive programs offered by the employer shall be considered completed, and employer contributions will be set based upon the normal cost and the completion of any remaining amortizations due to benefit changes for retirees or early retirement incentive programs offered by the employer, without regard to the overfunding status of the Retirement System.

**D. Assumptions**

- (1) The economic and demographic actuarial assumptions utilized to determine the contribution requirements and benefit values of the Retirement System shall be determined by the Board in consultation with its actuary, subject to the following limitations:

- (a) The assumed rate of investment return shall not exceed 8.0%, compounded annually;

**E. Funding Target**

- (1) The targeted funded ratio of the Retirement System shall be 100%.
- (2) The employer contribution rate shall at least be equal to the normal cost unless the funded ratio of the Retirement System exceeds 120%.
- (3) A funding plan shall be developed by the Board in consultation with its actuary if the funded ratio of the Retirement System falls below 60%, which may include additional funding requirements.

**F. Risk Management**

- (1) Assumption Changes
  - (a) The actuarial assumptions utilized to determine the annual contribution requirements and valuations shall be those last adopted by the Board based on the most recent experience study and upon the advice and recommendation of the Board's actuary. The Board's actuary shall conduct an experience study at least once every five years. The results of the experience study shall be the basis for the actuarial assumptions recommended to the Board.
  - (b) The actuarial assumptions may be revised during the five-year period between experience studies if significant plan design changes or other significant economic events occur, as advised by the actuary.
- (2) Risk Measures. The following risk measures will be annually determined by the Retirement System's actuary to provide quantifiable measurements of risk as it applies to the Retirement System.
  - (a) Funded ratio;



- (b) Unfunded actuarial accrued liabilities – the years required to pay down the unfunded liabilities of the Retirement System based upon the current funding schedule;
  - (c) Total unfunded actuarial accrued liabilities as a percentage of total payroll;
  - (d) Total assets as a percentage of total payroll; and
  - (e) Total actuarial accrued liabilities as a percentage of total payroll.
- (3) Risk Control
- (a) The Board shall carefully monitor the risk measures identified above and shall consider steps to mitigate risk, particularly as the funded ratio increases.

#### **IV. REVIEW AND AMENDMENT**

##### **A. Periodic Review**

- (1) This Actuarial Funding Policy shall be reviewed no less frequently than once every five years in conjunction with the required experience study performed by the Board's actuary, and may be reviewed at any time in the Board's discretion.

##### **B. Amendment**

- (1) The Board, in consultation with its Actuary and Legal Counsel, may amend this Actuary Funding Policy at any time as deemed necessary to address changes in the makeup, benefit structure and/or funding status of the Retirement System.