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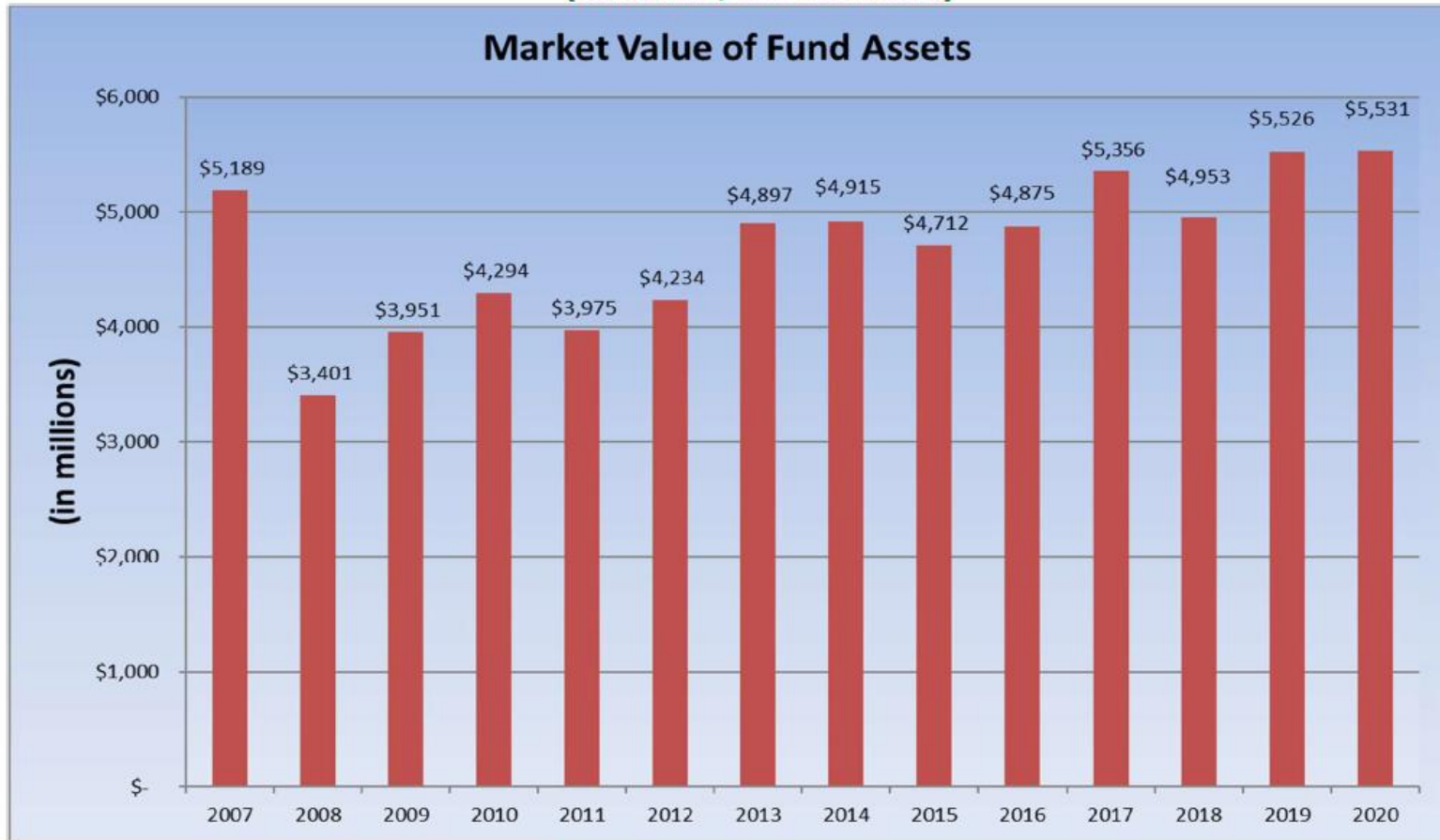
# ERS Status Update

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Employes' Retirement System  
April 28, 2021

## Fund Value of Assets: 2007 – 2020

(Reflect 12/31 Fund Values)

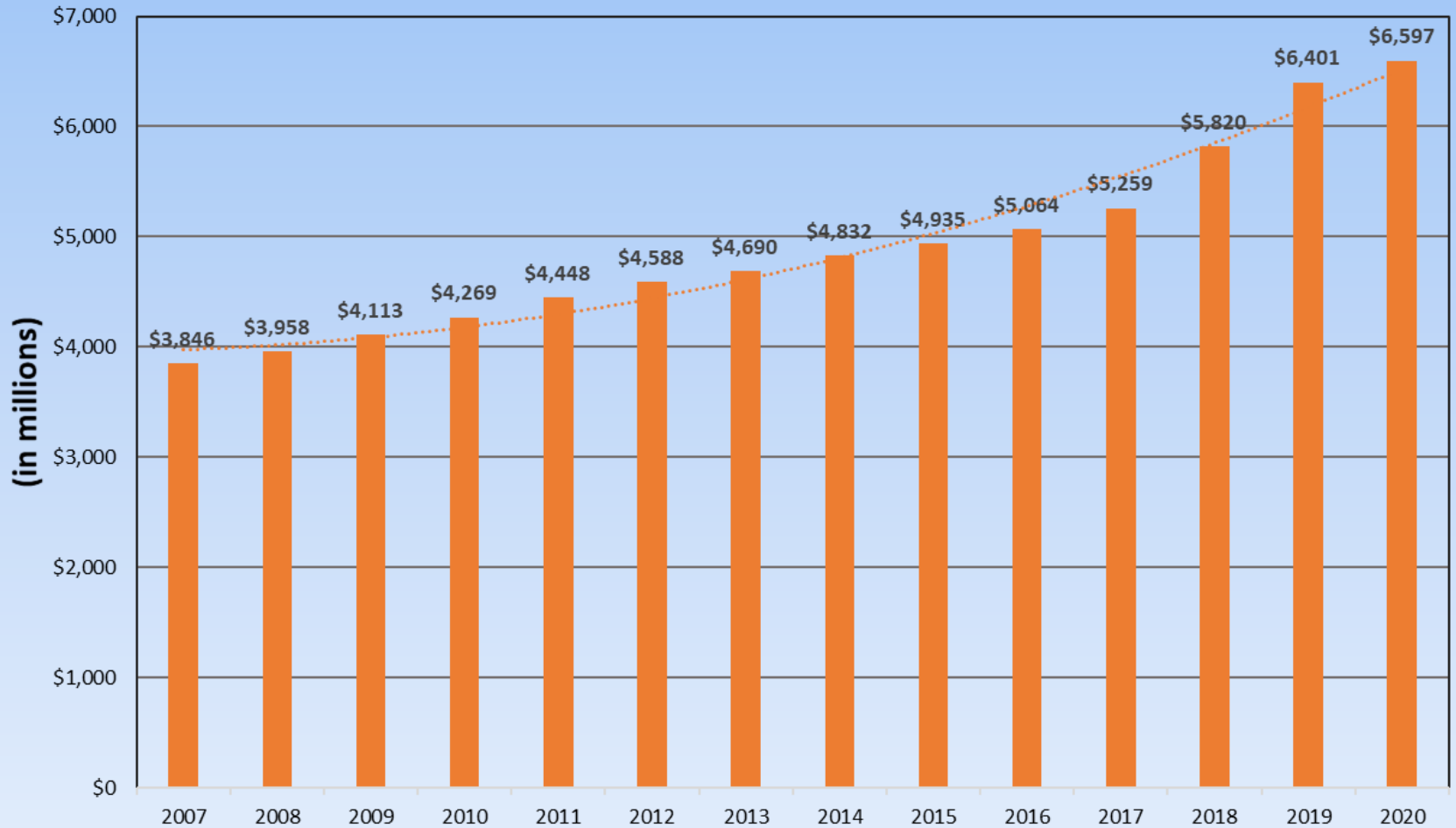


Most recent Actuarial valuation projects benefit payments to total \$5.0 billion in next 10 years.

<b>Benefit Payments</b>	\$4.3 billion
<b>Expenses</b>	\$231 million
<b>Contributions</b>	\$1.2 billion
<b>Investment Gain</b>	\$3.7 billion

13 Year Estimates (1/1/2008 - 12/31/2020)

## Accrued Actuarial Liability 2007 - 2020



## Milwaukee Employees' Retirement System - April 26, 2021

### Fund as of March 31, 2021

\*Fund value of \$5.69b.  
 \*Fund return of 1.5%, net of fees, underperformed the blended benchmark by 96bp.  
 \*Fund's returns outperformed in the YTD, 1, and 20-yr periods, and underperformed in the 5, 10, and 15-yr periods, net of fees.

### March Relative Perf. Drivers

**Manager Selection**  
 \*Private Equity -139bp  
 \*Brandes 15bp  
 \*DFA US Small & DFA Int'l 10bp

**Style Bias** 19bp  
 \*Primarily Value

### April Update (as of 4/22/21)

\*Fund return is 2.0% in April.  
 \*Fund return is 5.6% YTD, net.  
 \*Fund's approx. value is \$5.81b.  
 \*12 out of 16 active mandates outperforming YTD, net of fees.  
 \*Public Equity, Fixed Income and Absolute Return asset classes, along with the Total Fund, are exceeding their respective benchmarks YTD, net of fees.

### YTD, the Fund has generated:

\*Investment Gains: \$313.4m  
 \*Benefits & Expenses: 117.9m  
 \*Contributions: 83.1m

### Monthly Withdrawals:

\$8m DFA US Small, \$6m DFA US Large, \$4m Earnest, \$3m AQR, and \$2m each BlackRock R1000 Value, CastleArk, and Polen.

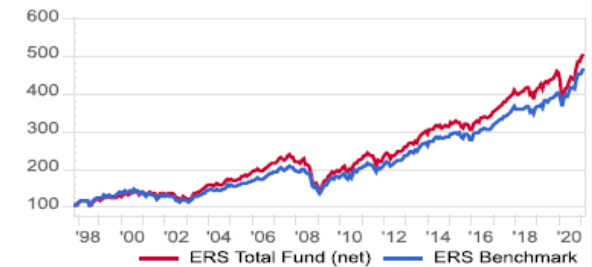
### Total Fund - 10-Year Rolling Returns

11/28/1997 to 03/31/2021



### Growth of \$100 - Total Fund & ERS Benchmark

11/28/1997 to 3/31/2021



### Return Data

Source Data: Monthly Return

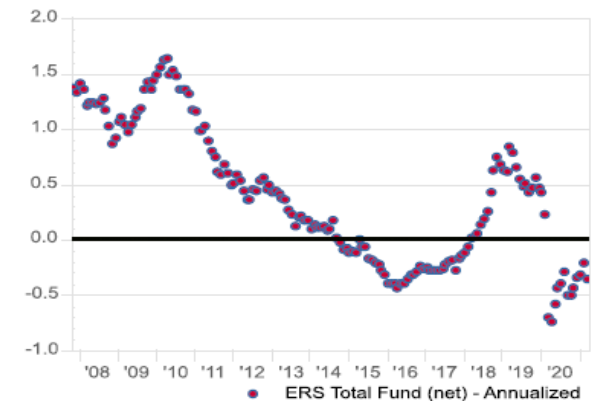
	1 Month	YTD	1 Year	5 Year	10 Year	15 Year	20 Year
Total Fund (net)	1.5	3.5	33.8	9.6	8.1	6.6	7.1
ERS Benchmark	2.4	3.1	27.1	9.8	8.5	6.9	6.8

### Total Fund - 20-Year Risk & Return Data

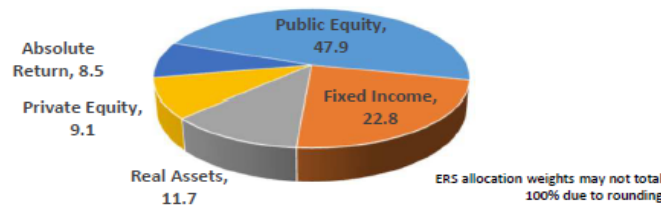
	Return	Std Dev	Tracking Error	Info Ratio (arith)	Sharpe Ratio	Alpha	Beta
Total Fund (net)	7.1	10.6	2.4	0.1	0.5	-0.3	1.1
ERS Benchmark	6.8	9.3	--	--	0.6	0.0	1.0

### Total Fund - 10-Year Rolling Excess Returns

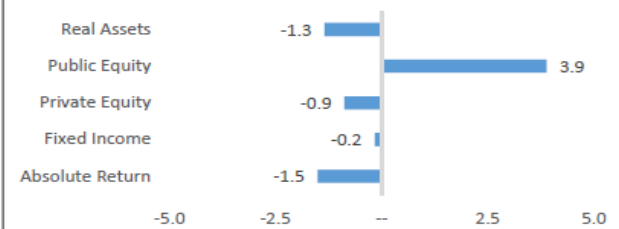
11/28/1997 to 3/31/2021



### ERS Allocation as of March 31, 2021



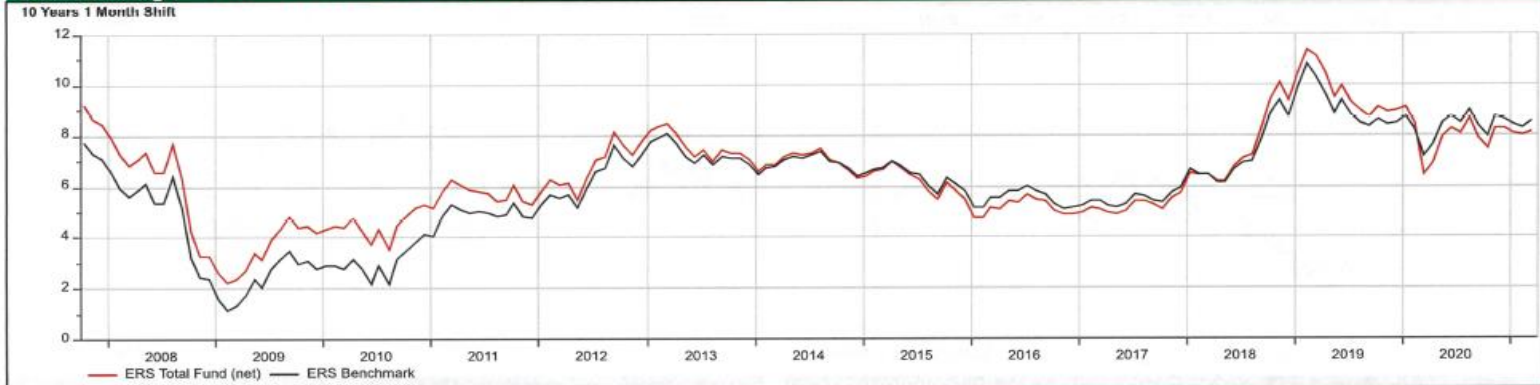
### Asset Allocation vs Policy as of March 31, 2021



Preliminary Estimate as of April 8, 2021

## Total Fund Performance

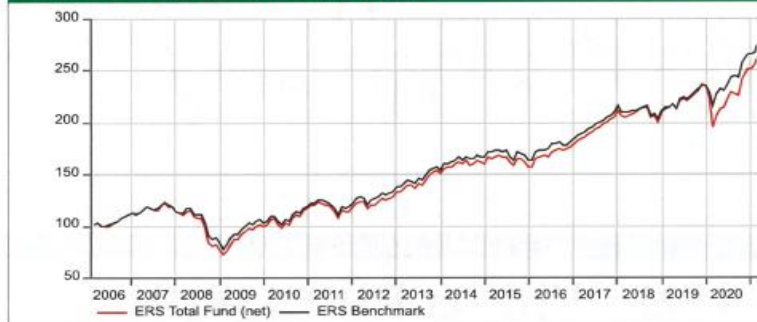
10 Year Rolling Returns – 11/1/1997 to 3/31/2021



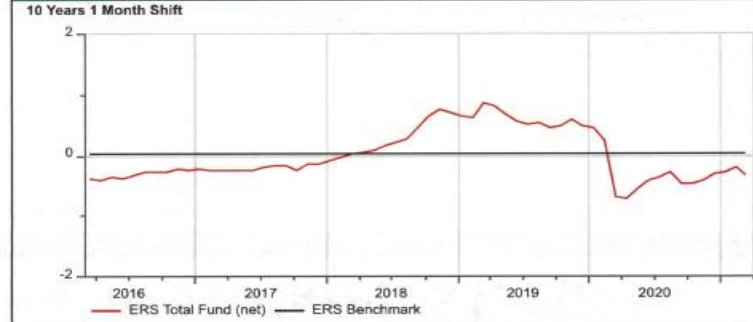
### Trailing Returns

	QTR	1 Year	3 Year	5 Year	7 Year	10 Year	15 Year
ERS Total Fund (net)	3.5	33.8	8.3	9.6	7.6	8.1	6.6
ERS Benchmark	3.1	27.1	9.4	9.8	8.0	8.5	6.9

Investment Growth – 4/1/2006 to 3/31/2021



Rolling Excess Returns – 4/1/2006 to 3/31/2021



\* FactSet calculations may be slightly different than custodian values due to rounding



# Projections (Assuming All Assumptions Are Met)



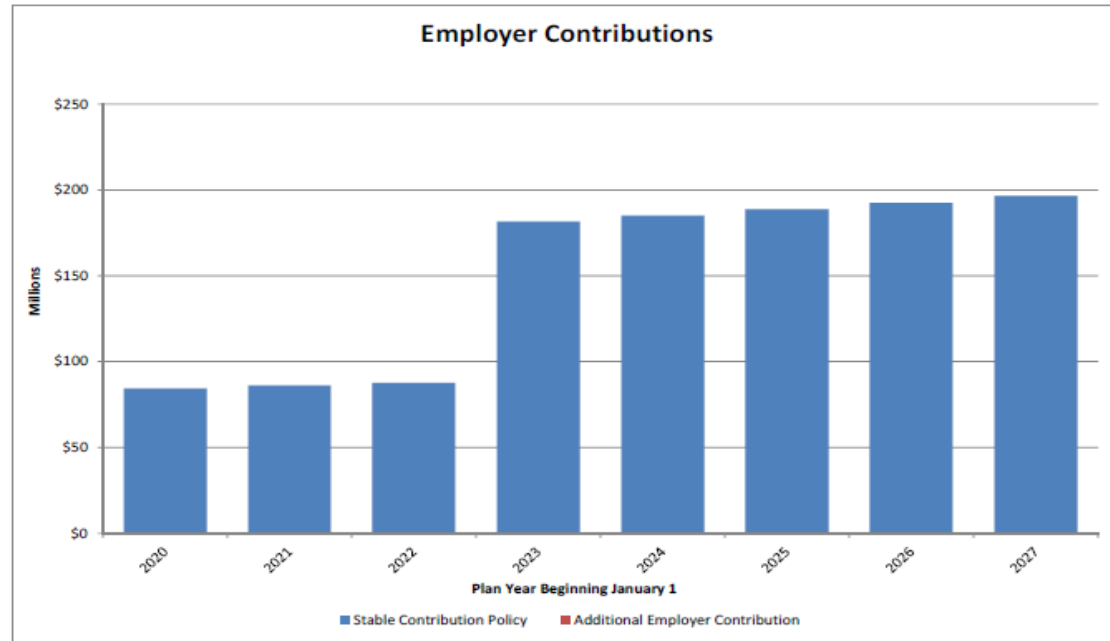
**Inputs**

- Membership Data
- Asset Data
- Benefit Provisions
- Assumptions
- Funding Methodology

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**Results**

- Actuarial Value of Assets
- Actuarial Accrued Liability
- UAAL/Funded Ratio
- Net Actuarial Gain or Loss
- Employer Contributions
- Projections**



This graphs shows the projected dollar amount of aggregate employer contributions in the future, if all actuarial assumptions are met.

# Projections

## (Alternate Investment Returns for 2020)



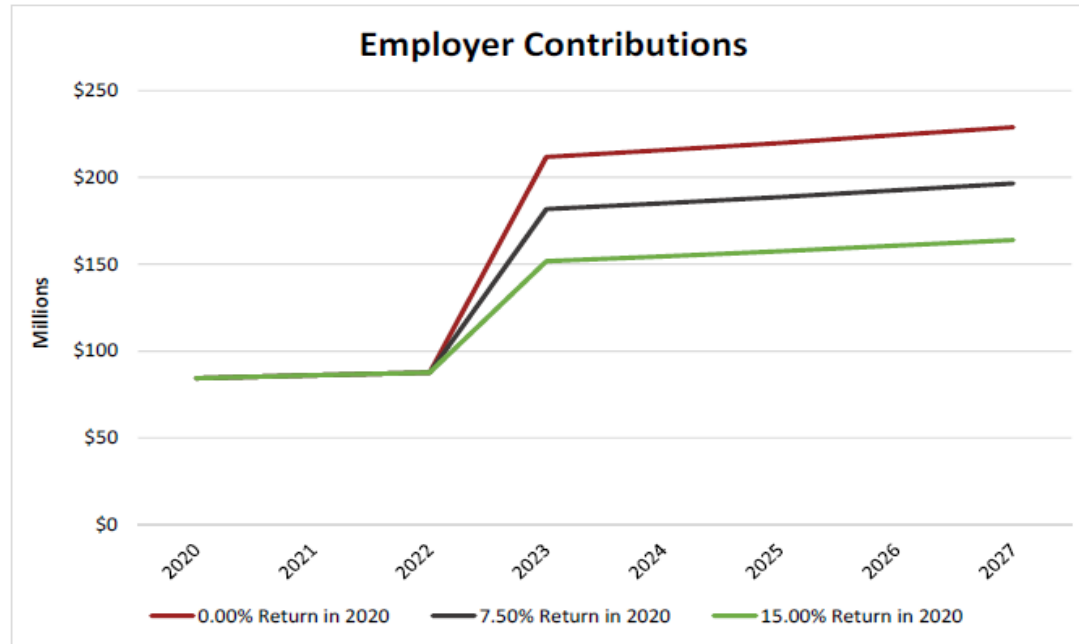
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**Results**

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This graph shows the projected dollar amount of aggregate employer contributions in the future under alternate investment return scenarios for 2020. Investment returns for 2021+ are assumed to be 7.50% in all scenarios.

# Actuarially Determined Employer Contribution

(Combined Fund only as of January 1, 2020)

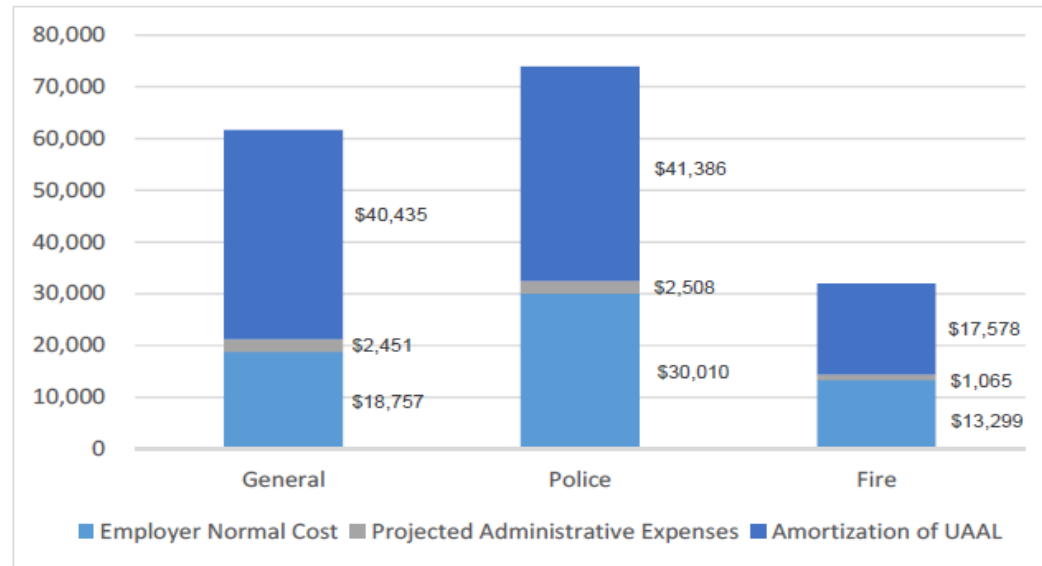
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**Results**

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The normal cost is just part of the actuarially determined contribution. The amortization of the unfunded actuarial accrued liability (UAAL) is a major component of the actuarial determined contribution.