

**MEMORANDUM
FINANCE DEPARTMENT**

TO: Randall Tweet, City Manager **Number:** 029-20
SUBJECT: Firefighters Pension Fund and Police Pension Fund **Date:** 06-19-20
Preliminary Actuarial Valuation Results for January
1, 2020 and Assumption Discussion

At the July 13, 2020 Study Session, Heath Merlak of Nyhart will be presenting the January 1, 2020 Actuarial Valuation Results along with a discussion of assumptions.

Last July, the Council approved recommended pension assumption changes based on the results of the last Actuarial Assumption review. Those assumptions are outlined in the attached Memorandum dated July 9, 2019.

Below is the history of Police and Fire Employer Contributions which is funded through the City's property tax levy:

	2011	2012	2013	2014	2015	2016	2017	2018	2019
Police	2,171,239	2,301,409	2,421,323	2,688,265	2,893,929	3,210,742	3,385,036	3,543,398	3,772,591
Fire	1,978,959	2,030,816	2,186,165	2,676,616	2,803,551	3,059,559	3,280,384	3,290,679	3,443,224

Submitted by: Stephanie Masson, Finance Director

**MEMORANDUM
FINANCE DEPARTMENT**

TO: Randall Tweet, City Manager **Number:** 034-19
SUBJECT: Firefighters Pension Fund and Police Pension Fund Assumptions **Date:** 07-09-19

At the Council Study Session on July 8, 2019, Heath Merlak of Nyhart presented the Actuarial Valuation Results for January 1, 2019 along with a discussion of assumptions. The results, which reflect the employer's contribution will be incorporated into the 2019 Property Tax Levy.

Each year, Mr. Merlak reminds staff and Council that actuarial and accounting standards strongly encourage actuarial assumptions be reviewed every 3-5 years or more often as new studies or information become available. He explains that it is important to ensure costs are based on reasonable assumptions and to better align costs across generations. Council approved assumption changes for Salary Increase, Interest Rate and Payroll Growth in July 2017. In October 2017, the IDOI completed an assumption study that required the City to further review its adopted assumptions so changes were made to the assumption plan in June 2018.

Based on the IDOI assumption study, the recommendations of the actuary and considering the affected stakeholders, it is recommended that the assumptions as adopted in July 2017, and as amended in June 2018 be implemented for the establishment of the 2019 property tax levy (Year 3) funding the City's employer contribution as follows:

	Year	Valuation Date	Tax Levy / Payable Year	
	1	1/1/2017	2017 / 2018	<i>completed</i>
	2	1/1/2018	2018 / 2019	<i>completed</i>
	3	1/1/2019	2019 / 2020	
	4	1/1/2020	2020 / 2021	
	5	1/1/2021	2021 / 2022	
	6	1/1/2022	2022 / 2023	
	7	1/1/2023	2023 / 2024	
	8	1/1/2024	2024 / 2025	

1. Salary Increase - Implement the recommended change from a flat 5.0% salary increase assumption to age-based salary scale in Year 1. *completed*
2. Payroll Growth - Implement the recommended change from a 5.0% payroll growth assumption to 3.5% over a five year period:

Year	Payroll Growth	
1	4.0%	<i>completed</i>
2	3.9%	<i>completed</i>
3	3.8%	
4	3.7%	
5	3.5%	

3. Interest Rate – Decrease the interest rate assumption toward the IDOI’s assumption of 6.5% over an extended period:

	Year	Interest Rate	
	1	7.4%	<i>completed</i>
	2	7.3%	<i>completed</i>
	3	7.2%	
	4	7.1%	
	5	7.0%	
	6	6.9%	
	7	6.8%	
	8	6.7%	

4. Mortality Table – To discontinue use of the RP-2000 mortality table and adopt the IDOI mortality assumption that uses the RP-2014 Table with generational mortality improvements. (*Completed Year 2*) When the Society of Actuaries releases a mortality study focused on public plans it will be reviewed.

In Year 2, adopt the IDOI study feature that updates the retirement, withdrawal and disability assumptions (demographics). *completed*

Further, continue to use the entry age normal method rather than the State’s projected unit cost method but transition from a 100% funding target to the Illinois minimum of 90% of the actuarial liability by 2041. (*Completed Year 2*) Evaluate returning to the 100% funding target each year when performing the valuation.

In addition, it would be recommended that additional contributions continue to be considered annually during the City’s budget process.

Recommendation: City Council approve the recommended pension assumptions.

Submitted by: Stephanie Masson, Finance Director

Approved: Randy Tweet, City Manager



July 13, 2020

City of Rock Island

Police and Firefighters Pension Fund – 2020 Valuation
Results

This report was prepared for the City of Rock Island to summarize the alternative assumptions and preliminary key results of the 2020 actuarial valuations relating to the Rock Island Police and Firefighters Pension Funds and may not be appropriate for other uses. Please contact Nyhart prior to disclosing this report to any other party or relying on its content for any purpose other than the intended use.

Except where indicated otherwise, the results included in this report are based on the same data, assumptions, methods, and plan provisions as the 1/1/2020 valuation. As a result, these sections of the forthcoming 2020 funding valuation report should be considered part of this report.

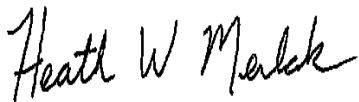
Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

- Plan experience differing from that anticipated by the economic or demographic assumptions;
- Changes in economic or demographic assumptions;
- 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); and
- Changes in plan provisions or applicable law.

We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement.

This report has been prepared in accordance with generally accepted actuarial principles and practice.

The consultants indicated below are compliant with the continuing education requirements of the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States.



Heath W. Merlak
FSA, EA, FCA, MAAA



Scott Gavin
FSA, EA, MAAA

- Signed by Governor Pritzker on December 18, 2019
- Effective January 1, 2020

Key Provisions:

- Consolidates Police and Firefighters' Pension Fund assets
 - Transfers to consolidated funds to occur prior to June 30, 2022
- Tier II benefit increases
 - Reduction in final salary averaging period, increases in pay cap indexing, and enhanced spouse benefits
 - Effective January 1, 2020
- Local Boards retain authority over disability, retirement, and survivor benefits.

Far from settled...

- Many operational details to be determined
- Task Force expected to make recommendations on administrative, audit and actuarial consolidation, and funding policy at a later date.



Assumption Updates



Recommend the continued step-down of the interest rate assumption to 7.10% for 2020.

- 6.50% is the rate used by the Illinois Department of Insurance for plans with more than \$10 million in invested assets. The IDOI assumption was 6.75% prior to 2017 experience study.
- 6.50% assumption is based on composite plan with asset allocation of 45% equities, 45% fixed income, and 10% real estate
- 7.20% assumption was used in 2019

Recommend the continued step-down of the payroll growth assumption to 3.70% for 2020.

- 3.50% is the rate used by the Illinois Department of Insurance.
- 3.80% assumption was used in 2019



Benchmarking

2019 NCPERS Public Retirement Systems Study

- Study conducted by National Conference on Public Employee Retirement Systems and Cobalt Community Research
 - 155 state and local government pension funds responded
 - 62% of respondents were local government funds

- Key findings from the study
 - Average funded ratio was 71.7%
 - ✓ Fire Plan's Funded Ratio is 31.6%
 - ✓ Police Plan's Funded Ratio is 39.7%
 - Average interest assumption decreased from 7.34% to 7.24%
 - ✓ 82% have reduced or are considering to reduce this assumption
 - ✓ Recommended interest assumption is 7.10%
 - Amortization periods remained constant at 22.4 years
 - ✓ City's amortization period is 21 years
 - Average expense (administration and investment) is 55 basis points
 - ✓ Fire plan's expense for 2019 was 40 bps
 - ✓ Police plan's expense for 2019 was 38 bps



Assumption Review: **Mortality**



- The Society of Actuaries released the results of a new public pension mortality study in 2019 (the SOA’s RP-2014 table was based on private-sector mortality experience)
 - The study is based on mortality experience for the years 2008 – 2013, with central year 2010
 - The Pub - 2010 Study has separate tables for Public Safety, Teachers, and General Employees

- Sample life expectancies, male age 55:

Current Age	2020 Rock Island	Pub-2010 Public Safety	Pub-2010 General	Pub-2010 Teachers
25	85.6	88.2	88.4	90.3
55	82.7	85.4	85.7	87.9

- Recommendation: consider the new mortality basis in conjunction with the updated IDOI mortality experience study in 2022



2020 Valuation Results: Rock Island Firefighters Pension Fund



	2019 Valuation	2020			
		Same assumptions as 2019	Interest Rate 7.1% Payroll Growth 3.7%	Tier II Plan Changes	
Total Payroll	\$ 4,540,219	\$ 4,824,068	\$ 4,824,068	\$ 4,824,068	
Accrued Liability (EAN)	\$ 75,204,919	\$ 77,238,796	\$ 78,128,157	\$ 78,180,215	
Actuarial Assets	24,159,850	24,673,179	24,673,179	24,673,179	
Unfunded Liability	\$ 51,045,069	\$ 52,565,617	\$ 53,454,978	\$ 53,507,036	
Funded Percentage	32.1%	31.9%	31.6%	31.6%	
Recommended Contribution					
Funding Policy:	90% by 2040	90% by 2040	90% by 2040	90% by 2040	
Total Normal Cost (EAN)	\$ 923,278	\$ 981,573	\$ 1,008,585	\$ 1,022,104	
Employee Contributions	(429,278)	(429,234)	(429,234)	(429,234)	
Expenses	-	-	-	-	
Amortization	2,717,963	2,891,998	2,944,415	2,947,437	
Interest	231,261	247,992	250,187	251,362	
Total Recommended Contribution	\$ 3,443,224	\$ 3,692,329	\$ 3,773,953	\$ 3,791,669	
Minimum Contribution (PA 096-1495)	\$ 3,417,185	\$ 3,674,530	\$ 3,753,961	\$ 3,765,912	
Final Recommended Contribution	\$ 3,443,224	\$ 3,692,329	\$ 3,773,953	\$ 3,791,669	
- as a % of Payroll	75.8%	76.5%	78.2%	78.6%	



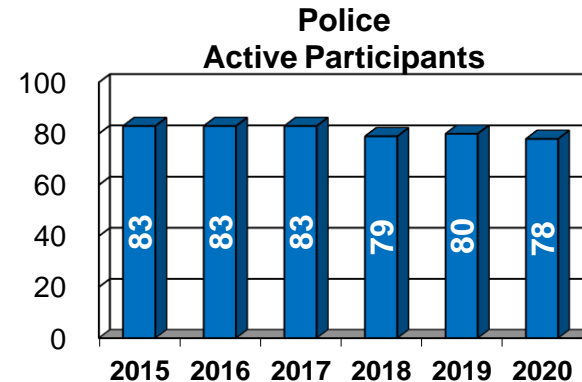
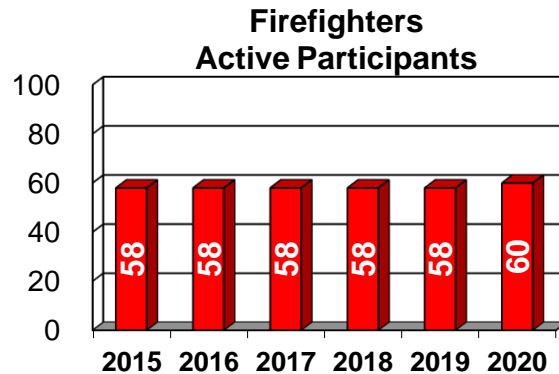
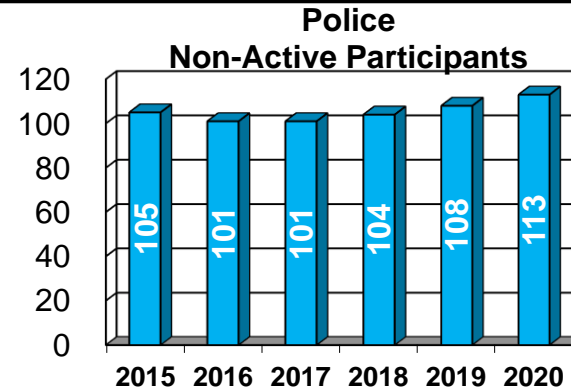
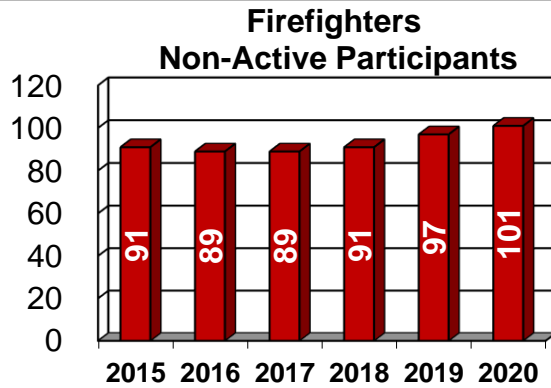
2020 Valuation Results: Rock Island Police Pension Fund



	2019 Valuation	2020			
		Same assumptions as 2019	Interest Rate 7.1% Payroll Growth 3.7%	Tier II Plan Changes	
Total Payroll	\$ 6,216,240	\$ 6,234,010	\$ 6,234,010	\$ 6,234,010	
Accrued Liability (EAN)	\$ 93,021,325	\$ 97,458,799	\$ 98,692,967	\$ 98,765,921	
Actuarial Assets	38,011,257	39,226,446	39,226,446	39,226,446	
Unfunded Liability	\$ 55,010,068	\$ 58,232,353	\$ 59,466,521	\$ 59,539,475	
Funded Percentage	40.9%	40.2%	39.7%	39.7%	
Recommended Contribution					
Funding Policy:	90% by 2040	90% by 2040	90% by 2040	90% by 2040	
Total Normal Cost (EAN)	\$ 1,143,659	\$ 1,168,923	\$ 1,202,179	\$ 1,217,864	
Employee Contributions	(616,029)	(581,687)	(581,687)	(581,687)	
Expenses	-	-	-	-	
Amortization	2,854,306	3,127,059	3,199,559	3,203,795	
Interest	243,499	267,429	271,224	272,638	
Total Recommended Contribution	\$ 3,625,435	\$ 3,981,724	\$ 4,091,275	\$ 4,112,610	
Minimum Contribution (PA 096-1495)	\$ 3,772,591	\$ 4,116,931	\$ 4,224,944	\$ 4,241,391	
Final Recommended Contribution	\$ 3,772,591	\$ 4,116,931	\$ 4,224,944	\$ 4,241,391	
- as a % of Payroll	60.7%	66.0%	67.8%	68.0%	



Participant Information



Active Demographics

	Firefighters		Police	
	2019	2020	2019	2020
Average Age	39.8	40.3	40.3	41.0
Average Service	12.5	13.0	14.1	14.4
Average Plan Compensation	\$75,125	\$77,179	\$74,681	\$76,903



Market and Actuarial Value of Assets

	1/1/2018	1/1/2019	1/1/2020
Firefighters			
Market Value	\$23,966,231	\$22,304,981	\$25,140,413
Actuarial Value	\$23,937,356	\$24,159,850	\$24,673,179
Actuarial Value/Market Value	100%	108%	98%
Rate of Return			
Market Value	13.9%	-3.9%	17.1%
Actuarial Value	6.1%	4.1%	6.0%
Police			
Market Value	\$37,002,529	\$34,832,256	\$39,463,568
Actuarial Value	\$36,994,277	\$38,011,257	\$39,226,446
Actuarial Value/Market Value	100%	109%	99%
Rate of Return			
Market Value	11.4%	-4.5%	16.0%
Actuarial Value	6.8%	4.2%	5.6%



The funded status of the plans varies between measurements

- Funding Valuation to determine the recommended contribution
 - Uses smoothed assets (gains/losses recognized over 5 years)
 - Interest rate based on current long-term investment return expectations
- GASB Reporting for financial statements
 - Uses Market Value of Assets on measurement date
 - Interest rate adjusted for projected insolvency based on current employees
 - ✓ Adjusted rate blends the long-term expected return for years of projected solvency with a municipal bond rate for years of projected insolvency based on current employees only
 - ✓ 2.74% is the municipal bond rate as of December 31, 2019
 - ✓ Results are very sensitive to funding policy



Funding versus GASB Accounting



As of January 1, 2020	Funding Valuation	GASB Reporting
Firefighters		
Interest Rate	7.10%	5.78%
Accrued Liability	\$78,180,215	\$91,761,001
Asset Value*	\$24,673,179	\$25,140,413
Funded Status (\$)	\$53,507,036	\$66,620,588
Funded Status (%)	31.6%	27.4%
Police		
Interest Rate	7.10%	6.05%
Accrued Liability	\$98,765,921	\$113,450,808
Asset Value*	\$39,226,446	\$39,463,568
Funded Status (\$)	\$59,539,475	\$73,987,240
Funded Status (%)	39.7%	34.8%

* Smoothed (Actuarial) Value of Assets for Funding Valuation; Market Value for GASB