

**Retirement Plan for Employees of
the City of Creve Coeur
Actuarial Valuation as of July 1, 2018**

Presented by
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October 25, 2018

Board of Trustees
Retirement Plan
City of Creve Coeur
300 N. New Ballas Road
St. Louis, Missouri 63141

RE: July 1, 2018 Actuarial Valuation Results

Dear Members of the Board:

As requested, we performed an actuarial valuation of the Retirement Plan for Employees of the City of Creve Coeur as of July 1, 2018, for the Plan Year ending June 30, 2019. Our findings are set forth in this actuary's report. This report reflects the benefit provisions in effect as of July 1, 2018.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the Plan's Administrative Staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the Plan have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the Plan and reasonable expectations); and which, in combination, offer our best estimate of anticipated experience affecting the Plan. Further, in our opinion, each actuarial assumption used is reasonably related to the experience of the Plan and to reasonable expectations which, in combination, represent our best estimate of anticipated experience under the Plan.

This valuation report is only an estimate of the Plan's financial condition as of a single date. It can neither predict the Plan's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of Plan benefits, only the timing of Plan contributions. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

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 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 our assignment, we did not perform an analysis of the potential range of future measurements. The City has the final decision regarding the appropriateness of the assumptions and adopted them as presented in this report.

Actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the Fund. The calculations in the enclosed report have been made on a basis consistent with our understanding of the Fund's funding requirements and goals. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman's work is prepared solely for the internal business use of the City of Creve Coeur and its employees (for their use in administering the Plan). To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exception(s):

- (a) The System may provide a copy of Milliman's work, in its entirety, to the System's professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit the System.
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No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.



October 25, 2018
Board of Trustees

The signing actuaries are independent of the City. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

We respectfully submit the following report, and we look forward to discussing it with you.

Sincerely,

A handwritten signature in black ink that reads "Michael J. Zwiener". The signature is stylized and includes a long horizontal stroke at the end.

Michael J. Zwiener, FSA
Consulting Actuary

MJZ/dmm

**Retirement Plan for Employees of
the City of Creve Coeur**

July 1, 2018 Actuarial Valuation

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**Retirement Plan for Employees of
the City of Creve Coeur**

July 1, 2018 Actuarial Valuation

Introduction and Purpose

In this report, we present the results of the July 1, 2018 actuarial valuation for the Retirement Plan for Employees of the City of Creve Coeur.

PURPOSES OF THE VALUATION

The actuarial valuation of the Plan is intended to accomplish several purposes:

- In general, the determination of current levels of employer contributions which, together with prior funding, will accumulate monies sufficient to meet benefit payments when due under the terms of the Plan;
- review plan experience for the year ended on the valuation date to ascertain whether the assumptions and methods employed for valuation purposes are reflective of actual events and remain appropriate for prospective application; and
- assessment of the relative funded position of the plan on an ongoing basis, i.e., through a comparison of plan assets and projected plan liabilities.

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**Retirement Plan for Employees of
the City of Creve Coeur**

July 1, 2018 Actuarial Valuation

Discussion of Valuation Results

1. Actuarially Determined Contribution

The results of this valuation are used to actuarially determine contribution amounts to the Fund for the July 1, 2018 – June 30, 2019 fiscal year. A comparison of actuarially determined contribution amounts for the current and immediately preceding valuation are summarized below.

	<u>Actuarial Valuation as of</u>	
	<u>July 1, 2017</u>	<u>July 1, 2018</u>
Actuarially Determined Employer Contribution*	\$1,159,936	\$1,262,474
Actuarially Determined Employer Contribution**	1,241,132	1,347,691
Actual Employer Contribution	1,188,826	N/A

* Assuming payment as of first day of plan year

** Assuming payment as of last day of plan year

2. Plan Assets

The market value of plan assets increased from \$24,250,103 at July 1, 2017 to \$25,729,821 at June 30, 2018. Valuation assets are defined to be actuarial value using an asset smoothing method. The results are presented on page 8. A balance sheet and statement of income and disbursements are presented on pages 6 and 7. Investment income (net of investment expenses) on a market value basis was \$1,849,705 for a return of 7.7%. During the prior year, investment return was 11.43%. Contributions to the fund were \$1,287,867 and benefit payments were \$1,657,854.

On an actuarial value basis, fund assets are \$25,291,347 on July 1, 2018, compared to \$24,015,386 on July 1, 2017. Net investment income was \$1,645,948 for return of 6.9%. The development of the actuarial value of assets is shown on page 8.

3. Actuarial Assumptions, Methods and Plan Provisions

The interest discount rate was updated from 7.00% to 6.75% for both the actuarial accrued liability and the actuarial present value of accumulated plan benefits.

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All other actuarial assumptions, methods, and Plan provisions remained the same as the prior valuation. Descriptions of all actuarial assumptions, methods, and Plan provisions can be found on pages 11-16.

4. Plan Population

The number of active participants decreased from 46 on July 1, 2017 to 40 on July 1, 2018. The number of retirees/beneficiaries/alternate payees increased from 72 to 78, and the number of deferred vested participants remained at 29.

5. Plan Experience

Plan experience resulted in a small overall experience loss for the plan year ending June 30, 2018, prior to taking into account the assumption changes. The decrease in discount rate from 7.00% to 6.75% increased the Actuarial Accrued Liability by about \$793,000.

6. GASB 67/68

Results under GASB 67 and 68 are presented in a separate report.

7. Funded Status

Accrued Benefit Basis

Another measure of a plan's funded status is the relationship of the market value of plan assets to the present value of benefits accrued to date. The amounts for the current and prior year are shown in the following table:

	<u>07/01/2017</u>	<u>07/01/2018</u>
	\$	\$
a) Present Value Vested Accrued Benefits	27,309,910	29,678,099
b) Present Value All Accrued Benefits	27,836,041	30,192,891
c) Market Value of Assets	24,250,103	25,729,821
d) Ratio: (c)/(a)	88.8%	86.7%
e) Ratio: (c)/(b)	87.1%	85.2%

The interest discount utilized for this purpose was 7.00% in 2017 and 6.75% in 2018. The discount rate that is required to value plan liabilities on a settlement basis is typically lower than the "ongoing basis" discount rate. Therefore, these amounts should not be used to assess the plan's funded status on a settlement basis.

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Accrued Liability Basis

The most common measure of a public sector plan's funded status is dividing the Plan Assets by the Actuarial Accrued Liability. As of the valuation date, this ratio is 78.83% using Actuarial Value of Assets and 80.20% using the Market Value of Assets.

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**Retirement Plan for Employees of
the City of Creve Coeur**

July 1, 2018 Actuarial Valuation

Summary of Valuation Results

	<u>7/1/2017</u>	<u>7/1/2018</u>
Participant Data		
Number of Participants:		
Active participants	46	40
Terminated vested participants	29	29
Retirees and beneficiaries	<u>72</u>	<u>78</u>
Total	147	147
Assets		
Market Value	24,250,103	25,729,821
Investment Yield	11.4%	7.7%
Actuarial Value	24,015,386	25,291,347
Investment Yield	4.5%	6.9%
Actuarial Present Values		
Accrued Liability	30,186,089	32,083,624
- Actuarial Value of Assets	<u>24,015,386</u>	<u>25,291,347</u>
Unfunded Actuarial Liability	6,170,703	6,792,277
Funded Ratio (Market Value Basis)	80.3%	80.2%
Funded Ratio (Actuarial Value Basis)	79.6%	78.8%
Costs and Contributions		
Normal Cost	314,178	291,592
% of Covered Payroll	8.83%	9.04%
Actuarially Determined Contribution	1,159,936	1,262,474
% of Covered Payroll	32.60%	39.15%
Funded Status of Accumulated Benefits		
Present Value of Accrued Benefits	27,836,041	30,192,891
Funded Ratio (Market Value Basis)	87.12%	85.22%
Funded Ratio (Actuarial Value Basis)	86.27%	83.77%

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**Retirement Plan for Employees of
the City of Creve Coeur**

July 1, 2018 Actuarial Valuation

Statement of Assets as of June 30, 2018

<u>Assets</u>	<u>Market Value</u>
1. Commerce	\$7,201,537
2. Schwab	18,528,284
3. Total Assets	<u>25,729,821</u>
 <u>Liabilities</u>	
None	
 Net Assets	 <u><u>25,729,821</u></u>

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**Retirement Plan for Employees of
the City of Creve Coeur**

July 1, 2018 Actuarial Valuation

Statement of Income and Disbursements

1. Market Value of Assets as of June 30, 2017	\$24,250,103
2. Income	
a. Employer Contributions	1,188,826
b. Employee Contributions	99,041
c. Net Earnings	<u>1,893,838</u>
d. Total Income	3,181,705
3. Expenses	
a. Employee Benefit Distributions	1,657,854
b. Expenses	<u>44,133</u>
d. Total Expenses	1,701,987
4. Net Increase (Decrease) = (2c) - (3d)	1,479,718
5. Market Value of Assets as of June 30, 2018 = (1) + (4)	25,729,821
6. Net Rate of Return	7.7%

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**Retirement Plan for Employees of
the City of Creve Coeur**

July 1, 2018 Actuarial Valuation

Development of Actuarial Value of Assets

1.	Actuarial Value Beginning of Year	\$24,015,386
2.	Market Value End of Year	25,729,821
3.	Market Value Beginning of Year	24,250,103
4.	Non-Investment Cash Flows ⁽¹⁾	(369,987)
5.	Investment Income	
a.	Market Total: (2) - (3) - (4)	1,849,705
b.	Assumed Rate of Return	7.00%
c.	Expected Investment Return ⁽²⁾	1,684,558
d.	Gain/(Loss): (5a) - (5c)	165,147
6.	Phased-In Recognition of Investment Gains/(Losses)	
a.	Current Year: (1/3) x (5d)	55,049
b.	(1/3) of Gain/(Loss) during plan year ending June 30, 2017	328,380
c.	(1/3) of Gain/(Loss) during plan year ending June 30, 2016	(422,039)
d.	Phased-In Investment Gain to be Recognized in Future Years	(38,610)
7.	Actuarial Value End of Year: (1) + (4) + (5c) + (6e)	25,291,347
8.	Excess of Market Value over Actuarial Value: (2) - (7)	438,474
9.	Approximate Rate of Return on Actuarial Value	6.9%
10.	Ratio of Actuarial Value of Assets to Market Value of Assets: (7) / (2)	98.3%

⁽¹⁾ Contributions less benefit payments

⁽²⁾ Assumed Rate times (3) + (4) times Assumed Rate/2

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**Retirement Plan for Employees of
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July 1, 2018 Actuarial Valuation

Statement of Accrued Benefits

	<u>July 1, 2017</u>	<u>July 1, 2018</u>
1. Accumulated Plan Benefits		
a. Actuarial Present Value of Vested Benefits		
i. Participants currently receiving payments	\$16,014,879	\$18,545,877
ii. Active Participants	9,287,367	8,892,656
iii. Deferred Vested Participants	<u>2,007,664</u>	<u>2,239,566</u>
iv. Total Vested Benefits	27,309,910	29,678,099
b. Actuarial Present Value of Non-Vested Benefits	526,131	514,792
c. Total Actuarial Present Value of Accumulated Plan Benefits = (aiv) + (b)	27,836,041	30,192,891
2. Net Assets (Market Value) available for benefits	\$24,250,103	\$25,729,821
3. Funded Ratio		
a. Vested Benefits = (2) / (1aiv)	88.8%	86.7%
b. Accumulated Benefits = (2) / (1c)	87.1%	85.2%
4. Net Assets (Actuarial Value) available for benefits	\$24,015,386	\$25,291,347
5. Funded Ratio		
a. Vested Benefits = (4) / (1aiv)	87.9%	85.2%
b. Accumulated Benefits = (4) / (1c)	86.3%	83.8%

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**Retirement Plan for Employees of
the City of Creve Coeur**

July 1, 2018 Actuarial Valuation

Development of Actuarially Determined Contribution

1. Accrued Liability		
a. Active Participants		\$11,298,181
b. Terminated Vested Participants		2,239,566
c. Retired Participants		<u>18,545,877</u>
d. Total		32,083,624
2. Actuarial Value of Assets		25,291,347
3. Covered Payroll		3,224,888
4. Unfunded Actuarial Liability (UAL)		6,792,277
a. Outstanding UAL from July 1, 2015		5,346,789
b. Outstanding UAL after July 1, 2015		1,445,488
5. Normal Cost:		
a. Expected Employee Contributions		96,747
i. As a percentage of Covered Payroll: (5a) / (3)		3.00%
b. Employer Normal Cost		194,845
i. As a percentage of Covered Payroll: (5b) / (3)		6.04%
c. Total Normal Cost: (5a) + (5b)		291,592
6. 10-Year Amortization of UAL from July 1, 2015		921,296
7. 15-Year Amortization of Additional UAL after July 1, 2015		146,333
8. Employer Cost		
a. Actuarially Determined Contribution: (4b) + (5) + (6)		1,262,474
b. Payable as of the end of the plan year: (8a) x 1.0675		1,347,691
c. As a percentage of Eligible Payroll: (8b) / (3)		39.15%
9. Funded Ratio: (2) / (1d)		78.83%

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**Retirement Plan for Employees of
the City of Creve Coeur**

July 1, 2018 Actuarial Valuation

Historical Investment Returns on Market Value Basis

Year Ended <u>June 30</u>	Rate of Return				
	<u>Annual</u>	<u>Cumulative</u>	<u>Last 5 Years</u>	<u>Last 10 Years</u>	<u>Last 20 Years</u>
1995	8.09%	8.09%	N/A	N/A	N/A
1996	14.35%	11.18%	N/A	N/A	N/A
1997	18.08%	13.43%	N/A	N/A	N/A
1998	17.31%	14.39%	N/A	N/A	N/A
1999	8.46%	13.18%	13.18%	N/A	N/A
2000	9.27%	12.52%	13.42%	N/A	N/A
2001	-5.76%	9.70%	9.12%	N/A	N/A
2002	-10.64%	6.93%	3.20%	N/A	N/A
2003	1.59%	6.32%	0.28%	N/A	N/A
2004	13.39%	7.01%	1.17%	7.01%	N/A
2005	6.21%	6.93%	0.60%	6.82%	N/A
2006	8.62%	7.07%	3.50%	6.27%	N/A
2007	16.67%	7.78%	9.17%	6.14%	N/A
2008	-8.15%	6.56%	6.99%	3.58%	N/A
2009	-18.25%	4.69%	0.21%	0.69%	N/A
2010	12.16%	5.14%	1.31%	0.95%	N/A
2011	19.62%	5.94%	3.28%	3.39%	N/A
2012	0.23%	5.62%	0.19%	4.58%	N/A
2013	12.87%	5.99%	4.41%	5.69%	N/A
2014	17.86%	6.55%	12.34%	6.10%	6.55%
2015	1.99%	6.33%	10.22%	5.67%	6.24%
2016	1.15%	6.09%	6.58%	4.92%	5.59%
2017	11.43%	6.32%	8.87%	4.44%	5.29%
2018	7.69%	6.37%	7.85%	6.12%	4.84%

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**Retirement Plan for Employees of
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July 1, 2018 Actuarial Valuation

Actuarial Methods

Following are brief descriptions of the actuarial cost and asset valuation methods used in the valuation.

Actuarial Cost Method

Entry Age Normal:

The Entry Age Normal Cost Method on an individual basis is used. Normal costs are computed as a level percentage of pay.

The Unfunded Entry Age Accrued Liability as of July 1, 2015 is amortized over a 10 year period. Each year, the amortization period will decrease by 1 until it reaches 0 years as of July 1, 2025. Any subsequent Unfunded Entry Age Accrued Liability is amortized over a 15 year period.

Asset Valuation Method

A three-year smoothed value, with difference between actual investment return and expected investment return recognized in equal installments over a three-year period.

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Expenses

None assumed.

Marriage

For retired members, actual marital status and spouse birth date is used. For active members, 100% are assumed married with males assumed three years older than their spouses.

Form of Payment

It is assumed that all employees will elect a life annuity with 120 months guaranteed.

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**Retirement Plan for Employees of
the City of Creve Coeur**

July 1, 2018 Actuarial Valuation

Summary of Plan Provisions

A summary of the current primary provisions of the Plan are described below. A complete description of the provisions can be found in the local statutes.

Effective Date

Last amended and restated effective July 1, 2013.

Eligibility

Full-time employees enter the Plan on the July 1 on or immediately following their completion of two years of continuous employment and attainment of age 21. No Employees hired after May 23, 2006 may enter the Plan.

Employee Contributions

Participants are required to contribute 3% of salary. Contributions accumulate at an interest rate of 5%.

Credited Service

Elapsed time, in years and completed months, from date of hire..

Final Average Compensation

Average of the high 60 consecutive months in the last 120 months.

Normal Retirement Age

Age 55 for a uniformed participant and age 65 for a non-uniformed participant.

Normal Retirement Benefit

A benefit equal to Final Average Compensation times 1.7% times Credited Service not to exceed 30 years. If a participant elected not to participate in the City's defined contribution plan, then the multiplier would be 2.0%.

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Normal Form of Payment

The benefit is payable for 120 months guaranteed and for the member's lifetime, thereafter.

Unreduced Early Retirement Eligibility

The participant will be eligible to retire with an unreduced benefit prior to their Normal Retirement Age when the sum of their age and Credited Service equals 85.

Early Retirement Age

Age 50 with at least 20 years of Credited Service.

Early Retirement Benefit

The actuarial equivalent of a benefit calculated in the same manner as the Normal Retirement Benefit with Final Average Compensation and Credited Service determined as of the Early Retirement Date.

Late Retirement Benefit

If a member remains employed after his Normal Retirement Date, he will receive a monthly benefit equal to the benefit computed using service and pay as of his late retirement date. Benefits commence on the first day of the month following actual retirement.

Pre-Retirement Death Benefit

The Surviving Spouse of a Participant who is actively employed and has satisfied Early or Normal Retirement eligibility requirements is entitled to a Death Benefit determined as if the Participant had retired on his date of death, selected a Joint & 2/3 Survivor Annuity and died the next day.

The Surviving Spouse of any other actively employed vested participant is entitled to a Death Benefit determined as follows:

- i) assume the Participant separated from service on date of death
- ii) survived to the earliest possible retirement eligibility date
- iii) retired with a Joint and 2/3 Survivor Annuity, and
- iv) died the next day

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Vested Termination

Members who terminate employment are eligible for a monthly benefit calculated in the same manner as the Normal Retirement Benefit, multiplied by the applicable vesting percentage:

<u>Sum of Attained Age & Years of Credited Service</u>	<u>Vesting Percentage</u>
50	50%
51	60%
52	70%
53	80%
54	90%
55 and after	100%

However, if a participant has at least 8 years of Credited Service, then they are fully vested.

Refund of Contribution

If a participant terminates employment without a vested benefit, then the participant will receive a refund of contributions with interest. If the sum of benefit payments received by a retiree or beneficiary is less than the sum of contributions with interest, then the difference may be paid to their beneficiary as an additional death benefit.

Optional Forms of Payment

- Life Annuity
- Joint & 50% Survivor Annuity
- Joint & 2/3 Survivor Annuity
- Joint & 100% Survivor Annuity

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Retirement Plan for Employees of the City of Creve Coeur

July 1, 2018 Actuarial Valuation

Distribution of Active Participants by Age and by Years of Service

Number of Participants by Age-Service Groups

Attained Age	Years of Service										Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up	
Under 25	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	1	1	0	0	0	0	0	2
40 to 44	0	0	0	1	2	1	0	0	0	0	4
45 to 49	0	0	0	2	2	2	0	0	0	0	6
50 to 54	0	0	0	2	2	4	4	0	0	0	12
55 to 59	0	0	0	1	1	3	2	2	0	0	9
60 to 64	0	0	0	0	1	0	0	2	1	0	4
65 to 69	0	0	0	2	0	0	1	0	0	0	3
70 and up	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	9	9	10	7	4	1	0	40
Average Age			53.3								
Average Service			21.5								

Average Compensation by Age-Service Groups (for Groups with 5 or more Participants)

Attained Age	Years of Service										Average
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 and up	
Under 25	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	N/A	N/A	0	0	0	0	0	N/A
40 to 44	0	0	0	N/A	N/A	N/A	0	0	0	0	N/A
45 to 49	0	0	0	N/A	N/A	N/A	0	0	0	0	80,014
50 to 54	0	0	0	N/A	N/A	N/A	N/A	0	0	0	82,821
55 to 59	0	0	0	N/A	N/A	N/A	N/A	N/A	0	0	69,165
60 to 64	0	0	0	0	N/A	0	0	N/A	N/A	0	N/A
65 to 69	0	0	0	N/A	0	0	N/A	0	0	0	N/A
70 and up	0	0	0	0	0	0	0	0	0	0	0
Average	0	0	0	66,984	84,555	82,565	72,429	N/A	N/A	0	78,656

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**Retirement Plan for Employees of
the City of Creve Coeur**

July 1, 2018 Actuarial Valuation

Inactive Participants - Summary by Age

Deferred Vested Participants

<u>Age Group</u>	<u>No. of</u>	<u>Total Monthly Benefit Amount</u>	<u>Average Monthly Benefit Amount</u>
Less than 30	0	\$0	\$0
30 - 34	0	\$0	\$0
35 - 39	1	\$962	\$962
40 - 44	6	\$4,756	\$793
45 - 49	2	\$1,381	\$691
50 - 54	6	\$5,953	\$992
55 - 59	9	\$9,301	\$1,033
60 and over	5	\$3,800	\$760
Total	29	\$26,153	\$902

Retired Participants

<u>Age Group</u>	<u>No. of</u>	<u>Total Monthly Benefit Amount</u>	<u>Average Monthly Benefit Amount</u>
Less than 55	2	\$5,106	\$2,553
55 - 59	6	\$16,493	\$2,749
60 - 64	14	\$34,546	\$2,468
65 and over	56	\$92,501	\$1,652
Total	78	\$148,646	\$1,906

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**Retirement Plan for Employees of
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July 1, 2018 Actuarial Valuation

Summary of Changes in Participant Data

	<u>Active Participants</u>	<u>Retired Participants</u>	<u>Terminated Vested Participants</u>	<u>Total</u>
Count as of July 1, 2017	46	72	29	147
New Entrants	0	0	0	0
Rehired	0	0	0	0
Retired	(5)	6	(1)	0
Lump Sum Payouts	0	0	0	0
Died with Beneficiary	0	(1)	0	(1)
New Alternate Payees	0	1	0	1
New Beneficiaries	0	1	0	1
Died without Beneficiary	0	(1)	0	(1)
Certain Period Expired	0	0	0	0
Terminated with Vesting	(1)	0	1	0
Terminated without Vesting	0	0	0	0
Data Corrections	0	0	0	0
Total Changes	(6)	6	0	0
Count as of July 1, 2018	<u>40</u>	<u>78</u>	<u>29</u>	<u>147</u>

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Retirement Plan for Employees of the City of Creve Coeur

July 1, 2018 Actuarial Valuation

Glossary of Terms

Actuarial Liability

The difference between the actuarial present value of all Fund benefits and the actuarial value of future normal costs. Also referred to as “actuarial accrued liability.”

Actuarial Assumptions

Estimates of future 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, turnover 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 of allocating the dollar amount of the actuarial present value of retirement fund benefit between future normal cost and actuarial accrued liability. Sometimes referred to as the “actuarial funding method.”

Experience Gain (Loss)

The difference between actual experience and anticipated experience based on the actuarial assumptions during the period between two actuarial valuation dates.

Actuarial Present Value

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

Amortization

Paying off an interest-discounted amount with periodic payments of interest and principal, as opposed to paying off with a lump sum payment.

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Normal Cost

The actuarial present value of retirement fund benefits allocated to the current year by the actuarial cost method.

Unfunded Actuarial Liability

The difference between actuarial liability and the valuation assets.

Most retirement systems have unfunded actuarial liability. They arise each time new benefits are added, each time an actuarial loss is realized and when actuarial assumptions are modified.

Accumulated Benefits

Sometimes referred to as Accrued Benefits. These are the benefits that have been earned by all plan members as of the valuation date.

Actuarially Determined Contribution

This is the annual contribution determined in accordance with a plan's funding policy - typically the sum of the Normal Cost and an Amortization payment towards the Unfunded Actuarial Liability.

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