

# City of Moreno Valley

## GASB 75 OPEB Valuation Report Measured as of June 30, 2019 for Disclosures for the Fiscal Year Ending June 30, 2020

August 5, 2020



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August 5, 2020

Brigitta Bartha  
Principal Accountant  
City of Moreno Valley  
14177 Frederick Street  
Moreno Valley, California 92553

**Re: City of Moreno Valley GASB 75 OPEB Valuation Measured as of June 30, 2019**

Dear Ms. Bartha:

At your request, we completed an actuarial valuation of the retiree health and welfare benefits measured as of June 30, 2019, for the City of Moreno Valley. This is a roll-forward of the valuation produced for the fiscal year ending June 30, 2019. Please use the information in this report for your financial statements for the fiscal year ending June 30, 2020. This valuation is based on input from the City and from CalPERS, as well as our understanding of GASB Statement No. 75 "Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions" (GASB 75).

We greatly appreciate your business. If you have any questions, please feel free to call us at (415) 801-5987.

Best Regards,

A handwritten signature in blue ink that reads "Roger T. Burton".

Roger T. Burton, FSA, FCA, MAAA



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### Executive Summary

Overview	1
Accounting Summary	3
Reconciliation of the Change in the Total OPEB Liability	4

### Accounting Information

Statement of Fiduciary Net Position	5
Statement of Changes to the Fiduciary Net Position	6
Changes in the Net OPEB Liability	7
Development of Deferred Outflows and Inflows of Resources	8
Expense and Deferred Outflows and Inflows	10
Reconciliation of Expense	11
Amortization of Unfunded Actuarial Accrued Liability	12
Actuarially Determined Contribution (ADC)	13
Interest on Total OPEB Liability and Total Projected Earnings	14
OPEB Cash-Flow Projections	15
OPEB Cash-Flow Projections Chart	16
Projection of Contributions	17
Projection of Contributions Charts	18
Projection of Fiduciary Net Position	19
Schedule of Implicit Subsidy Liability	20
Schedule of Deferred Outflows and Inflows of Resources	21
Schedule of Changes in the Total OPEB Liability and Related Ratios	22
Schedule of Investment Returns	23
Schedule of Contributions	24
Draft Notes to the Financial Statements	25

### Basis of Valuation

Substantive Plan	30
Participant Summary	31
Participant Summary Charts	32
Actuarial Assumptions	33

### Appendix

About GASB 75	36
Decrement Tables	41

### Purpose of the Report

Precision Actuarial prepared this report to meet employer financial accounting requirements under GASB Statement No. 75 “Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions” (GASB 75), issued in June 2015. This report includes information with respect to the obligation to provide future retiree health and welfare benefits for the fiscal year ending June 30, 2020.

**Valuation Date:** June 30, 2018

**Measurement Date:** June 30, 2019

**Report Date:** June 30, 2020

### Application to Financials

This report provides assets, liabilities, and expenses for use in the City's 2020 financial reports.

The City should use the liabilities, assets, and expense measured as of June 30, 2019, for its financial statements for the year ending June 30, 2020.

Update procedures were used to roll the total OPEB liability forward to the measurement date.

The report also provides the actuarially determined contributions for funding purposes for reporting for the fiscal years ending June 30 for 2019, 2020, and 2021.

### Changes Since the Prior Valuation

This valuation is a roll-forward of the valuation produced for the prior fiscal year. We updated:

- Discount rate from 7.28% to 6.17%
- Benefit payments
- Contributions
- Assets

### Actuarial Certification

Our determinations reflect the provisions and methods prescribed by GASB 75. In preparing this report, we relied on assets, employee census, plan design, premium rates, and administrative fees provided directly or indirectly by the plan sponsor, and demographic assumptions provided by CalPERS. CalPERS' actuaries set the premium rates using community rating. We did not attempt to verify that the community-rated premium rates represent the true cost of claims and administrative fees.

# Executive Summary

### Actuarial Certification *(continued)*

We based the results in this report on this information, along with the actuarial assumptions and methods used herein. In our opinion, the assumptions used represent reasonable expectations of anticipated plan experience. We reviewed the census information for reasonableness, but we did not audit it.

Actuarial computations under GASB 75 fulfill employer accounting and financial reporting requirements. The calculations are consistent with our understanding of GASB 75. Determinations for purposes other than meeting employer financial accounting requirements may be significantly different from the results in our report. Accordingly, additional determinations may be necessary for other purposes, such as judging benefit security at termination.

No third-party recipient of Precision Actuarial's work product should rely solely on Precision Actuarial's work product. Any third-party recipient should engage qualified professionals for advice appropriate to their own needs.

There is no relationship between Precision Actuarial, its owners, subcontractors, or staff; GovInvest; or the City of Moreno Valley beyond the contractual services that we perform for the City of Moreno Valley.

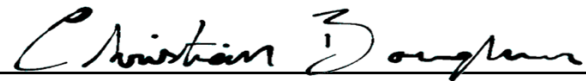
On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, the report is complete and accurate and that we prepared it in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the applicable "Actuarial Standards of Practice" and "Actuarial Compliance Guidelines" as promulgated by the American Academy of Actuaries.

The undersigneds are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.



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**Roger T. Burton, FSA, FCA, MAAA**  
*Chief Actuary*



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**Christian M. Boughner, ASA, MAAA**  
*Consulting Actuary*

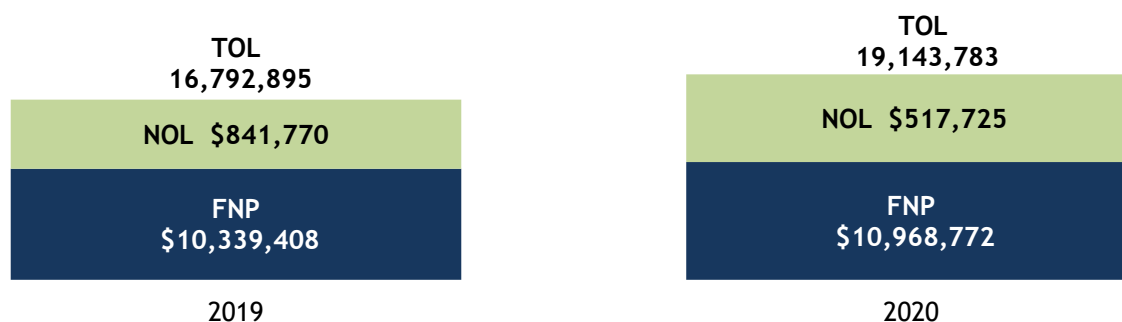
# Executive Summary

## Accounting Summary

A summary of the key valuation results follows.

	Valuation Date:	June 30, 2018	June 30, 2018
	Measurement Date:	June 30, 2018	June 30, 2019
	Report Date:	June 30, 2019	June 30, 2020
<b>Present Value of Future Benefits</b>			
Active Employees	\$	8,644,736	\$ 11,111,717
Retirees	+	10,981,373	11,571,843
<b>Total Present Value of Future Benefits</b>	<b>=</b>	<b>19,626,109</b>	<b>22,683,560</b>
<b>Total Present Value of Future Normal Costs</b>	<b>-</b>	<b>2,833,214</b>	<b>3,539,777</b>
<b>Total OPEB Liability (TOL)</b>	<b>=</b>	<b>\$ 16,792,895</b>	<b>\$ 19,143,783</b>
<b>OPEB Liability</b>			
Active Employees	\$	5,811,522	\$ 7,571,940
Retirees	+	10,981,373	11,571,843
<b>Total OPEB Liability (TOL)</b>	<b>=</b>	<b>16,792,895</b>	<b>19,143,783</b>
<b>Fiduciary Net Position (FNP)</b>	<b>-</b>	<b>10,339,408</b>	<b>10,968,772</b>
<b>Net OPEB Liability (NOL)</b>	<b>=</b>	<b>\$ 6,453,487</b>	<b>\$ 8,175,011</b>
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability		61.57%	57.30%
Covered-Employee Payroll	\$	20,129,158	\$ 20,682,710
Net OPEB Liability as a Percentage of Covered-Employee Payroll		32.06%	39.53%
	Measurement Period:	2017-2018	2018-2019
	Reporting Period:	2018-2019	2019-2020
<b>Expense</b>	<b>\$</b>	<b>(208,808)</b>	<b>\$ 994,094</b>
<b>Actuarially Determined Contribution (ADC)*</b>		<b>666,830</b>	<b>908,656</b>

### Net Position Chart



\*The Actuarially Determined Contribution includes the implicit subsidy. It is not the amount that the City contributes directly to the fund. See page 13 for the City's direct contribution.

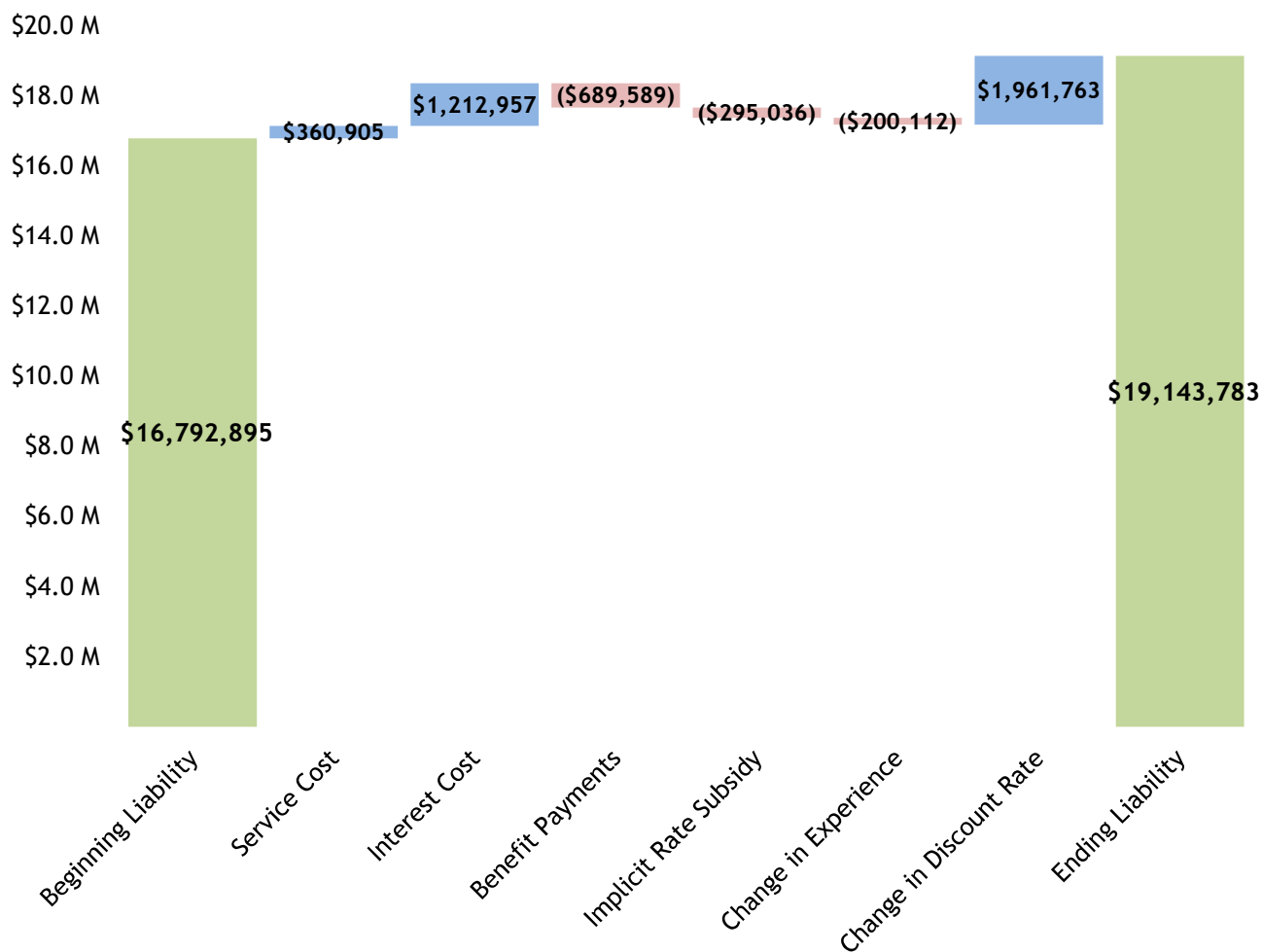
# Executive Summary

## Reconciliation of the Change in the Total OPEB Liability

A reconciliation of the changes to the Total OPEB Liability since the prior valuation report follow.

<b>Total OPEB Liability as of Measurement Date June 30, 2018 / Report Date June 30, 2019</b>	<b>\$ 16,792,895</b>
Service Cost	360,905
Interest Cost	1,212,957
Benefit Payments	(689,589)
Implicit Subsidy Credit	(295,036)
Change in Experience (Actual versus Expected)	(200,112)
Change in Discount Rate from 7.28% to 6.17%	1,961,763
<b>Total OPEB Liability as of Measurement Date June 30, 2019 / Report Date June 30, 2020</b>	<b>\$ 19,143,783</b>

### Reconciliation of the Change in the Total OPEB Liability



# Accounting Information

## Statement of Fiduciary Net Position

Measurement Date: June 30, 2019

Report Date: June 30, 2020

### Assets

Cash and Deposits	\$	-
Securities Lending Cash Collateral		-
Total Cash		-
Receivables:		
Contributions		-
Due from Broker for Investments Sold		-
Investment Income (Interest on Investments)		-
Other		-
Total Receivables		-
Investments:		
Domestic Fixed Income Securities		-
Domestic Equities		-
Investment Funds		10,968,772
International Equities		-
Real Estate		-
Total Investments		<u>10,968,772</u>
Total Assets	\$	<u><u>10,968,772</u></u>

### Liabilities

#### Payables:

Investment Management Fees	\$	-
Due to Broker for Investments Purchased		-
Collateral Payable for Securities Lending		-
Other		-
Total Liabilities	\$	-

**Net Position Restricted for Postemployment Benefits Other than Pensions** \$ 10,968,772



# Accounting Information

## Statement of Changes to the Fiduciary Net Position

	Measurement Date: Report Date:	June 30, 2018 June 30, 2019	June 30, 2019 June 30, 2020
<b>Additions</b>			
Investment Income:			
Net Appreciation in the Fair Value of Investments		\$ (68,656)	\$ 670,718
Interest and Dividends		-	-
Less Investment Expense, Other than from Securities Lending	-	3,882	-
Net Income from Investing, Other than from Securities Lending		(72,538)	670,718
Securities Lending Income		-	-
Less Securities Lending Expense	-	-	-
Net Income from Securities Lending		-	-
Other Income/(Expense)		-	(10,898)
Net Investment Income (a)		<u>(72,538)</u>	<u>659,820</u>
Contributions:			
Employer – City's Contribution		-	661,483
Employer – Implicit Subsidy		285,661	295,036
Total Contributions (b)		<u>285,661</u>	<u>956,519</u>
<b>Total Additions (c) = (a) + (b)</b>		<b>213,123</b>	<b>1,616,339</b>
<b>Deductions</b>			
Benefit Payments		(26,466)	689,589
Implicit Subsidy Credit		285,661	295,036
Administrative Expense		66	2,350
Total Deductions (d)		<u>259,261</u>	<u>986,975</u>
<b>Net Increase in Net Position = (c) - (d)</b>		<b>(46,138)</b>	<b>629,364</b>
<b>Net Position Restricted for Postemployment Benefits Other than Pensions</b>			
Beginning of Year		10,385,546	10,339,408
Net Increase in Net Position		(46,138)	629,364
End of Year		<u>\$ 10,339,408</u>	<u>\$ 10,968,772</u>

# Accounting Information

## Changes in the Net OPEB Liability

The funded status of the Plan as of the fiscal year-end, as well as other required disclosure information, follows.

	<i>Increase / (Decrease)</i>		
	Total OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net OPEB Liability (c) = (a) – (b)
<b>Balance as of Measurement Date June 30, 2018 / Report Date June 30, 2019</b>	<b><u>\$ 16,792,895</u></b>	<b><u>\$ 10,339,408</u></b>	<b><u>\$ 6,453,487</u></b>
<b>Changes for the year:</b>			
Service Cost	360,905		360,905
Interest	1,212,957		1,212,957
Changes of Benefit Terms	-		-
Differences Between Expected and Actual Experience	(200,112)		(200,112)
Changes of Assumptions	1,961,763		1,961,763
Net Investment Income		670,718	(670,718)
Contributions			
Employer – City's Contribution		661,483	(661,483)
Employer – Implicit Subsidy		295,036	(295,036)
Benefit Payments	(689,589)	(689,589)	-
Implicit Subsidy Credit	(295,036)	(295,036)	-
Administrative Expense		(2,350)	2,350
Other Changes	-	(10,898)	10,898
<b>Net Changes</b>	<b><u>2,350,888</u></b>	<b><u>629,364</u></b>	<b><u>1,721,524</u></b>
<b>Balance as of Measurement Date June 30, 2019 / Report Date June 30, 2020</b>	<b><u>\$ 19,143,783</u></b>	<b><u>\$ 10,968,772</u></b>	<b><u>\$ 8,175,011</u></b>

# Accounting Information

## Development of Deferred Outflows and Inflows of Resources

Balances as of Measurement Date June 30, 2019 / Report Date June 30, 2020

### Deferred Outflows and Inflows of Resources Arising from Differences Between Expected and Actual Experience

Measurement Date — June 30:	Experience Losses (a)	Experience Gains (b)	Amounts Recognized in Expense Through Measurement Date June 30, 2019 (c)	Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2017	-	-	-	-	-
2018*	-	-	-	-	-
2018**	135,598	-	39,882	95,716	-
2019	-	(200,112)	(29,429)	-	(170,683)
<b>Total</b>				<b>\$ 95,716</b>	<b>\$ (170,683)</b>

### Deferred Outflows and Inflows of Resources Arising from Changes in Assumptions

Measurement Date — June 30:	Increase in Total Liability (a)	Decrease in Total Liability (b)	Amounts Recognized in Expense Through Measurement Date June 30, 2019 (c)	Deferred Outflows of Resources (a) - (c)	Deferred Inflows of Resources (b) - (c)
2017	-	-	-	-	-
2018*	-	-	-	-	-
2018**	-	(854,050)	(251,192)	-	(602,858)
2019	1,961,763	-	288,495	1,673,268	-
<b>Total</b>				<b>\$ 1,673,268</b>	<b>\$ (602,858)</b>

\*Report Year Ending June 30, 2018

\*\*Report Year Ending June 30, 2019

# Accounting Information

## Development of Deferred Outflows and Inflows of Resources

Balances as of Measurement Date June 30, 2019 / Report Date June 30, 2020

Deferred Outflows and Inflows of Resources Arising from Differences Between Projected and Actual Earnings on Investments

Measurement Date – June 30:	Investment Earnings Less Than Projected (a)	Investment Earnings Greater Than Projected (b)	Amounts Recognized in Expense Through Measurement Date June 30, 2019 (c)	Deferred Outflows of Resources (d) = (a) – (c)	Deferred Inflows of Resources (e) = (b) – (c)	Net (f) = (d) + (e)
2017	-	(854,695)	(683,756)	-	(170,939)	
2018*	266,057	-	159,636	106,421	-	
2018**	72,538	-	29,016	43,522	-	
2019	-	(34,388)	(6,878)	-	(27,510)	
<b>Total</b>				<b>\$ 149,943</b>	<b>\$ (198,449)</b>	<b>\$ (48,506)</b>

\*Report Year Ending June 30, 2018

\*\*Report Year Ending June 30, 2019

# Accounting Information

## Expense and Deferred Outflows and Inflows

	Measurement Period: Reporting Period:	2017-2018 2018-2019	2018-2019 2019-2020
<b>Expense</b>			
Service Cost	\$	-	\$ 360,905
Interest on Total OPEB Liability		-	1,212,957
Changes of Benefit Terms		-	-
Recognized Differences Between Expected and Actual Experience		19,941	(9,488)
Recognized Changes of Assumptions		(125,596)	162,899
Projected Earnings on OPEB Plan Investments		-	(636,330)
Recognized Differences Between Projected and Actual Earnings		(103,219)	(110,097)
Administrative Expense		66	2,350
Other Miscellaneous (Income)/Expense		-	10,898
<b>Total Expense</b>	<b>\$</b>	<b>(208,808)</b>	<b>\$ 994,094</b>

### Deferred Outflows and Inflows of Resources

	Report Year Ending June 30, 2020	
	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences Between Expected and Actual Experience	\$ 95,716	\$ (170,683)
Changes of Assumptions	1,673,268	(602,858)
Net Difference Between Projected and Actual Earnings on Plan Investments	-	(48,506)
Contributions Subsequent to the Measurement Date	934,040	-
<b>Total</b>	<b>\$ 2,703,024</b>	<b>\$ (822,047)</b>

Amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense as follows:

	Report Year Ending June 30:	Amount
	2021	\$ 43,314
	2022	214,250
	2023	161,039
	2024	146,535
	2025	174,544
	Remaining	207,255

## Accounting Information

### Reconciliation of Expense

	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability	Deferred (Inflows)	Deferred Outflows	Net Investment (Inflows)/ Outflows	Net Deferrals	Net OPEB Liability plus Net Deferrals	Annual Expense
Balance as of Measurement Date June 30, 2018 / Report Date June 30, 2019	\$ (16,792,895)	\$ 10,339,408	\$ (6,453,487)	\$ (728,454)	\$ 115,657	\$ (124,215)	\$ (737,012)	\$ (7,190,499)	
Service Cost	(360,905)		(360,905)						\$ 360,905
Interest on Total OPEB Liability	(1,212,957)		(1,212,957)						1,212,957
Effect of Changes of Benefit Terms	-		-						-
Effect of Liability Gains or Losses	200,112		200,112	(200,112)	-		(200,112)		
Effect of Assumption Changes or Inputs	(1,961,763)		(1,961,763)	-	1,961,763		1,961,763		
Expected Investment Income (Net of Investment Expenses)		636,330	636,330						(636,330)
Investment Gains or Losses on Expected Return		34,388	34,388						
Contributions									
Employer – City's Contribution		661,483	661,483					661,483	
Employer – Implicit Subsidy		295,036	295,036					295,036	
Benefit Payments	689,589	(689,589)	-						
Implicit Subsidy Credit	295,036	(295,036)	-						
Administrative Expenses		(2,350)	(2,350)						2,350
Other Income/(Expense)		(10,898)	(10,898)						10,898
Recognition of Liability Gains or Losses				29,429	(19,941)		9,488		(9,488)
Recognition of Assumption Changes or Inputs				125,596	(288,495)		(162,899)		162,899
Recognition of Investment Gains or Losses						110,097	110,097		(110,097)
Annual Expense								(994,094)	\$ 994,094
Balance as of Measurement Date June 30, 2019 / Report Date June 30, 2020	\$ (19,143,783)	\$ 10,968,772	\$ (8,175,011)	\$ (773,541)	\$ 1,768,984	\$ (48,506)	\$ 946,937	\$ (7,228,074)	

# Accounting Information

## Amortization of Unfunded Actuarial Accrued Liability

A summary of the information used to establish the amortization amount for the current year, with respect to the Unfunded Actuarial Accrued Liability (UAAL), follows. We recalculate the amortization of the UAAL each fiscal year.

	<b>Measurement Period:</b>	<b>2017-2018*</b>	<b>2018-2019</b>	<b>2019-2020</b>
	<b>Reporting Period:</b>	<b>2018-2019</b>	<b>2019-2020</b>	<b>2020-2021</b>
Actuarial Accrued Liability (AAL) – Beginning of Fiscal Year		\$ 15,003,730	\$ 16,792,895	\$ 19,143,783
Actuarial Value of Plan Assets, Beginning of Fiscal Year	–	<u>10,385,546</u>	<u>10,339,408</u>	<u>10,968,772</u>
Unfunded Actuarial Accrued Liability (UAAL), Beginning of Fiscal Year	=	<u>\$ 4,618,184</u>	<u>\$ 6,453,487</u>	<u>\$ 8,175,011</u>
Interest Rate Used to Determine Amortization Payment		7.28%	7.28%	6.17%
Assumed Rate of Payroll Growth		3.000%	2.750%	2.750%
Amortization Period		19 years	18 years	17 years
<b>Amount Recognized, Beginning of Year</b>		<b>\$342,064</b>	<b>\$ 495,644</b>	<b>\$ 616,917</b>

\*Prior to re-measurement for the June 30, 2019 fiscal-year report.

# Accounting Information

## Actuarially Determined Contribution (ADC)

The calculation of the Actuarially Determined Contribution (ADC) follows. The ADC is based on the City's funding policy. The ADC is calculated as of the middle of the year.

	Measurement Period:	2017-2018*	2018-2019	2019-2020
	Reporting Period:	2018-2019	2019-2020	2020-2021
Service Cost	\$	319,522	\$ 360,905	\$ 459,956
Amortization of the Unfunded Actuarial Accrued Liability		342,064	495,644	616,917
Interest to the End of the Year**		5,244	61,661	38,064
<b>ADC</b>	<b>\$</b>	<b>666,830</b>	<b>\$ 918,210</b>	<b>\$ 1,114,937</b>
ADC as a Percentage of Payroll		3.31%	4.44%	5.25%
Discount Rate for ADC Calculation		7.28%	7.28%	6.17%

### ADC Components

City's Contribution to the Trust Fund	\$	374,241	\$ 613,620	\$ 812,461
Credit for Retiree Benefit Payments		-	-	-
Credit for Implicit Subsidy		285,661	295,036	302,476
<b>Total Adjusted ADC***</b>	<b>\$</b>	<b>659,902</b>	<b>\$ 908,656</b>	<b>\$ 1,114,937</b>

### City's Funding Policy

The City's funding policy is to contribute the full amount of the ADC each year.

The ADC is the sum of the service cost and the amortization of the unfunded liability. For payment of the ADC, however, it comprises three parts: the benefit payments paid directly by the City (not through the Trust Fund), the implicit subsidy, and the contribution to the Trust Fund. The contribution to the Trust Fund is the ADC, in total, less the benefit payments and the implicit subsidy.

The City is amortizing the UAAL on a closed basis. Remaining years of amortization as of the report date of June 30, 2020:

17

The discount rate assumed for ADC calculations is the expected long-term rate of return:

6.17%

The UAAL is amortized using a level percent of pay method.

Projections for fiscal year-end 2021 use an estimated expected rate of return, contributions, and benefit payments. We recommend that the City update these values for its 2021 financial statements.

\*Prior to the re-measurement for the June 30, 2019 fiscal-year report.

\*\*These are the administrative expenses, which were included in the 2017-2018 measurement period calculation.

\*\*\*The ADC is adjusted to use the actual benefit payments paid (instead of the expected benefit payments) in the measurement periods 2017-2018 and 2018-2019.



## Accounting Information

### Interest on Total OPEB Liability and Total Projected Earnings

	Amount for Period (a)	Portion of Period (b)	Interest Rate (c)	Interest on the Total OPEB Liability (d) = (a) × (b) × (c)
<b>Interest on Total OPEB Liability</b>				
Beginning Total OPEB Liability	\$ 16,792,895	100%	7.28%	\$ 1,036,122
Service Cost	360,905	100%	7.28%	22,268
Benefit Payments	(689,589)	50%	7.28%	(25,101)
Implicit Subsidy	(295,036)	50%	7.28%	(10,739)
<b>Total Interest on Total OPEB Liability</b>				<b><u>\$ 1,022,550</u></b>

	Amount for Period (a)	Portion of Period (b)	Projected Rate of Return (c)	Projected Earnings (d) = (a) × (b) × (c)
<b>Projected Earnings on Plan Investments</b>				
Beginning Plan Fiduciary Net Position excluding Receivables	\$ 10,339,408	100%	7.28%	\$ 637,941
Employer Contributions	661,483	50%	7.28%	20,407
Benefit Payments from Trust	(689,589)	50%	7.28%	(21,274)
Administrative Expense	(2,350)	50%	7.28%	(72)
Other Miscellaneous Income/ (Expense)	(10,898)	100%	7.28%	(672)
<b>Total Projected Earnings</b>				<b>636,330</b>
(Investment Expense)				-
<b>Net Projected Earnings</b>				<b><u>\$ 636,330</u></b>

# Accounting Information

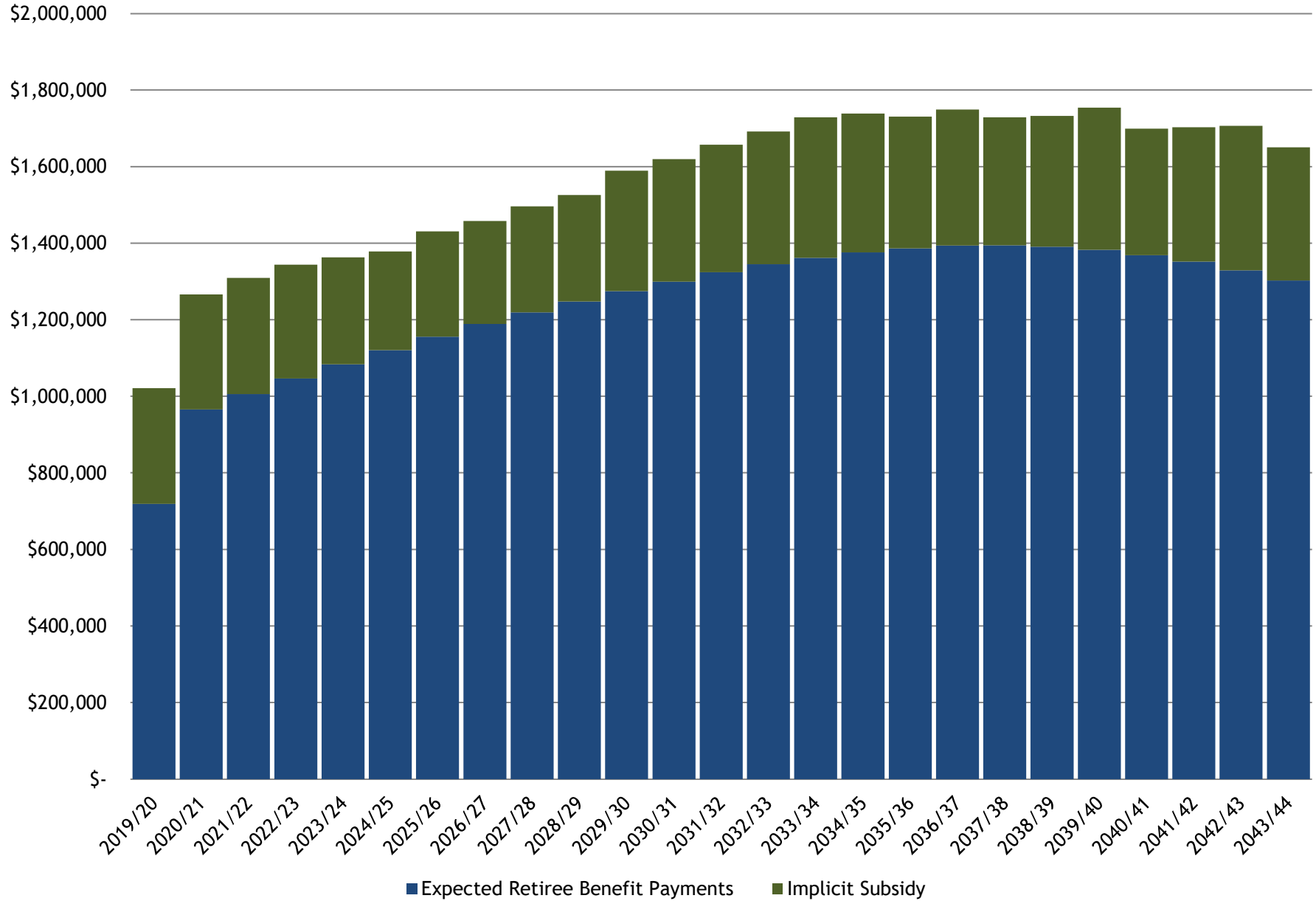
## OPEB Cash-Flow Projections

OPEB cash-flow projections for current participants for the next twenty-five years follow.

Measurement Period Ending June 30:	Expected Retiree		Total Expected
	Benefit Payments	Implicit Subsidy	Credited Benefit Payments
2020	\$ 718,916	\$ 302,476	\$ 1,021,392
2021	965,337	300,577	1,265,914
2022	1,005,553	303,351	1,308,904
2023	1,046,237	297,659	1,343,896
2024	1,083,685	279,420	1,363,105
2025	1,120,670	257,396	1,378,066
2026	1,155,471	275,288	1,430,759
2027	1,189,093	268,812	1,457,905
2028	1,219,042	277,051	1,496,093
2029	1,247,794	277,923	1,525,717
2030	1,274,503	314,887	1,589,390
2031	1,299,351	320,285	1,619,636
2032	1,324,002	332,869	1,656,871
2033	1,344,904	346,850	1,691,754
2034	1,361,918	366,652	1,728,570
2035	1,375,804	362,533	1,738,337
2036	1,386,046	344,228	1,730,274
2037	1,393,608	355,501	1,749,109
2038	1,394,180	334,768	1,728,948
2039	1,390,815	341,529	1,732,344
2040	1,382,630	371,097	1,753,727
2041	1,368,273	330,885	1,699,158
2042	1,351,639	351,382	1,703,021
2043	1,328,765	377,994	1,706,759
2044	1,302,289	347,815	1,650,104

# Accounting Information

## OPEB Cash-Flow Projections for Current Participants



# Accounting Information

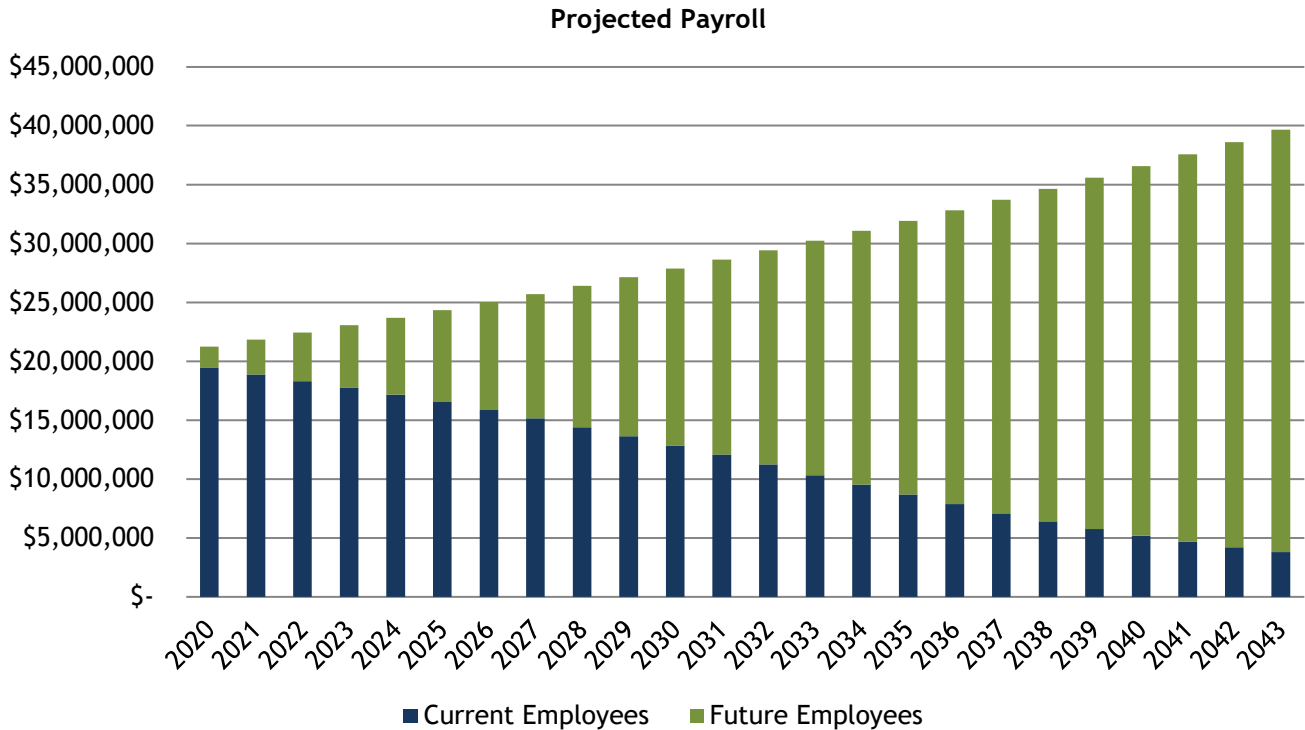
## Projection of Contributions

Measurement Period Ending June 30:	Payroll for Current Employees (a)	Payroll for Future Employees (b)	Total Employee Payroll (c)	Employer Contributions Related to Payroll of all Plan Members		
				Portion of Employer Contribution for Current Plan Members (d) = (f) - (e)	Contributions Related to Payroll of Future Plan Members (e) = (b) x 2.16%	(f) = (c) x 5.25% for 17 Years, 2.16% Thereafter
2020	\$ 19,464,601	\$ 1,786,884	\$ 21,251,485	\$ 1,076,263	\$ 38,674	\$ 1,114,937
2021	18,879,326	2,956,575	21,835,901	1,081,607	63,991	1,145,598
2022	18,310,040	4,126,348	22,436,388	1,087,793	89,309	1,177,102
2023	17,743,089	5,310,300	23,053,389	1,094,539	114,933	1,209,472
2024	17,159,426	6,527,931	23,687,357	1,101,445	141,287	1,242,732
2025	16,548,045	7,790,714	24,338,759	1,108,290	168,618	1,276,908
2026	15,858,730	9,149,345	25,008,075	1,113,999	198,024	1,312,023
2027	15,144,088	10,551,709	25,695,797	1,119,727	228,376	1,348,103
2028	14,388,754	12,013,677	26,402,431	1,125,158	260,018	1,385,176
2029	13,635,430	13,493,068	27,128,498	1,131,231	292,037	1,423,268
2030	12,850,935	15,023,597	27,874,532	1,137,245	325,163	1,462,408
2031	12,076,223	16,564,859	28,641,082	1,144,104	358,521	1,502,625
2032	11,230,930	18,197,782	29,428,712	1,150,084	393,863	1,543,947
2033	10,327,396	19,910,606	30,238,002	1,155,470	430,935	1,586,405
2034	9,520,087	21,549,460	31,069,547	1,163,626	466,405	1,630,031
2035	8,688,934	23,235,026	31,923,960	1,171,970	502,887	1,674,857
2036	7,865,470	24,936,399	32,801,869	1,181,206	539,710	1,720,916
2037	7,089,753	26,614,167	33,703,920	153,447	576,023	729,470
2038	6,400,089	28,230,689	34,630,778	138,520	611,010	749,530
2039	5,768,390	29,814,734	35,583,124	124,848	645,294	770,142
2040	5,186,446	31,375,214	36,561,660	112,252	679,069	791,321
2041	4,678,175	32,888,931	37,567,106	101,252	711,831	813,083
2042	4,219,264	34,380,937	38,600,201	91,320	744,123	835,443
2043	3,785,908	35,875,799	39,661,707	81,940	776,477	858,417
2044	3,375,798	37,376,606	40,752,404	73,064	808,960	882,024

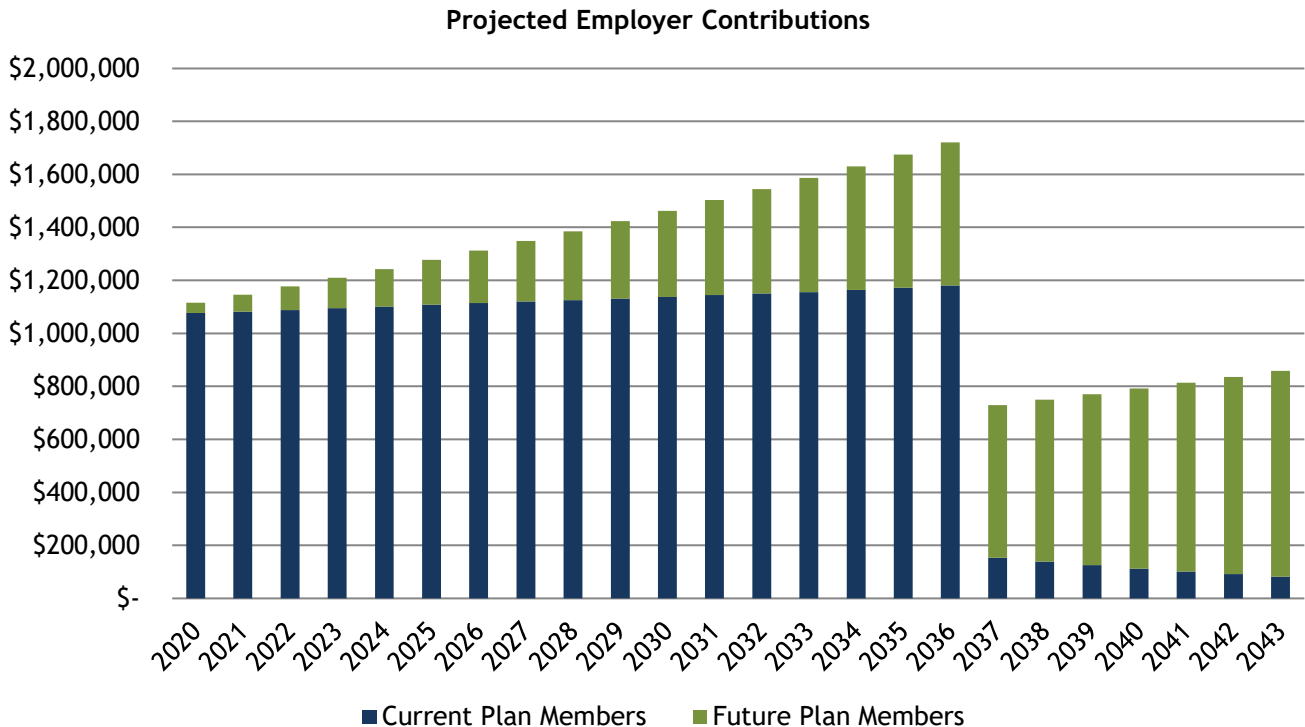
# Accounting Information

## Projection of Contributions Charts

Projected Payroll for Current and Future Employees



Projected Employer Contributions for Current and Future Plan Members



# Accounting Information

## Projection of Fiduciary Net Position

Current Participants Only

Measurement Period Ending June 30:	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions (b)	Projected Benefit Payments (Including Implicit Subsidy) (c)	Projected Administrative Expense (d)	Projected Investment Earnings (e)	Projected Ending Fiduciary Net Position (f) = $\Sigma$ [(a) : (e)]
2020	\$ 10,968,772	\$ 1,076,263	\$ (1,228,647)	\$ (2,409)	\$ 747,954	\$ 11,561,933
2021	11,561,933	1,081,607	(1,265,914)	(2,469)	785,868	12,161,025
2022	12,161,025	1,087,793	(1,308,904)	(2,531)	824,351	12,761,734
2023	12,761,734	1,094,539	(1,343,896)	(2,594)	862,705	13,372,488
2024	13,372,488	1,101,445	(1,363,105)	(2,659)	901,196	14,009,365
2025	14,009,365	1,108,290	(1,378,066)	(2,725)	941,166	14,678,030
2026	14,678,030	1,113,999	(1,430,759)	(2,793)	984,226	15,342,703
2027	15,342,703	1,119,727	(1,457,905)	(2,863)	1,026,253	16,027,915
2028	16,027,915	1,125,158	(1,496,093)	(2,935)	1,069,878	16,723,923
2029	16,723,923	1,131,231	(1,525,717)	(3,008)	1,113,926	17,440,355
2030	17,440,355	1,137,245	(1,589,390)	(3,083)	1,160,282	18,145,409
2031	18,145,409	1,144,104	(1,619,636)	(3,160)	1,204,931	18,871,648
2032	18,871,648	1,150,084	(1,656,871)	(3,239)	1,251,075	19,612,697
2033	19,612,697	1,155,470	(1,691,754)	(3,320)	1,298,043	20,371,136
2034	20,371,136	1,163,626	(1,728,570)	(3,403)	1,346,228	21,149,017
2035	21,149,017	1,171,970	(1,738,337)	(3,488)	1,394,785	21,973,947
2036	21,973,947	1,181,206	(1,730,274)	(3,575)	1,445,722	22,867,026
2037	22,867,026	153,447	(1,749,109)	(3,664)	1,469,702	22,737,402
2038	22,737,402	138,520	(1,728,948)	(3,756)	1,460,625	22,603,843
2039	22,603,843	124,848	(1,732,344)	(3,850)	1,452,070	22,444,567
2040	22,444,567	112,252	(1,753,727)	(3,946)	1,442,517	22,241,663
2041	22,241,663	101,252	(1,699,158)	(4,045)	1,427,978	22,067,690
2042	22,067,690	91,320	(1,703,021)	(4,146)	1,417,060	21,868,903
2043	21,868,903	81,940	(1,706,759)	(4,250)	1,404,624	21,644,458
2044	21,644,458	73,064	(1,650,104)	(4,356)	1,388,757	21,451,819

# Accounting Information

## Schedule of Implicit Subsidy Liability

Actuarial standard of practice (ASOP) number 6, "Measuring Retiree Group Benefits Obligations and Determining Retiree Group Benefits Program Periodic Costs or Actuarially Determined Contributions", requires the inclusion of the implicit subsidy in OPEB valuations.

The implicit subsidy arises when an employer allows a retiree and the retiree's dependents to continue on the plans for active employees, and pay the active-employee premiums. Retirees are not paying the true cost of their benefits because they have higher costs than active employees, and therefore are partially subsidized by the active employees. Once a retiree reaches Medicare eligibility, the rates are set for Medicare retirees separately, and are set to be sufficient to cover the true costs of the Medicare retirees. Thus, there is no implicit subsidy for Medicare retirees.

Measurement Date (June 30):	2017	2018	2018	2019
Report Date (June 30):	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
Benefit Payments \$	14,401,313	\$ 15,003,730	\$ 13,916,285	\$ 16,020,470
Implicit Subsidy	<u>2,511,028</u>	<u>2,481,151</u>	<u>2,876,610</u>	<u>3,123,313</u>
<b>Total OPEB Liability \$</b>	<b><u>16,912,341</u></b>	<b><u>17,484,881</u></b>	<b><u>16,792,895</u></b>	<b><u>19,143,783</u></b>
Discount Rate	7.00%	7.00%	7.28%	6.17%

# Accounting Information

## Schedule of Deferred Outflows and Inflows of Resources

### Schedule of Deferred Outflows and Inflows of Resources

	Measurement Period	Base Amount	Amount Previously Recognized	Recognition Period	Remaining Period	Increase/(Decrease) in Expense: Measurement / Report Years Ending June 30:						Remaining
						2019 2020	2020 2021	2021 2022	2022 2023	2023 2024	2024 2025	
Differences Between Expected and Actual Experience	2016-2017	-	-	6.8	3.8	-	-	-	-	-	-	-
	2017-2018*	-	-	6.8	4.8	-	-	-	-	-	-	-
	2017-2018**	135,598	19,941	6.8	5.8	19,941	19,941	19,941	19,941	19,941	15,952	-
	2018-2019	(200,112)	-	6.8	6.8	(29,429)	(29,429)	(29,429)	(29,429)	(29,429)	(29,429)	(23,538)
Changes of Assumptions	2016-2017	-	-	6.8	3.8	-	-	-	-	-	-	-
	2017-2018*	-	-	6.8	4.8	-	-	-	-	-	-	-
	2017-2018**	(854,050)	(125,596)	6.8	5.8	(125,596)	(125,596)	(125,596)	(125,596)	(125,596)	(100,474)	-
	2018-2019	1,961,763	-	6.8	6.8	288,495	288,495	288,495	288,495	288,495	288,495	230,793
Differences Between Projected and Actual Earnings	2016-2017	(854,695)	(512,817)	5.0	2.0	(170,939)	(170,939)					
	2017-2018*	266,057	106,424	5.0	3.0	53,212	53,212	53,209				
	2017-2018**	72,538	14,508	5.0	4.0	14,508	14,508	14,508	14,506			
	2018-2019	(34,388)	-	5.0	5.0	(6,878)	(6,878)	(6,878)	(6,878)	(6,876)		

### Summary of Deferred Outflows and Inflows of Resources

Measurement Period: July 1, 2018 - June 30, 2019

Fiscal Reporting Period: July 1, 2019 - June 30, 2020

	Measurement Years Ending June 30:		Report Years Ending June 30:				Remaining
	2019 2020	2020 2021	2021 2022	2022 2023	2023 2024	2024 2025	
Differences Between Expected and Actual Experience	\$ (9,488)	\$ (9,488)	\$ (9,488)	\$ (9,488)	\$ (9,488)	\$ (13,477)	\$ (23,538)
Changes of Assumptions	162,899	162,899	162,899	162,899	162,899	188,021	230,793
Differences Between Projected and Actual Earnings	(110,097)	(110,097)	60,839	7,628	(6,876)	-	-
<b>Total</b>	<b>\$ 43,314</b>	<b>\$ 43,314</b>	<b>\$ 214,250</b>	<b>\$ 161,039</b>	<b>\$ 146,535</b>	<b>\$ 174,544</b>	<b>\$ 207,255</b>

\*For the report for the fiscal year ending June 30, 2018

\*\*For the report for the fiscal year ending June 30, 2019



## Accounting Information

### Schedule of Changes in the Total OPEB Liability and Related Ratios

GASB 75 requires a disclosure of the changes in Net OPEB Liability for the last ten fiscal years, or for as many years as are available.

Measurement Date (June 30):	2017	2018	2018	2019
Report Date (June 30):	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
<b><u>Total OPEB Liability</u></b>				
Service Cost	\$ 397,604	\$ 409,532	\$ -	\$ 360,905
Interest	1,103,301	1,149,342	-	1,212,957
Changes of Benefit Terms	-	-	-	-
Differences Between Expected and Actual Experience	-	-	135,598	(200,112)
Changes of Assumptions	-	-	(854,050)	1,961,763
Benefit Payments	(700,000)	(700,673)	26,466	(689,589)
Implicit Subsidy Credit	(277,892)	(285,661)	-	(295,036)
Net Change in Total OPEB Liability	523,013	572,540	(691,986)	2,350,888
Total OPEB Liability – Beginning	<u>16,389,328</u>	<u>16,912,341</u>	<u>17,484,881</u>	<u>16,792,895</u>
<b>Total OPEB Liability – Ending (a)</b>	<b><u>\$ 16,912,341</u></b>	<b><u>\$ 17,484,881</u></b>	<b><u>\$ 16,792,895</u></b>	<b><u>\$ 19,143,783</u></b>
<b><u>Plan Fiduciary Net Position</u></b>				
Net Investment Income	\$ 1,450,417	\$ 423,688	\$ (72,538)	\$ 670,718
Employer – City's Contribution	838,855	642,216	-	661,483
Employer – Implicit Subsidy	277,892	285,661	-	295,036
Benefit Payments	(700,000)	(700,673)	26,466	(689,589)
Implicit Subsidy Credit	(277,892)	(285,661)	-	(295,036)
Administrative Expense	(4,601)	(5,244)	(66)	(2,350)
Other Miscellaneous Income/(Expense)	-	-	-	(10,898)
Net Change in Plan Fiduciary Net Position	1,584,671	359,987	(46,138)	629,364
Plan Fiduciary Net Position – Beginning	<u>8,440,888</u>	<u>10,025,559</u>	<u>10,385,546</u>	<u>10,339,408</u>
<b>Plan Fiduciary Net Position – Ending (b)</b>	<b><u>\$ 10,025,559</u></b>	<b><u>\$ 10,385,546</u></b>	<b><u>\$ 10,339,408</u></b>	<b><u>\$ 10,968,772</u></b>
<b><u>Net OPEB Liability</u></b>				
City's Net OPEB Liability – Ending = (a) – (b)	\$ 6,886,782	\$ 7,099,335	\$ 6,453,487	\$ 8,175,011
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	59.3%	59.4%	61.6%	57.3%
Covered-Employee Payroll	\$ 20,650,038	\$ 21,269,539	\$ 20,129,158	\$ 20,682,710
City's Net OPEB Liability as a Percentage of Covered-Employee Payroll	33.3%	33.4%	32.1%	39.5%

Notes to schedule: the City adopted GASB 75 for the fiscal year ending June 30, 2017.

# Accounting Information

## Schedule of Investment Returns

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GASB 75 requires a schedule of investment returns for the last ten fiscal years, or for as many years as are available if less than ten years are available.

	Measurement Date (June 30):	2017	2018	2018	2019
	Report Date (June 30):	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
Annual Money-Weighted Rate of Return, Net of Investment Expense		9.77%	10.24%	-0.70%	6.72%

The annual money-weighted rate of return, net of investment expenses, is the net investment income for the year divided by the average net position for the year (less investment expenses).

# Accounting Information

## Schedule of Contributions

GASB 75 requires a schedule of contributions for the last ten fiscal years, or for as many years as are available if less than ten years are available.

Measurement Period:	2016-2017	2017-2018	2017-2018	2018-2019
Reporting Period:	2016-2017	2017-2018	2018-2019	2019-2020
Report Date (June 30):	2017	2018	2019	2020
Actuarially Determined Contribution (ADC)	\$ 642,132	\$ 659,902	\$ -	\$ 908,656
Less: Contributions Made in Relation to the ADC –	1,116,747	927,877	-	956,519
Contribution Deficiency (Excess)	(474,615)	(267,975)	-	(47,863)
Covered-Employee Payroll	\$ 20,650,038	\$ 21,269,539	\$ 20,129,158	\$ 20,682,710
Contributions as a Percentage of Covered-Employee Payroll	5.41%	4.36%	0.00%	4.62%

**Notes to Schedule:**

**Assumptions and Methods**

Actuarial Cost Method	Entry-age normal, level percent of pay
Amortization Method	Closed period, level percent of pay
Amortization Period	20 years
Inflation	2.50%
Assumed Payroll Growth	2.750%
Healthcare Trend Rates	6.00%, trending down to 3.84%
Rate of Return on Assets	6.17%
Mortality Rate	CalPERS Rates. See appendix.
Retirement Rates	CalPERS Rates. See appendix.

# Accounting Information

## Draft Notes to the Financial Statements

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A draft of the required notes to the City's financial statements, based on the requirements of GASB 75 and our understanding of the City's retiree health plan, follows.

### Notes to the Financial Statements for the Year Ended June 30, 2020

#### Summary of Significant Accounting Policies

##### *Other Postemployment Benefits Other Than Pensions (OPEB)*

For purposes of measuring the net OPEB liability, deferred outflows of resources and deferred inflows of resources related to OPEB, and OPEB expense information about the fiduciary net position of the City Retiree Benefits Plan (the Plan) and additions to/deductions from the Plan's fiduciary net position have been determined on the same basis as they are reported by the Plan. For this purpose, the Plan recognizes benefit payments when due and payable in accordance with the benefit terms.

#### Note X – Other Post-employment Benefits (OPEB)

##### *Plan Description*

The City administers a single-employer defined-benefit post-employment healthcare plan (the Plan). Dependents are eligible to enroll, and benefits continue to surviving spouses.

##### *Benefits Provided*

The PEMHCA minimum amount for retirees participating in PEMHCA is \$136 month in 2019. PEMHCA amounts are adjusted on an annual basis. An additional \$318.73 per month will be paid for medical, dental, and vision for full-time employees hired and for City Council elected before September 30, 2011. The total subsidy will not be greater than the premium for the retiree and spouse. Coverage is allowed under any medical plan.

##### *Employees Covered by Benefit Terms*

At June 30, 2018 (the census date), the benefit terms covered the following employees:

<u>Category</u>	<u>Count</u>
Inactive employees, spouses, or beneficiaries currently receiving benefit payments:	270
Inactive employees entitled to but not yet receiving benefit payments:	0
Active employees:	296
<b>Total</b>	<b>566</b>

# Accounting Information

## Draft Notes to the Financial Statements

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### *Contributions*

The City makes contributions based on an actuarially determined rate.

Contribution rate: 5.25% for 17 years,  
2.16% thereafter.

Reporting period contributions: \$956,519 (Includes implicit subsidy credit.)

### *Financial Report*

The City issues a stand-alone financial report that is available to the public. The report is available at <http://www.moval.org/departments/financial-mgmt-svcs/report-CAFR.html>

### **Net OPEB Liability**

The City's total OPEB liability was valued as of June 30, 2018 and was used to calculate the net OPEB liability measured as of June 30, 2019.

### *Actuarial Assumptions*

The total OPEB liability in the June 30, 2019 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement, unless otherwise specified:

Measurement Date:	<u>June 30, 2018</u>	<u>June 30, 2019</u>
Discount Rate	7.28%	6.17%
Investment Rate of Return	7.28%	6.17%
Inflation	2.50%	2.50%
Healthcare Cost Trend Rates	n/a	5.50% Trending down to 3.84% over 55 years.
Salary Increases	2.750%	2.750% Additional merit-based increases based on CalPERS merit salary increase tables.
Mortality Rates		Based on CalPERS tables.

- Projections of the sharing of benefit-related costs are based on an established pattern of practice.
- Experience studies come from the CalPERS Pension Assumption Model, revised May 14, 2018.
- Inactive employees (retirees) pay for the cost of premiums not covered by the plan as described elsewhere in this report.
- There were no ad hoc postemployment benefit changes (including ad hoc COLAs) to the plan.

### *Discount Rate*

The discount rate used to measure the total OPEB liability is 6.17%. This is the expected long-term rate of return on City assets using the Strategy I asset allocation provided by California Employers' Retiree Benefit Trust (CERBT). The projection of cash flows used to determine the discount rate assumed that the City contribution will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the OPEB plan's fiduciary net position is projected to cover all future OPEB payments. Therefore, the discount rate was set equal to the long-term expected rate of return.

# Accounting Information

## Draft Notes to the Financial Statements

### *Long-Term Expected Real Rate of Return*

The long-term expected rate of return is determined using the long-term rates of return developed by the CalPERS Investment Office in their report dated August 18, 2014.

<b>Asset Class</b>	<b>Target Allocation</b>	<b>Compound Expected Return</b>	<b>Volatility</b>	<b>Arithmetic Expected Return</b>	<b>Long-Term Compound Return</b>	<b>Cash Yield</b>
Global Equity	57%	7.75%	17.40%	9.15%	8.71%	2.73%
Fixed Income	27%	4.29%	7.00%	4.52%	5.40%	3.70%
TIPS	5%	3.50%	6.50%	3.70%	5.25%	2.00%
Commodities	3%	2.84%	17.92%	4.39%	7.95%	0.00%
REITs	8%	5.75%	19.50%	7.53%	10.88%	3.35%
Total/Average	100%					
Expected Compound Return (1-10 Years)						6.71%
Expected Volatility						11.74%
Expected Cash Yield						2.92%
Expected Blended Return Net of Fees (1-60 years)						6.17%
Uses an expected long-term inflation rate of 2.75%						

# Accounting Information

## Draft Notes to the Financial Statements

Changes in the Net OPEB Liability	<i>Increase/(Decrease)</i>		
	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability
	(a)	(b)	(c) = (a) - (b)
<b>Balance as of Report Date June 30, 2019</b>	<b>\$ 16,792,895</b>	<b>\$ 10,339,408</b>	<b>\$ 6,453,487</b>
Changes for the year:			
Service Cost	360,905		360,905
Interest	1,212,957		1,212,957
Changes of Benefit Terms	-		-
Differences Between Expected and Actual Experience	(200,112)		(200,112)
Changes of Assumptions	1,961,763		1,961,763
Contributions			
Employer – City's Contribution		661,483	(661,483)
Employer – Implicit Subsidy		295,036	(295,036)
Net Investment Income		670,718	(670,718)
Benefit Payments	(689,589)	(689,589)	-
Implicit Subsidy Credit	(295,036)	(295,036)	-
Administrative Expenses		(2,350)	2,350
Other Miscellaneous Income/(Expense)	-	<b>(10,898)</b>	<b>10,898</b>
<b>Net Changes</b>	<b><u>2,350,888</u></b>	<b><u>629,364</u></b>	<b><u>1,721,524</u></b>
<b>Balance as of Report Date June 30, 2020</b>	<b><u>\$ 19,143,783</u></b>	<b><u>\$ 10,968,772</u></b>	<b><u>\$ 8,175,011</u></b>

Sensitivity of the net OPEB liability to changes in the discount rate. The net OPEB liability of the City, as well as what the City's net OPEB liability would be if it were calculated using a discount rate that is one percentage point lower (5.17%) or one percentage point higher (7.17%) follows:

	<u>1% Decrease</u>	<u>Discount Rate</u>	<u>1% Increase</u>
	<u>5.17%</u>	<u>6.17%</u>	<u>7.17%</u>
<b>Net OPEB Liability (Asset)</b>	<b>\$ 10,285,254</b>	<b>\$ 8,175,011</b>	<b>\$ 6,387,930</b>

Sensitivity of the net OPEB liability to changes in the healthcare cost trend rates. The net OPEB liability of the City, as well as what the City's net OPEB liability would be if it were calculated using healthcare cost trend rates that are one percentage point lower (4.50%) or one percentage point higher (6.50%) than current healthcare cost trend rates follows:

	<u>1% Decrease</u>	<u>Trend Rate</u>	<u>1% Increase</u>
	<u>4.50%</u>	<u>5.50%</u>	<u>6.50%</u>
	<u>Decreasing to</u>	<u>Decreasing to</u>	<u>Decreasing to</u>
	<u>2.84%</u>	<u>3.84%</u>	<u>4.84%</u>
<b>Net OPEB Liability (Asset)</b>	<b>\$ 7,872,548</b>	<b>\$ 8,175,011</b>	<b>\$ 8,525,475</b>

# Accounting Information

## Draft Notes to the Financial Statements

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### OPEB Expense and Deferred Inflows and Outflows of Resources Related to OPEB

For the report year ended June 30, 2020, the City recognized an OPEB expense of \$994,094. The City reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Differences Between Actual and Expected Experience	\$ 95,716	\$ (170,683)
Changes of Assumptions	1,673,268	(602,858)
Net Difference Between Projected and Actual Earnings on OPEB Plan Investments	-	(48,506)
Contributions Subsequent to the Measurement Date	<u>934,040</u>	<u>-</u>
<b>Total</b>	<b>\$ 2,703,024</b>	<b>\$ (822,047)</b>

Amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense as follows:

<u>Report Year Ending June 30:</u>	<u>Amount</u>
2021 \$	43,314
2022	214,250
2023	161,039
2024	146,535
2025	174,544
Remaining	207,255



# Basis of Valuation

## Substantive Plan

A summary of the substantive plan used as the basis of the valuation follows.

<b>All Retirees</b>	
<b>Duration of coverage</b>	Retiree's lifetime.
<b>Conditions of coverage</b>	Retire directly from the City under CalPERS (service or disability).
<b>Dependent coverage</b>	Benefit continues to surviving spouse of retiree or on death of active employee while eligible for retirement.
<b>Medical plan choices</b>	Same as actives.

<b>Management hired/elected before September 30, 2011 and Non-Management hired before July 1, 2009</b>	
<b>Eligibility for additional retiree benefits</b>	Age 50 with 5 years of service.
<b>Eligibility for PEMHCA-only benefits</b>	Age 50 with 5 years of service.
<b>Employer monthly contributions (full benefits)</b>	
<ul style="list-style-type: none"> <li>• <b>Additional amount</b></li> <li>• <b>PEMHCA amount</b></li> </ul>	\$318.73 monthly, no future increases. \$133 monthly (2018 amount) with annual increase.

<b>Non-Management Full-Time Employees Hired between July 1, 2009 and September 30, 2011</b>	
<b>Eligibility for additional retiree benefits</b>	Age 50 with 10 years of service.
<b>Eligibility for PEMHCA-only benefits</b>	Age 50 with 5 years of service.
<b>Employer monthly contributions (full benefits)</b>	
<ul style="list-style-type: none"> <li>• <b>Additional amount</b></li> <li>• <b>PEMHCA amount</b></li> </ul>	\$318.73 monthly, no future increases. \$133 monthly (2018 amount) with annual increase.

<b>All Full-Time Employees hired after September 30, 2011</b>	
<b>Eligibility for PEMHCA-only benefits</b>	Age 50 with 5 years of service.
<b>Employer monthly contributions (full benefits)</b>	
<ul style="list-style-type: none"> <li>• <b>Retiree only</b></li> </ul>	\$133 monthly (2018 amount) with annual increase.

<b>Excluded Employees</b>	
<b>Temporary employees</b>	Unless participating in PEMHCA.
<b>Crossing guards</b>	Unless participating in PEMHCA.
<b>Seasonal employees</b>	Unless participating in PEMHCA.

# Basis of Valuation

## Participant Summary

Census Date: June 30, 2018  
Age and service determined as of the census date.

Active Participants											
Age	Years of Service										Total
	< 1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
< 25	3	4									7
25-29	4	15	1	1							21
30-34	4	12	5	4							25
35-39	4	21	6	8	5						44
40-44	7	6		14	4	4					35
45-49	6	14	5	22	8	2	1				58
50-54	2	5	3	8	18	6	1				43
55-59	3	1	4	8	7	5	5				33
60-64		2	2	3	8	4	6				25
65-69		1		2			1				4
70+					1						1
<b>Total</b>	<b>33</b>	<b>81</b>	<b>26</b>	<b>70</b>	<b>51</b>	<b>21</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>296</b>

Average Employee Age: 45.7  
Average Years of Service: 10.2

Inactive Participants				
Age	Retiree	Spouse	Surviving Spouse	Total
< 50		1		1
50-54	4	1		5
55-59	36	6	2	44
60-64	64	15	3	82
65-69	50	11	2	63
70-74	28	4	2	34
75-79	16	2	2	20
80-84	13	1	2	16
85-89	2			2
90+	2		1	3
<b>Total</b>	<b>215</b>	<b>41</b>	<b>14</b>	<b>270</b>

Average Inactive Age: 66.2

# Basis of Valuation

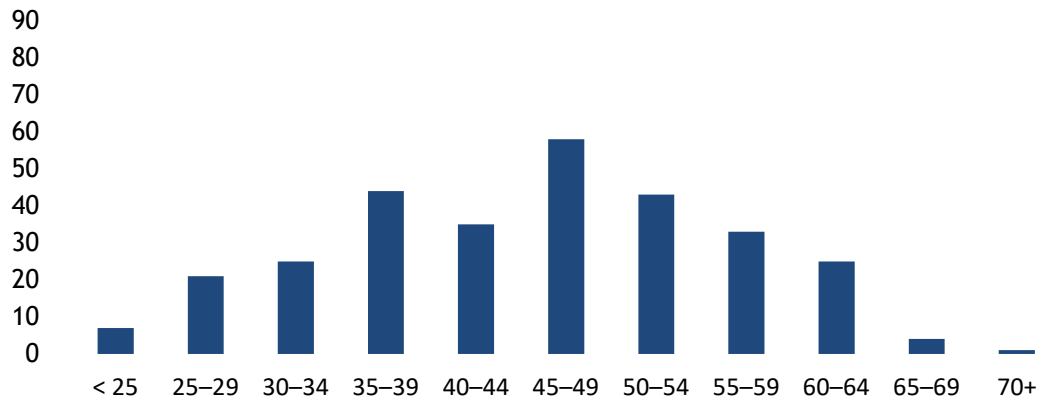
## Participant Summary Charts

Census Date: June 30, 2018

Age and service determined as of the census date.

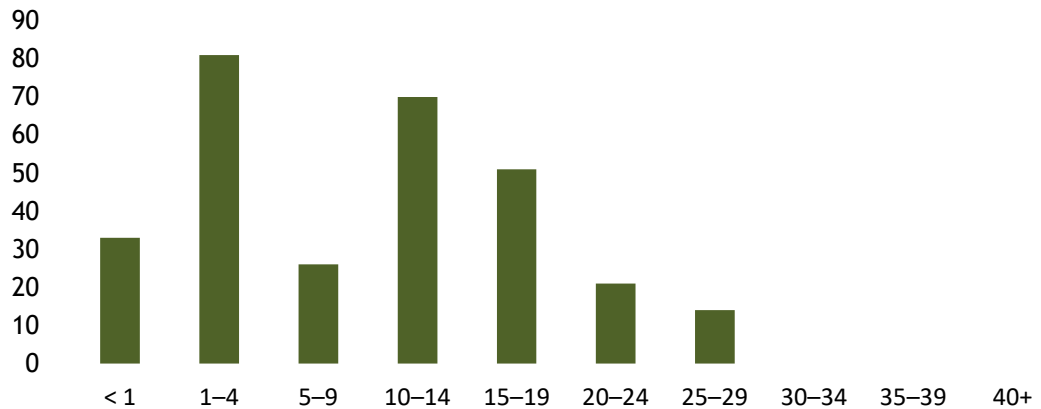
### Count of Actives by Age Bracket

Average Employee Age: 45.7



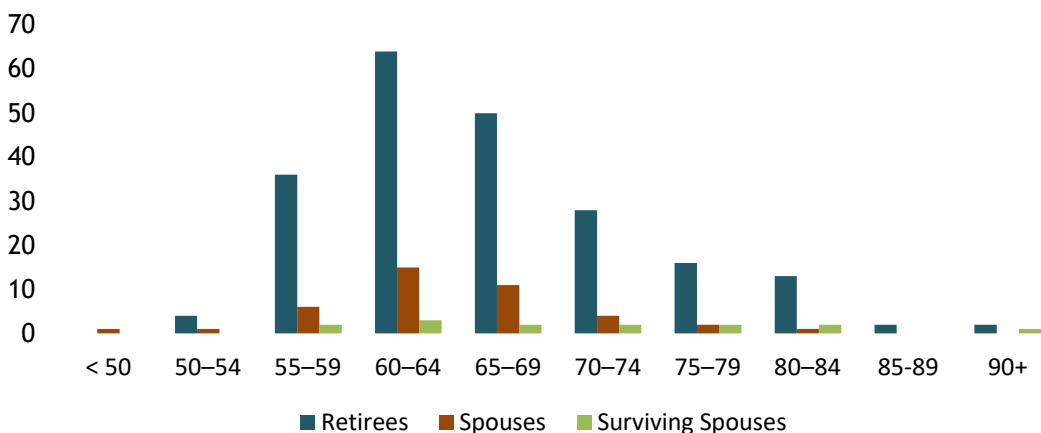
### Count of Actives by Years of Service

Average Years of Service: 10.2



### Count of Inactives by Age Bracket

Average Inactive Age: 66.2



# Basis of Valuation

## Actuarial Assumptions

A summary of the actuarial assumptions used for this valuation follows. We considered the reasonableness of each assumption independently based on its own merits, consistent with each other assumption, and the combined impact of all assumptions.

Assumption	Rates												
<b>Actuarial Cost Method</b>	Entry-Age Normal, Level Percentage of Salary												
<b>Valuation Date</b>	June 30, 2018												
<b>Measurement Date</b>	June 30, 2019												
<b>Report Date</b>	June 30, 2020												
<b>Discount Rate</b>	The discount rate selected is 6.17%. The discount rate is the long-term rate of return for the plan's assets, as our projections show that the assets will be sufficient to cover the projected benefit payments should the District continue to contribute to the plan with an amount of at least the ADC each year. Should the assets not be sufficient to cover the projected benefit payments at any time in the future, we would employ a discount rate reflecting the 20-year tax-exempt municipal bond yield or index rate to the period after which we project assets to run out. We would then use a single, blended discount rate equivalent to the long-term rate of return and the 20-year tax-exempt municipal bond yield. If there are no assets, we would use only the 20-year tax-exempt municipal bond yield for the valuation.												
<b>Mortality</b>	Same as CalPERS. See appendix.												
<b>Termination Rates</b>	Same as CalPERS. See appendix. Also known as "turnover".												
<b>Disability</b>	Same as CalPERS. See appendix.												
<b>Retirement</b>	Same as CalPERS. See appendix.												
<b>Annual Per Capita Claims Cost</b>	Developed using CalPERS experience to calculate age-related risk scores, but using the City's actual premiums for all other purposes. Assumed annual per capita claims costs follow:												
	<table border="1"> <thead> <tr> <th>Age</th> <th>Males</th> <th>Females</th> </tr> </thead> <tbody> <tr> <td>50</td> <td>\$ 9,503</td> <td>\$ 9,766</td> </tr> <tr> <td>55</td> <td>10,973</td> <td>10,483</td> </tr> <tr> <td>60-64</td> <td>13,522</td> <td>11,721</td> </tr> </tbody> </table>	Age	Males	Females	50	\$ 9,503	\$ 9,766	55	10,973	10,483	60-64	13,522	11,721
Age	Males	Females											
50	\$ 9,503	\$ 9,766											
55	10,973	10,483											
60-64	13,522	11,721											
<b>Average Per Capita Cost for Implicit Subsidy Calculation</b>	Developed based on premiums for the City's enrollment by plan, family demographics from CalPERS plans, and risk scores (both HMO and PPO) for the CalPERS population.												

# Basis of Valuation

## Actuarial Assumptions

Assumption	Rates												
<b>Aging or Morbidity Factors</b>	Based on actual CalPERS HMO and PPO population data.												
<b>Participant Contributions</b>	Based on service at retirement and employee group.												
<b>Salary Increases</b>	2.750% The salary increase is used to determine the growth in the aggregate payroll.  Individual Salary Increases: 2018 CalPERS Merit Salary Increases.												
<b>Inflation Rate</b>	2.50%												
<b>Marital Status</b>	Current Retirees: Actual spouse coverage is used. Future retirees: 50% assumed to be married.												
<b>Spouse Gender</b>	Assumes spouse of opposite gender for current and future retirees.												
<b>Spouse Age Difference</b>	Actual spouse age is used for current retirees. Assumes males are three years older than females for future retirees.												
<b>Participation</b>	Current Retirees: Assume current elections continue until decrement. Future Retiree election assumptions summarized below*:												
	<table border="1"> <thead> <tr> <th>Healthcare Plan</th> <th>Hired Before 9/30/2011</th> <th>Hired On or After 9/30/2011</th> </tr> </thead> <tbody> <tr> <td>PEMHCA</td> <td>60%</td> <td>70.0%</td> </tr> <tr> <td>Non-PEMHCA</td> <td>30%</td> <td>0.0%</td> </tr> <tr> <td>Waived</td> <td>10%</td> <td>30.0%</td> </tr> </tbody> </table>	Healthcare Plan	Hired Before 9/30/2011	Hired On or After 9/30/2011	PEMHCA	60%	70.0%	Non-PEMHCA	30%	0.0%	Waived	10%	30.0%
Healthcare Plan	Hired Before 9/30/2011	Hired On or After 9/30/2011											
PEMHCA	60%	70.0%											
Non-PEMHCA	30%	0.0%											
Waived	10%	30.0%											
	*Assumed all covered spouses elect survivor spouse benefits.												
<b>PEMHCA Administrative Fee</b>	0.31% of retiree premium.												
<b>Annual PEMHCA Amount</b>	\$1,614 for the period June 30, 2018, through June 30, 2019.												

# Basis of Valuation

## Actuarial Assumptions

Assumption	Rates									
<b>Premiums</b>	<p>A single annual premium was developed based on current enrollment patterns.</p> <table border="1"> <thead> <tr> <th style="border-bottom: 1px solid black;">Grouping</th> <th style="border-bottom: 1px solid black;">Employee</th> <th style="border-bottom: 1px solid black;">Two-Party</th> </tr> </thead> <tbody> <tr> <td>Pre-Medicare Plans</td> <td>\$ 7,738.00</td> <td>\$ 15,476.00</td> </tr> <tr> <td>Medicare Plans</td> <td>3,989.00</td> <td>7,978.00</td> </tr> </tbody> </table>	Grouping	Employee	Two-Party	Pre-Medicare Plans	\$ 7,738.00	\$ 15,476.00	Medicare Plans	3,989.00	7,978.00
Grouping	Employee	Two-Party								
Pre-Medicare Plans	\$ 7,738.00	\$ 15,476.00								
Medicare Plans	3,989.00	7,978.00								

**Trend Rates** Medical Long-Term Trends from Society of Actuaries "Long Term Healthcare Cost Trends Model v2018\_c" using baseline assumptions. Applied to both

Year	Medical	
	Trend	PEMHCA Trend
2019	6.00%	3.00%
2020	5.50%	3.00%
2021	5.20%	3.00%
2022	5.20%	3.00%
2023	5.20%	3.00%
2024	5.19%	3.00%
2025	5.19%	3.00%
2026	5.19%	3.00%
2027-2074	...	...
2075+	3.84%	3.00%

This section includes a brief summary of GASB 75, as well as definitions of some of the key terminology used in this report.

### **About GASB 75**

*In General.* In June 2015 the Governmental Accounting Standards Board released GASB 75, “Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions”. GASB 75 replaced GASB 45 for fiscal years beginning after June 15, 2017, for employers that sponsor OPEB plans. The provisions in GASB 75 are similar to the provisions of GASB 68 for pensions.

*Accounting.* GASB 75 requires a liability known as the Net OPEB Liability (NOL). The employer recognizes the NOL on its balance sheet. The employer also recognizes an OPEB expense in the income statement. GASB 45 recorded the Unfunded Accrued Actuarial Liability (UAAL) in the notes to the financial statement, whereas GASB 75 records the NOL, which is very similar to the UAAL with just a few technical differences, on the balance sheet.

*Financial Statement Impact (Employers).* One of the biggest changes to the financial statements of governmental employers that provide OPEB is the reporting of the OPEB liability on the face of the statements rather than in the footnotes. Governments that do not provide OPEB through a trust are required to recognize the entire OPEB liability in the financial statements. For governments that provide OPEB through an OPEB plan that is administered through a trust, the government’s OPEB liability is recognized net of the amount of the OPEB plan’s fiduciary net position.

*Changes to the Measurement of the Total OPEB Liability.* Measurement of the OPEB liability includes discounting future benefit payments for current and former employees and their beneficiaries to their present value and allocating the present value over past and future periods of the employee service (total OPEB liability), less the amount of the OPEB plan’s fiduciary net position. The calculation continues to include employee-related events, such as projected salary increases and projected years of service, if they affect the amount of OPEB payments employees will receive, as well as provisions for automatic cost-of-living adjustments (COLAs) and other automatic benefits. Additionally, ad hoc COLAs and other ad hoc benefit changes, which are made at the discretion of the government, are included in projections as well, if they routinely recur.

GASB 75 requires governments to discount projected OPEB payments to their present value. Under the new standard, governments discount the projected OPEB payments to be made in each year and the amount of plan assets (if a government administers the OPEB through a trust) available for providing those benefits to current active and inactive employees and their beneficiaries. Similar to the pension standards, the discount rate used is based on whether the plan assets are projected to be sufficient to make future payments. If the plan assets are sufficient, governments discount future payments using the long-term expected rate of return. If projected plan assets are insufficient to make all future payments to current and inactive employees and their beneficiaries, or if there are no plan assets held in trust, the discount rate is based on a high-quality 20-year tax-exempt general obligation municipal bond yield or index rate. “High-quality” is defined as being rated AA or higher (or an equivalent rating).

*Cost Method.* The Entry Age Normal Cost method must be used.

### About GASB 75 (continued)

Factors that affect a government's OPEB liability, such as actual earnings on plan investments when the OPEB plan is administered as a trust, employee compensation changes, interest on the outstanding OPEB liability, contributions from employees and employers, and actual demographic and economic changes that are not in line with assumptions made in the actuarial calculations, are considered when determining the government's OPEB expense. A government's annual OPEB expense is calculated with consideration for factors affecting the OPEB liability within the reporting period. Several causes of changes in OPEB liability are immediately factored into the calculation of OPEB expense for the period, such as benefits earned each year, interest on the total OPEB liability, changes in benefit terms, and projected earnings on plan investments, if administered through a trust.

Governments are required to recognize deferred outflows of resources or deferred inflows of resources and then introduce into the expense calculation, systematically and rationally over the average remaining years of employment (active employees and inactive employees, including retirees), the effect on the total OPEB liability of differences between assumptions and actual experience.



### Key Terminology

<b>Actuarially Determined Contribution</b>	A target or recommended contribution to a defined benefit OPEB plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.
<b>Actuarial Present Value of Projected Benefit Payments</b>	Projected benefit payments discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment.
<b>Agent Employer</b>	An employer whose employees are provided with OPEB through an agent multiple-employer defined-benefit OPEB plan.
<b>Closed Period</b>	A specific number of years that is counted from one date, which declines to zero with the passage of time. For example, if the recognition period initially is five years on a closed basis, four years remain after the first year, three years after the second year, and so forth until no years remain.
<b>Contributions</b>	Additions to an OPEB plan's fiduciary net position for amounts from employers, non-employer contributing entities, or employees.
<b>Dates and Periods</b>	
• <b>Census Date</b>	The date of the census. It is usually the same as the <b>Valuation Date</b> .
• <b>Measurement Date</b>	The date on which assets are measured. The liabilities are rolled forward to this date from the <b>Valuation Date</b> , should it differ, using actuarial roll-forward techniques.
• <b>Measurement Period</b>	The year ending on the <b>Measurement Date</b> .
• <b>Report Date</b>	The date on which the amounts are reported in the financial statements. It is the same as the fiscal year-end. It may be up to one year ahead of the Measurement Date, with no roll-forward of liabilities or assets required.
• <b>Reporting Period</b>	The year ending on the <b>Report Date</b> . It is the same as the fiscal year.
• <b>Valuation Date</b>	The date on which the liabilities are valued.
<b>Deferred Inflows and Outflows of Resources</b>	The portion of the changes in the <b>Net OPEB Liability</b> that are not recognized in the current pension expense and are recognized in later periods. The changes deferred include differences between expected and actual experience, changes in assumptions, and differences between expected and actual earnings on OPEB plan investments.

### Key Terminology (continued)

<b>Defined-Benefit OPEB</b>	OPEB for which the benefits that the employee will receive at or after separation from employment are defined by the benefit terms. The OPEB may be stated as (a) a specified dollar amount (b) an amount that is calculated based on one or more factors such as age, years of service, and compensation, or (c) a type or level of coverage such as prescription drug coverage or a percentage of health insurance premiums. OPEB that does not have all of the terms of defined contribution OPEB is classified as defined-benefit OPEB.
<b>Discount Rate</b>	The single rate of return that reflects the following: <ul style="list-style-type: none"> <li>a. The long-term expected rate of return on OPEB plan investments that are expected to be used to finance the payment of benefits, to the extent that (1) the OPEB plan's fiduciary net position is projected to be sufficient to make projected benefit payments, and (2) OPEB plan assets are expected to be invested using a strategy to achieve that return.</li> <li>b. A yield or index rate for 20-year, tax-exempt general-obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another scale), to the extent that the conditions in (a) are not met.</li> </ul>
<b>Fiduciary Net Position</b>	The market value of assets as of the <b>Measurement Date</b> .
<b>Implicit Subsidy</b>	The implicit subsidy arises when an employer allows a retiree and the retiree's dependents to continue on the plans for active employees, and pay the active-employee premiums. Retirees are not paying the true cost of their benefits because they have higher costs than active employees, and therefore are partially subsidized by the active employees. Once a retiree reaches Medicare eligibility, the rates are set for Medicare retirees separately, and are set to be sufficient to cover the true costs of the Medicare retirees. Thus, there is no implicit subsidy for Medicare retirees.
<b>Net OPEB Liability</b>	The <b>Total OPEB Liability</b> minus the <b>Fiduciary Net Position</b> .
<b>Normal Cost</b>	See <b>Service Cost</b> .
<b>Other Postemployment Benefits (OPEB)</b>	Benefits (such as death benefits, life insurance, disability, and long-term care) that are paid in the period after employment and that are provided separately from a pension plan, as well as healthcare benefits paid in the period after employment, regardless of the manner in which they are provided. OPEB does not include termination benefits or termination payment for sick leave.
<b>Projected Benefit Payments</b>	All benefits estimated to be payable through OPEB plan to current active and inactive employees as a result of their past service and their expected future service.

### Key Terminology (continued)

<b>Service Cost</b>	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years. Also called <b>Normal Cost</b> .
<b>Substantive Plan</b>	The plan terms as understood by the employer and the plan members at the time of the valuation, including only changes to plan terms that have been made and communicated to employees.
<b>Total OPEB Liability</b>	The liability of employers and non-employer contributing entities to employees for benefits provided through a defined-benefit OPEB plan that is administered through a trust that meets the criteria in paragraph 4 of GASB 75.

# Appendix

## Decrement Tables

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The valuation used the following decrement tables from the CalPERS OPEB Assumption Model, revised May 14, 2018:

<b>Mortality</b>	<b><u>Source Table</u></b>
Miscellaneous Employees	Mort and Disb Rates_PA Misc
<b>Disability Rates</b>	
Miscellaneous Employees	Mort and Disb Rates_PA Misc
<b>Terminated Refund Rates</b>	
Miscellaneous Employees	Terminated Refund Rates_Misc
<b>Terminated Vested Rates</b>	
Miscellaneous Employees	Terminated Vested Rates_PA Misc
<b>Salary Scale Rates</b>	
Miscellaneous Employees	Salary Scale Rates_PA Misc
<b>Service Retirement Rates</b>	
Miscellaneous Employees	
• 2.0% at 55	Rx PA Misc 2% @ 55
• 2.0% at 60	Rx PA Misc 2% @ 60
• 2.0% at 62	Rx PA Misc 2% @ 62
• 2.7% at 55	Rx PA Misc 2.7% @ 55

## Appendix

### Sample Mortality and Disability Rates

Attained Age	Public Agency Miscellaneous													
	Pre-Retirement Mortality				Post-Retirement Mortality						Disability			
	Male Assumptions		Female Assumptions		Male Assumptions			Female Assumptions			Male Assumptions		Female Assumptions	
	Non Industrial Death	Industrial Death	Non Industrial Death	Industrial Death	Healthy Recipients	Non Industrially Disabled	Industrially Disabled	Healthy Recipients	Non Industrially Disabled	Industrially Disabled	Non Industrial Disability	Industrial Disability	Non Industrial Disability	Industrial Disability
1	0.00000	0.00000	0.00000	0.00000	0.00016	0.00016	0.00003	0.00003	0.00003	0.00003	0.00000	0.00000	0.00000	0.00000
5	0.00000	0.00000	0.00000	0.00000	0.00016	0.00016	0.00003	0.00003	0.00003	0.00003	0.00000	0.00000	0.00000	0.00000
10	0.00000	0.00000	0.00000	0.00000	0.00016	0.00016	0.00003	0.00003	0.00003	0.00003	0.00000	0.00000	0.00000	0.00000
15	0.00016	0.00000	0.00003	0.00000	0.00016	0.00016	0.00003	0.00003	0.00003	0.00003	0.00017	0.00000	0.00010	0.00000
20	0.00022	0.00000	0.00007	0.00000	0.00022	0.00022	0.00004	0.00007	0.00007	0.00007	0.00017	0.00000	0.00010	0.00000
25	0.00029	0.00000	0.00011	0.00000	0.00029	0.00029	0.00006	0.00011	0.00011	0.00006	0.00017	0.00000	0.00010	0.00000
30	0.00038	0.00000	0.00016	0.00000	0.00038	0.00038	0.00007	0.00016	0.00016	0.00007	0.00019	0.00000	0.00024	0.00000
35	0.00049	0.00000	0.00027	0.00000	0.00049	0.00049	0.00009	0.00027	0.00027	0.00009	0.00039	0.00000	0.00071	0.00000
40	0.00064	0.00000	0.00037	0.00000	0.00064	0.00064	0.00010	0.00037	0.00037	0.00010	0.00102	0.00000	0.00135	0.00000
45	0.00080	0.00000	0.00054	0.00000	0.00080	0.00080	0.00012	0.00054	0.00054	0.00012	0.00151	0.00000	0.00188	0.00000
50	0.00116	0.00000	0.00079	0.00000	0.00372	0.01183	0.00372	0.00346	0.01083	0.00346	0.00158	0.00000	0.00199	0.00000
55	0.00172	0.00000	0.00120	0.00000	0.00437	0.01613	0.00437	0.00410	0.01178	0.00410	0.00158	0.00000	0.00149	0.00000
60	0.00255	0.00000	0.00166	0.00000	0.00671	0.02166	0.00671	0.00476	0.01404	0.00476	0.00153	0.00000	0.00105	0.00000
65	0.00363	0.00000	0.00233	0.00000	0.00928	0.02733	0.01113	0.00637	0.01757	0.00765	0.00128	0.00000	0.00088	0.00000
70	0.00623	0.00000	0.00388	0.00000	0.01339	0.03358	0.01607	0.00926	0.02184	0.01112	0.00102	0.00000	0.00084	0.00000
75	0.01057	0.00000	0.00623	0.00000	0.02316	0.04277	0.02779	0.01635	0.02969	0.01962	0.00102	0.00000	0.00088	0.00000
80	0.01659	0.00000	0.00939	0.00000	0.03977	0.06272	0.04773	0.03007	0.04641	0.03609	0.00102	0.00000	0.00088	0.00000
85	0.00000	0.00000	0.00000	0.00000	0.07122	0.09793	0.08547	0.05418	0.07847	0.06501	0.00000	0.00000	0.00000	0.00000
90	0.00000	0.00000	0.00000	0.00000	0.13044	0.14616	0.14348	0.10089	0.13220	0.11098	0.00000	0.00000	0.00000	0.00000
95	0.00000	0.00000	0.00000	0.00000	0.21658	0.21658	0.21658	0.17698	0.21015	0.17698	0.00000	0.00000	0.00000	0.00000
100	0.00000	0.00000	0.00000	0.00000	0.32222	0.32222	0.32222	0.28151	0.32226	0.28151	0.00000	0.00000	0.00000	0.00000
105	0.00000	0.00000	0.00000	0.00000	0.46691	0.46691	0.46691	0.43491	0.43491	0.43491	0.00000	0.00000	0.00000	0.00000
110	0.00000	0.00000	0.00000	0.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.00000	0.00000	0.00000	0.00000
115	0.00000	0.00000	0.00000	0.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.00000	0.00000	0.00000	0.00000
120	0.00000	0.00000	0.00000	0.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	0.00000	0.00000	0.00000	0.00000

**Notes:**

- 1) Pre-Retirement and Post-Retirement mortality rates include 20 years of projected on-going mortality improvement using Scale BB published by the Society of Actuaries.
- 2) Miscellaneous Plans usually have Industrial Death rates set to zero unless the agency has specifically contracted for Industrial Death benefits. If so, each Non-Industrial Death rate shown above will be split into two components: 99% will become the Non-Industrial Death rate and 1% will become the Industrial Death rate.
- 3) The Miscellaneous Non-Industrial Disability rates are used for Local Prosecutors.
- 4) Normally, Industrial Disability rates are zero for miscellaneous plans unless the agency has specifically contracted for Industrial Disability benefits. If so, each miscellaneous non-industrial disability rate will be split into two components: 50% will become the Non-Industrial Disability rate and 50% will become the Industrial Disability rate.

# Appendix

## Sample Termination Rates

		Sample Terminated Refund Rates Public Agency Miscellaneous									
Entry Ages											
Service		15	20	25	30	35	40	45	50	55	59
0		0.18120	0.17420	0.16740	0.16060	0.15370	0.14680	0.14000	0.13320	0.12620	0.12080
5		0.02320	0.02120	0.01930	0.01740	0.01550	0.01360	0.01160	0.00970	0.00780	0.00620
10		0.01550	0.01380	0.01210	0.01040	0.00880	0.00710	0.00550	0.00380	0.00210	0.00080
15		0.00700	0.00600	0.00510	0.00420	0.00320	0.00230	0.00140	0.00040	0.00020	0.00020
20		0.00450	0.00370	0.00290	0.00210	0.00130	0.00050	0.00010	0.00010	0.00010	0.00010
25		0.00240	0.00170	0.00110	0.00050	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010
30		0.00110	0.00050	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00000	0.00000
35		0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00000	0.00000	0.00000
40		0.00010	0.00010	0.00010	0.00010	0.00010	0.00010	0.00000	0.00000	0.00000	0.00000
45		0.00010	0.00010	0.00010	0.00010	0.00010	0.00000	0.00000	0.00000	0.00000	0.00000
50		0.00010	0.00010	0.00010	0.00010	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

		Sample Terminated Vested Rates Public Agency Miscellaneous									
Entry Ages											
Service		15	20	25	30	35	40	45	50	55	59
0		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
5		0.07140	0.06560	0.05970	0.05370	0.04770	0.04180	0.00000	0.00000	0.00000	0.00000
10		0.05940	0.05300	0.04660	0.04030	0.03390	0.00000	0.00000	0.00000	0.00000	0.00000
15		0.05110	0.04430	0.03730	0.03050	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
20		0.04050	0.03330	0.02610	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
25		0.02880	0.02120	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
30		0.01500	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
35		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
40		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
45		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
50		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

When a member is eligible to retire, the termination with vested benefits probability is set to zero

# Appendix

## Sample Salary Scale Rates

Service	Entry Ages										Public Agency Miscellaneous			
	15	20	25	30	35	40	45	50	55	60	65	70	75	79
0	0.1220	0.1220	0.1220	0.1160	0.1090	0.1020	0.0950	0.0950	0.0950	0.0950	0.0950	0.0950	0.0950	0.0950
5	0.0640	0.0640	0.0640	0.0600	0.0550	0.0520	0.0480	0.0480	0.0480	0.0480	0.0480	0.0480	0.0480	0.0480
10	0.0460	0.0460	0.0460	0.0430	0.0410	0.0390	0.0370	0.0370	0.0370	0.0370	0.0370	0.0370	0.0370	0.0370
15	0.0420	0.0420	0.0420	0.0400	0.0380	0.0360	0.0340	0.0340	0.0340	0.0340	0.0340	0.0340	0.0340	0.0340
20	0.0390	0.0390	0.0390	0.0380	0.0360	0.0340	0.0330	0.0330	0.0330	0.0330	0.0330	0.0330	0.0330	0.0330
25	0.0370	0.0370	0.0370	0.0360	0.0340	0.0330	0.0310	0.0310	0.0310	0.0310	0.0310	0.0310	0.0310	0.0310
30	0.0350	0.0350	0.0350	0.0340	0.0330	0.0320	0.0300	0.0300	0.0300	0.0300	0.0300	0.0300	0.0300	0.0300
35	0.0350	0.0350	0.0350	0.0340	0.0330	0.0320	0.0300	0.0300	0.0300	0.0300	0.0300	0.0300	0.0300	0.0300
40	0.0350	0.0350	0.0350	0.0340	0.0330	0.0320	0.0300	0.0300	0.0300	0.0300	0.0300	0.0300	0.0300	0.0300
45	0.0350	0.0350	0.0350	0.0340	0.0330	0.0320	0.0300	0.0300	0.0300	0.0300	0.0300	0.0300	0.0300	0.0300
50	0.0350	0.0350	0.0350	0.0340	0.0330	0.0320	0.0300	0.0300	0.0300	0.0300	0.0300	0.0300	0.0300	0.0300

# Appendix

## Matrix of Sample Service Retirement Assumption Rates

Service	Attained Ages				Public Agency Miscellaneous 2% @ 55			
	50	55	60	65	70	75	79	
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
5	0.0080	0.0400	0.0580	0.1450	0.1500	1.0000	1.0000	
10	0.0130	0.0400	0.0750	0.1730	0.1710	1.0000	1.0000	
15	0.0180	0.0560	0.0930	0.2010	0.1920	1.0000	1.0000	
20	0.0210	0.0930	0.1260	0.2330	0.2390	1.0000	1.0000	
25	0.0220	0.1090	0.1430	0.2660	0.3040	1.0000	1.0000	
30	0.0330	0.1540	0.1690	0.2890	0.3300	1.0000	1.0000	
35	0.0500	0.2100	0.2070	0.3160	0.3300	1.0000	1.0000	
40	0.0000	0.2400	0.2800	0.3300	0.3300	1.0000	1.0000	
45	0.0000	0.0000	0.2800	0.3300	0.3300	1.0000	1.0000	
50	0.0000	0.0000	0.0000	0.3300	0.3300	1.0000	1.0000	

Service	Attained Ages				Public Agency Miscellaneous 2% @ 60			
	50	55	60	65	70	75	79	
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
5	0.0200	0.0190	0.0700	0.1400	0.1400	1.0000	1.0000	
10	0.0200	0.0260	0.0740	0.1780	0.1780	1.0000	1.0000	
15	0.0200	0.0330	0.0890	0.2150	0.2150	1.0000	1.0000	
20	0.0200	0.0920	0.1130	0.2640	0.2640	1.0000	1.0000	
25	0.0200	0.1360	0.1370	0.3210	0.3210	1.0000	1.0000	
30	0.1500	0.1460	0.1610	0.3770	0.3770	1.0000	1.0000	
35	0.1500	0.1500	0.2460	0.4120	0.4120	1.0000	1.0000	
40	0.0000	0.1500	0.2960	0.4200	0.4200	1.0000	1.0000	
45	0.0000	0.0000	0.2960	0.4200	0.4200	1.0000	1.0000	
50	0.0000	0.0000	0.0000	0.4200	0.4200	1.0000	1.0000	



# Appendix

## Matrix of Sample Service Retirement Assumption Rates

Service	Attained Ages				Public Agency Miscellaneous 2% @ 62			
	50	55	60	65	70	75	79	
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
5	0.0000	0.0100	0.0310	0.1080	0.1200	1.0000	1.0000	
10	0.0000	0.0190	0.0510	0.1410	0.1560	1.0000	1.0000	
15	0.0000	0.0280	0.0710	0.1730	0.1930	1.0000	1.0000	
20	0.0000	0.0360	0.0910	0.2060	0.2290	1.0000	1.0000	
25	0.0000	0.0610	0.1110	0.2390	0.2650	1.0000	1.0000	
30	0.0000	0.0960	0.1380	0.3000	0.3330	1.0000	1.0000	
35	0.0000	0.1520	0.1830	0.3480	0.3870	1.0000	1.0000	
40	0.0000	0.1800	0.2040	0.3600	0.4000	1.0000	1.0000	
45	0.0000	0.0000	0.2040	0.3600	0.4000	1.0000	1.0000	
50	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	

Service	Attained Ages				Public Agency Miscellaneous 2.7% @ 55			
	50	55	60	65	70	75	79	
0	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	
5	0.00300	0.03300	0.06000	0.14000	0.15000	1.00000	1.00000	
10	0.01000	0.05500	0.08600	0.17400	0.18100	1.00000	1.00000	
15	0.01600	0.07800	0.11200	0.20800	0.21200	1.00000	1.00000	
20	0.03400	0.11300	0.15000	0.25400	0.24300	1.00000	1.00000	
25	0.03300	0.15600	0.18200	0.30600	0.29100	1.00000	1.00000	
30	0.04500	0.23400	0.23800	0.38900	0.35000	1.00000	1.00000	
35	0.12000	0.36100	0.30200	0.42200	0.39000	1.00000	1.00000	
40	0.00000	0.42500	0.33000	0.42200	0.40000	1.00000	1.00000	
45	0.00000	0.00000	0.33000	0.42200	0.40000	1.00000	1.00000	
50	0.00000	0.00000	0.00000	0.42200	0.40000	1.00000	1.00000	