

2018 OPEB Valuation

Results and Assumptions Review

Montgomery County Government
October 2018



Prepared by
Consulting | Retirement and Investment

AON
Empower Results®

Results

- 2018 Actuarial Valuation is used for several purposes by the County
 - Determine expense and liability to be reported as part of the fiscal 2019 CAFR
 - Determine contributions to be directed to the OPEB Trust under the County's OPEB funding policy for fiscal years 2020 and 2021
 - Provide information to be used to set long term projections of OPEB Trust contributions by the County



Executive Summary

- Favorable experience for the County:
 - Underlying medical claims increased by less than projected
 - Asset returns exceeded 7.50% benchmark
 - Municipal bond yields (used for accounting purposes) rose



Results – Trust Contributions for FYE 2019 ('000's)

- Trust Contribution based on net of projected ARC over annual retiree costs for medical and Rx claims
- 2019 Fiscal Year calculated in 2016:
 - Total Budgeted Payments
 - Medical claims and costs: \$66,110
 - Trust Contribution: \$50,627¹
 - Total: \$116,737¹

¹ Includes the impact of phasing in the impact of a mortality assumption change over 5 years



Results – Trust Contributions for FYE 2020 and FYE 2021 ('000's)

	Fiscal 2018 ¹	Fiscal 2019 ¹	Projected Fiscal 2020 ²	Projected Fiscal 2021 ²
Actuarial Liability	\$1,476,319	\$1,576,222	\$1,484,621	\$1,581,025
Assets ³	<u>410,865</u>	<u>501,705</u>	<u>581,476</u>	<u>666,860</u>
Unfunded Liability (UAL)	1,065,454	1,074,517	903,145	914,165
ARC				
Administrative Expenses	170	175	294	303
Normal Cost	47,399	50,954	49,636	53,359
Amortization of UAL	54,228	57,106	48,568	51,076
Interest	<u>8,196</u>	<u>8,502</u>	<u>7,668</u>	<u>7,996</u>
Annual Required Contribution (ARC)	109,993	116,737	106,166	112,734
Explicit Employer Subsidy ⁴	41,707	46,277	46,113	50,840
Implicit Employer Subsidy ⁴	<u>17,874</u>	<u>19,833</u>	<u>19,763</u>	<u>21,789</u>
Trust Contribution ⁵	\$50,412	\$50,627	\$40,290	\$40,105

¹ Shown for historical trend purposes. Based on 2016 actuarial valuation.

² Based on 2018 actuarial valuation.

³ Assets expected to grow at 7.50% per year and assumes expected trust contributions made mid-year

⁴ Reflect the expected payments on behalf of current retirees (and employees expected to retire in the year) based on the premium equivalent rates developed by the County. Medicare Rx subsidy proceeds are expected to be used by the County to offset pay-go costs.

⁵ Budgeted County Trust contribution (includes 5 year mortality change phase in).

Reconciliation of results – Actual vs. Expected - County

Fiscal 2020 Results ('000's)			
	AAL	Assets	Trust Contributions
Expected Fiscal 2020 Results¹	\$1,680,670	\$583,485	\$51,170
Factors Contributing to Difference:			
Investment Return Gain/(Loss) ²	0	18,522	(1,093)
Contribution Difference Gain/(Loss) ³	0	(20,531)	1,339
New Demographics and Experience	(50,244)	0	(2,537)
New Claims and Trends	(96,933)	0	(3,483)
New Mortality Assumption	<u>(48,872)</u>	<u>0</u>	<u>(5,106)</u>
Total	(\$196,049)	(\$2,009)	(\$10,880)
Actual Fiscal 2020 Results	\$1,484,621	\$581,476	\$40,290

¹ Expected results based on the 07/01/2016 Valuation actuarially projected to 07/01/2019 i.e., results

(a) assume no change in the population or assumptions from the 2016 Valuation

(b) reflect the expected increase in GASB OPEB costs due to employees accruing two additional years of service

(c) also reflect the expected increase in costs because future benefits are now two years closer to being paid.

(d) expected trust contribution reflects the expected assets at 07/01/2019 assuming contributions were made according to the schedule and assets earned a return equal to 7.5%.

² Based on actual assets as of 7/1/2018 as provided by the County and assumes contributions made to the trust based on plan's funding policy

³ Based on actual contributions as of 7/1/2018 as provided by the County and assumes contributions made to the trust based on plan's funding policy

6-Year Projection – Allocation of Additional Contributions for Participating Agencies

Fiscal Year	2019	2020	2021	2022	2023	2024	2025
Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
Entity	Full Funding	Full Funding	Full Funding	Full Funding	Full Funding	Full Funding	Full Funding
COUNTY: PUBLIC-SAFETY	\$24,308	\$19,818	\$19,807	\$19,705	\$18,175	\$17,079	\$16,200
COUNTY: NON PUBLIC-SAFETY	24,893	19,251	19,102	18,882	17,550	16,921	16,378
ASSESSMENT AND TAXATION	0	0	0	0	0	0	0
CREDIT UNION	33	103	101	100	94	91	89
HOUSING OPPORTUNITIES COMM	1,112	805	788	771	704	672	644
REVENUE AUTHORITY	155	135	132	129	117	111	106
STRATHMORE HALL	75	162	160	157	150	147	144
VILLAGE OF FRIENDSHIP HEIGHTS	51	8	7	7	6	5	4
WASHINGTON SUBURBAN T C	<u>0</u>	<u>8</u>	<u>8</u>	<u>8</u>	<u>8</u>	<u>7</u>	<u>7</u>
Total	50,627	40,290	40,105	39,759	36,804	35,033	33,572

- Shown in \$ thousands
- The above additional contributions represent contributions over and above pay-go contributions and implicit subsidy contributions. The ARC is assumed to be fully funded – that is, pay-go contributions + implicit subsidy contributions + additional contributions = ARC
- Projections based on current funding policy including 5 year phase in of mortality change
- Allocations by participating agencies are determined based on the headcount population from each agency who are enrolled if participants are no longer employed by the county or expected to enroll in future retiree medical coverage if currently employed by the county

6-Year Projection – Future Fiscal Impact of Additional Contributions for Outside Agencies

Fiscal Year	2019	2020	2021	2022	2023	2024	2025
Discount Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%
Agency	Full Funding	Full Funding	Full Funding	Full Funding	Full Funding	Full Funding	Full Funding
Montgomery County ¹	\$50,627	\$40,290	\$40,105	\$39,759	\$36,804	\$35,033	\$33,572
MCPS ¹	\$79,405	\$69,533	\$70,993	\$71,180	\$66,249	\$60,516	\$53,887
Montgomery College ¹	\$2,845	\$5,391	\$5,523	\$5,608	\$5,429	\$5,310	\$5,172
M-NCPPC (MCG portion - 45%) ¹	<u>\$1,137</u>	<u>\$702</u>	<u>\$749</u>	<u>\$780</u>	<u>\$796</u>	<u>\$813</u>	<u>\$830</u>
Subtotal - Tax Supported Agencies	\$134,014	\$115,916	\$117,370	\$117,327	\$109,278	\$101,672	\$93,461
WSSC	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
Total	\$134,014	\$115,916	\$117,370	\$117,327	\$109,278	\$101,672	\$93,461

- Shown in \$ thousands
- The above additional contributions represent contributions over and above pay-go contributions and implicit subsidy contributions. The ARC is assumed to be fully funded – that is, pay-go contributions + implicit subsidy contributions + additional contributions = ARC

¹ The contributions reflect total additional contributions updated based on the FY2019 proposed budget projection. Actual FY2019 budgeted contributions have been provided by the County. Projections based on current funding policy including 5 year phase in of mortality change.

GASB 74 Accounting – 2018 Fiscal Year

- Plan level accounting
- Measurement Date: End of fiscal year (June 30, 2018)
- Valuation Date: July 1, 2018
- Focus on liability and assets
 - Liability
 - Blended discount rate
 - Entry Age Normal method
 - Assets
 - Market value of plan assets



Results – FYE 2019 GASB 74 Information

Changes in the Net OPEB Liability and Related Ratios¹

	Fiscal Year Ending 2017	Fiscal Year Ending 2018
Total OPEB Liability		
Service Cost	\$73,126,875	\$65,155,686
Interest Cost	\$116,270,504	\$117,685,710
Changes of Benefit Terms	0	0
Differences Between Expected and Actual Experiences	(\$22,113,781)	(\$1,877,264)
Changes of Assumptions	(\$261,363,550)	(\$268,604,422)
Medicare Part D Reimbursements	\$6,345,721	\$10,453,719
Benefit Payments	(\$63,284,352)	(\$60,773,387)
Net Change in Total OPEB Liability	(\$151,018,583)	(\$137,959,958)
Total OPEB Liability (Beginning)	\$2,112,121,031	\$1,961,102,448
Total OPEB Liability (Ending)	\$1,961,102,448	\$1,823,142,490
Plan Fiduciary Net Position		
Contributions—Employer	\$122,466,187	\$63,725,810
Net Investment Income ²	\$42,759,085	\$40,066,004
Medicare Part D Reimbursements	\$6,345,721	\$10,453,719
Benefit Payments	(\$63,284,352)	(\$60,773,387)
Administrative Expense	(\$4,292,538)	(\$276,553)
Other	\$0	\$0
Net Change in Plan Fiduciary Net Position	\$103,994,103	\$53,195,593
Plan Fiduciary Net Position (Beginning)	\$334,888,911	\$438,883,014
Plan Fiduciary Net Position (Ending)	\$438,883,014	\$492,078,607
Net OPEB Liability (Ending)	\$1,522,219,434	\$1,331,063,883
Net Position as a Percentage of OPEB Liability	22.38%	26.99%
Covered-Employee Payroll	\$750,986,381	\$766,111,522
Net OPEB Liability as a Percentage of Payroll	202.70%	173.74%

¹ GASB 74 was effective first for employer fiscal years beginning after June 15, 2016.

² Net Investment Income for Fiscal Year Ending 2019 includes investment management fees of \$2,514,212.

GASB 74 Accounting

- Blended Discount Rate

Measurement Date	Bond Rate	Long-Term Return	Blended Rate
6/30/2018	3.87%	7.50%	6.26%
6/30/2017	3.58%	7.50%	5.88%
6/30/2016	2.85%	7.50%	5.39%
6/30/2015	3.80%	7.50%	6.15%

Reconciliation of Results – Actual vs. Expected – County (\$ in thousands)

Results as of July 1, 2018		
Total OPEB Liability		
Expected July 1, 2018 Results ¹	\$2,093,624	
Factors Contributing to Difference:		
New Demographics and Experience	(1,877)	(0.1%)
New Claims	(159,717)	(7.7%)
New Trend	16,704	0.8%
New Mortality Assumption	(16,754)	(0.8%)
New Discount Rate	<u>(108,838)</u>	<u>(5.2%)</u>
Total	(\$270,482)	(12.9%)
Actual July 1, 2018 Results	<u>\$1,823,142</u>	

¹ Expected 2018 results based on the 07/01/2017 Valuation actuarially projected to 07/01/2018. i.e., results

- (a) assume no change in the population or assumptions from the 2017 Valuation
- (b) reflect the expected increase in GASB OPEB costs due to employees accruing one additional year of service
- (c) reflect the expected increase in costs because future benefits are now one years closer to being paid

GASB 75 Accounting – 2019 Fiscal Year

- Employer level accounting
- Focus on accounting expense
- Measurement date: Selected beginning of fiscal year (June 30, 2018)
- Expense
 - Blended discount rate
 - Entry Age Normal actuarial method
 - Amortization over future working life



GASB 75 – Amortization Method

- Liability changes being amortized
 - Average future working lifetime
 - 7.06-year period
 - Closed period
 - Level dollar amount
- Asset return changes being amortized
 - 5 year amortization
 - No smoothing
 - Level dollar amount



Results – GASB 75 Expense – FYE 2019

	Fiscal Year Ending 6/30/2018	Fiscal Year Ending 6/30/2019
Service Cost	\$73,126,875	\$65,155,686
Interest Cost	116,270,504	\$117,685,710
Expected Investment Return	(27,412,982)	(33,399,685)
Administrative Expenses	4,292,538	276,553
Plan Changes	0	0
Amortization of Unrecognized		
(a) Liability (Gain)/Loss	(2,898,267)	(3,164,168)
(b) Asset (Gain)/Loss	(3,069,221)	(4,402,485)
(c) Assumption Change (Gain)/Loss	(34,254,725)	(72,300,677)
Total Expense	\$126,054,722	\$69,850,934

Results – GASB 75 Expense – FYE 2019

	Deferred Outflows	Deferred Inflows
Difference Between Actual and Expected Experience	\$0	\$17,928,610
Net Difference Between Expected and Actual Earnings on OPEB Plan Investments	\$0	\$14,540,716
Assumption Changes	0	423,412,570
Sub total	0	455,881,896
Contributions Made in Fiscal Year Ending 6/30/2019 After Measurement Date	TBD	N/A
Total	TBD	455,881,896

Amortization of Deferred (Inflows)/Outflows

Date Established	Type of Base	Period Original	Period Remaining	Balance Original	Balance Remaining	Annual Payment
6/30/2018	Liability (Gain)/Loss	7.06	6.06	(1,877,264)	(1,611,363)	(265,901)
6/30/2018	Asset (Gain)/Loss	5.00	4.00	(6,666,319)	(5,333,055)	(1,333,264)
6/30/2018	Assumptions	7.06	6.06	(268,604,422)	(230,558,470)	(38,045,952)
6/30/2017	Liability (Gain)/Loss	7.63	5.63	(22,113,781)	(16,317,247)	(2,898,267)
6/30/2017	Asset (Gain)/Loss	5.00	3.00	(15,346,103)	(91,207,661)	(3,069,221)
6/30/2017	Assumptions	7.63	5.63	(261,363,550)	(192,854,100)	(34,254,725)
	Total Charges				(\$537,881,896)	(\$79,867,330)

Amounts Recognized in the deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in the OPEB expense as follows. Outflows are shown as positive while inflows are shown as negative.

Year End June 30:	
2020	(79,867,330)
2021	(79,867,330)
2022	(79,867,328)
2023	(76,798,108)
2024	(75,464,845)
Total Thereafter	(64,016,955)

GASB 75 Expense - MDE 2018

Net OPEB Liability by Participating Agencies

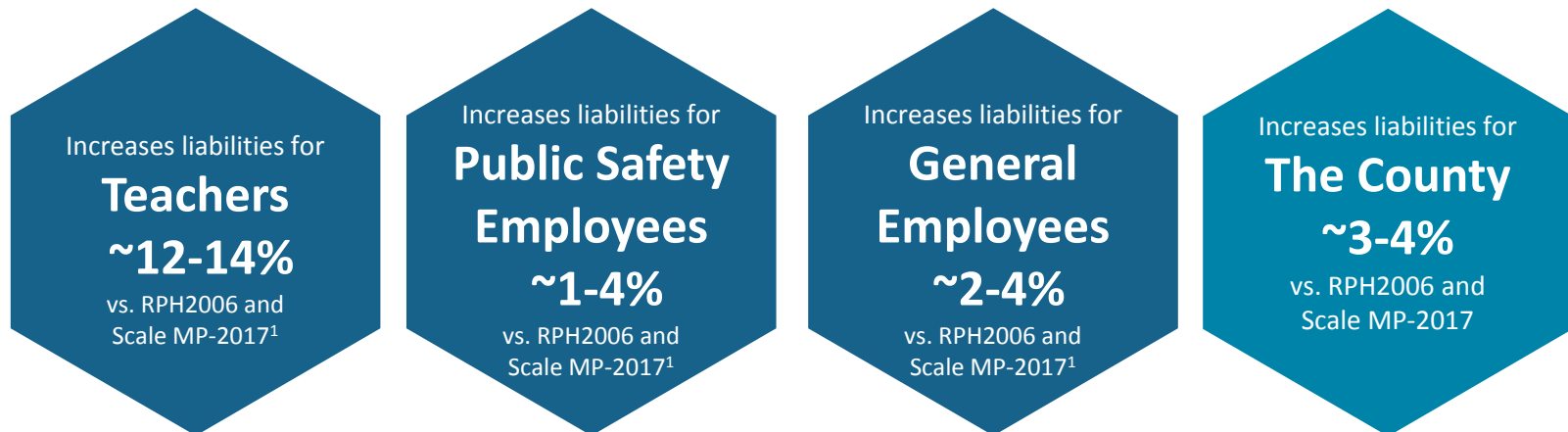
	Actuarially Determined Contribution (ADC) MDE 6/30/2018	Percentage of ADC by Agency	Net OPEB Liability* Funded Status 6/30/2018
Montgomery County Government	\$114,025	97.0642%	\$1,291,986
State Department of Assessment and Taxation	169	0.1442%	1,920
Montgomery County Employees Federal Credit Union	122	0.1037%	1,380
Housing Opportunities Commission of Montgomery County	2,450	2.0855%	27,759
Montgomery County Revenue Authority	411	0.3495%	4,652
Strathmore Hall Foundation, Inc.	240	0.2046%	2,724
Village of Friendship Heights	35	0.0297%	395
Washington Suburban Transit Commission	22	0.0186%	248
Total	\$117,474	100.0000%	\$1,331,064

Figures shown in thousands

*Net OPEB Liability allocated by participating agency is determined based on the proportion of each agency's actuarially determined contribution for the Measurement year ending June 30, 2018

SOA Issues Proposed Public Sector-Specific Mortality Tables

- On August 28, 2018 the Society of Actuaries (SOA) released an exposure draft of a new public sector mortality experience study (“Pub-2010”)
- First SOA mortality study focused on public pension plan mortality
- Study is based on the mortality experience of a large set of public pension systems in the United States during 2009-2013
- The proposed tables are broken out by job class and income/benefit level
- Study indicates that the Pub-2010 tables should generally be used with a projection of longevity improvements beyond the 2010 base year
 - Study uses a generational projection with the SOA’s Scale MP-2017, but alternative projection assumptions may also be reasonable



¹ Assumes benefits are paid as annuities, with a 7% discount rate and 2% post-commencement cost-of-living adjustments.

Assumptions Review – Funding



Key Assumptions Review – Funding – Demographic

Assumption	Actual Prior Valuation July 1, 2016	Actual July 1, 2018	Comments
Mortality – Funding	RP-2014 projected with scale MP-2015	RP-2014 projected with scale MP-2017	<ul style="list-style-type: none"> ▪ Update improvement scale to stay current ▪ Phased in over 5 years ▪ Note PUB2018
Retirement Rates	Group specific	No change	<ul style="list-style-type: none"> ▪ Updated in 2016 as part of ERS Experience Study ▪ See details in the appendix
Termination Rates	Group specific	No change	<ul style="list-style-type: none"> ▪ Updated in 2016 as part of ERS Experience Study ▪ See details in the appendix
Disability Rates	Group specific	No change	<ul style="list-style-type: none"> ▪ Updated in 2016 as part of ERS Experience Study ▪ See details in the appendix

Key Assumptions Review – Funding – Economic

Assumption	Actual Prior Valuation July 1, 2016	Actual July 1, 2018	Comments
Actuarial Method – Funding	Projected Unit Credit	Projected Unit Credit	
Discount Rate – Funding	7.50%	7.50%	<ul style="list-style-type: none"> Discount rate for funding purposes expected to stay the same
Expected Return on Plan Assets	7.50%	7.50%	<ul style="list-style-type: none"> Supported by investment team Wilshire study update
Salary Scale	Schedule by group and service	No change	<ul style="list-style-type: none"> Updated in 2016 as part of ERS Experience Study See details in the appendix
Medical, Prescription Drug, and Dental Trends	Rates varying by year and coverage	Rates varying by year and coverage	

Key Assumptions Review – Funding – Additional Assumptions

Assumption	Actual Prior Valuation July 1, 2016	Actual July 1, 2018	Comments
Funding Policy	Contributions equal to the employer normal cost plus a 30-year open level percent of pay amortization of the unfunded employer liability. 5 year phase-in of 2016 mortality table changes	No change	
Cost-Sharing	Schedule by service (see appendix)	No change	

Assumptions Review – Accounting



Key Assumptions Review – Accounting – Demographic

Assumption	Actual Prior Valuation July 1, 2017	Actual July 1, 2018	Comments
Mortality – Accounting	RP-2014 projected with scale MP-2016	RP-2014 projected with scale MP-2017	<ul style="list-style-type: none"> ▪ Update improvement scale to stay current ▪ Note PUB2018
Retirement Rates	Group specific	No Change	<ul style="list-style-type: none"> ▪ Updated in 2016 as part of ERS Experience Study
Termination Rates	Group specific	No Change	<ul style="list-style-type: none"> ▪ Updated in 2016 as part of ERS Experience Study
Disability Rates	Group specific	No Change	<ul style="list-style-type: none"> ▪ Updated in 2016 as part of ERS Experience Study

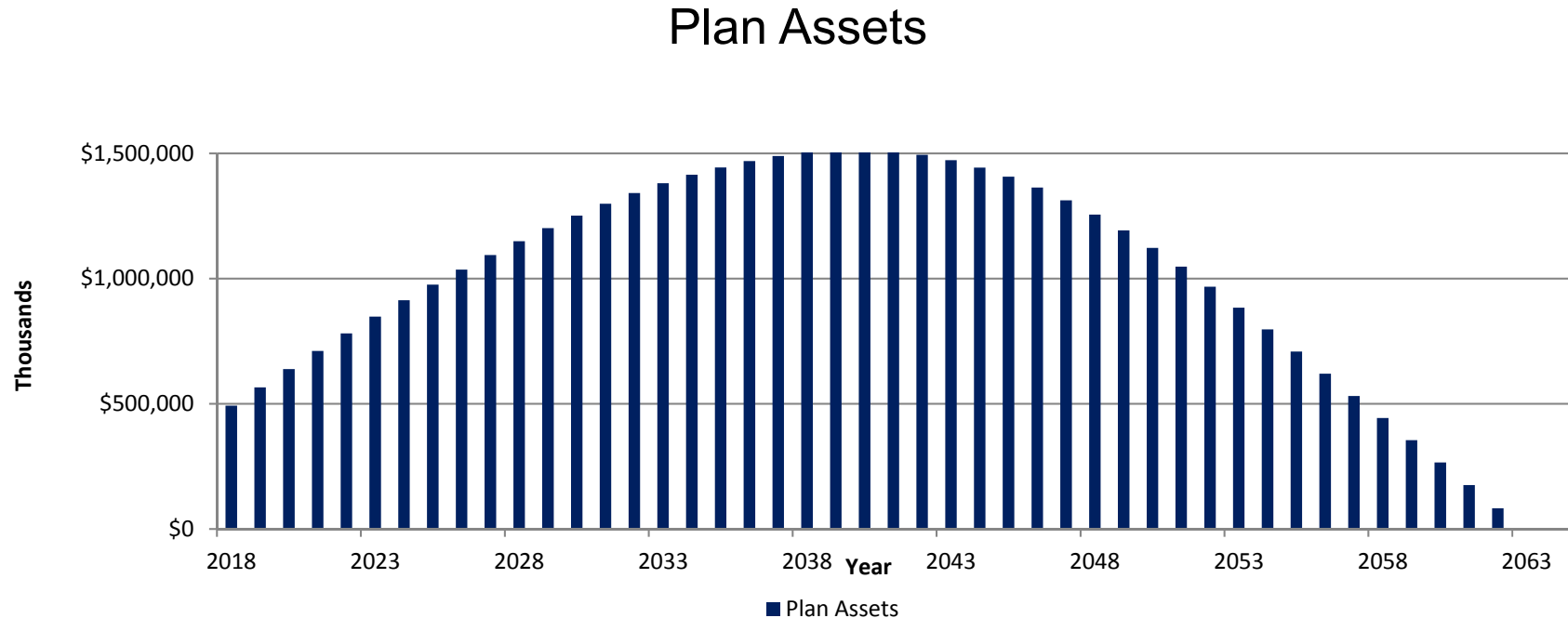
Key Assumptions Review – Accounting – Economic

Assumption	Actual Prior Valuation July 1, 2017	Actual July 1, 2018	Comments
Actuarial Method Accounting	Entry Age Normal	Entry Age Normal	<ul style="list-style-type: none"> Mandated by GASB accounting standards
Discount Rate Accounting	5.88% (Bond rate: 3.58%)	6.26% (Bond rate: 3.87%)	<ul style="list-style-type: none"> Blended rate as mandated by GASB accounting standards
Expected Return on Plan Assets	7.50%	7.50%	<ul style="list-style-type: none"> Supported by investment team Wilshire study update
Salary Scale	Schedule by group and service	No change	<ul style="list-style-type: none"> Updated in 2016 as part of ERS Experience Study
Medical, Prescription Drug, and Dental Trends	Rates varying by year and coverage	Rates varying by year and coverage	<ul style="list-style-type: none"> See appendix for rates used in the valuation

Key Assumptions Review – Accounting – Additional Assumptions

Assumption	Actual Prior Valuation July 1, 2017	Actual July 1, 2018	Comments
Funding Policy	Contributions equal to the employer normal cost plus a 30-year open level percent of pay amortization of the unfunded employer liability	No change	
Cost-Sharing	Schedule by service (see appendix)	No Change	

Blended Discount Rate Projection - (\$ in thousands)



- Projections based on current population only and current funding policy
- Plan assets expected to deplete in 2063
- Projection results in a discount rate of 6.26% for GASB purposes

Appendix Assumption Tables



Retirement Rates

Age	Groups A & H (Non-PS)		Group E and J			Group F		
	< 30 YoS	30+ YoS	< 25 YoS	25 YoS	> 25 YoS	< 25 YoS	25 YoS	> 25 YoS
<42	0.00%	0.00%	3.50%	3.50%	3.50%	2.50%	20.00%	2.50%
42	0.00%	0.00%	3.50%	3.50%	3.50%	2.50%	20.00%	2.50%
43	0.00%	0.00%	3.50%	3.50%	3.50%	2.50%	20.00%	2.50%
44	0.00%	0.00%	3.50%	3.50%	3.50%	2.50%	20.00%	2.50%
45	2.00%	2.00%	3.50%	8.00%	8.00%	2.50%	20.00%	2.50%
46	2.00%	2.00%	3.50%	8.00%	8.00%	3.50%	20.00%	3.50%
47	2.00%	2.00%	3.50%	8.00%	8.00%	4.50%	20.00%	4.50%
48	2.00%	2.00%	3.50%	8.00%	8.00%	5.50%	20.00%	5.50%
49	2.00%	2.00%	3.50%	8.00%	8.00%	6.50%	20.00%	6.50%
50	3.00%	15.00%	10.00%	10.00%	10.00%	10.00%	20.00%	20.00%
51	3.00%	15.00%	10.00%	10.00%	10.00%	10.00%	20.00%	20.00%
52	3.00%	15.00%	10.00%	12.00%	12.00%	10.00%	20.00%	20.00%
53	3.00%	15.00%	10.00%	12.00%	12.00%	15.00%	25.00%	25.00%
54	3.00%	15.00%	10.00%	12.00%	12.00%	15.00%	25.00%	25.00%
55	6.00%	15.00%	15.00%	30.00%	30.00%	15.00%	40.00%	40.00%
56	6.00%	15.00%	15.00%	30.00%	30.00%	15.00%	40.00%	40.00%
57	6.00%	15.00%	15.00%	30.00%	30.00%	15.00%	40.00%	40.00%
58	8.00%	15.00%	15.00%	30.00%	30.00%	15.00%	40.00%	40.00%
59	8.00%	15.00%	15.00%	30.00%	30.00%	15.00%	40.00%	40.00%
60	13.00%	18.00%	25.00%	50.00%	50.00%	25.00%	70.00%	70.00%
61	13.00%	18.00%	25.00%	50.00%	50.00%	25.00%	70.00%	70.00%
62	13.00%	18.00%	25.00%	50.00%	50.00%	25.00%	70.00%	70.00%
63	13.00%	18.00%	25.00%	50.00%	50.00%	25.00%	70.00%	70.00%
64	13.00%	18.00%	25.00%	50.00%	50.00%	25.00%	70.00%	70.00%
65	20.00%	25.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
66	20.00%	25.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
67	20.00%	25.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
68	20.00%	25.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
69	20.00%	25.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
70	40.00%	40.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
71	40.00%	40.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
72	40.00%	40.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
73	40.00%	40.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
74	40.00%	40.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
75	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Retirement Rates (cont.)

Age	Group G			GRIP	
	<20 or 21-24 YoS	20 YoS	25+ YoS	< 15 YoS	15+ YoS
<42	2.50%	10.00%	5.00%	0.00%	0.00%
42	5.00%	10.00%	5.00%	0.00%	0.00%
43	5.00%	10.00%	5.00%	0.00%	0.00%
44	5.00%	10.00%	5.00%	0.00%	0.00%
45	7.50%	10.00%	10.00%	0.00%	0.00%
46	7.50%	10.00%	10.00%	0.00%	0.00%
47	7.50%	10.00%	10.00%	0.00%	0.00%
48	7.50%	10.00%	10.00%	0.00%	0.00%
49	7.50%	10.00%	10.00%	0.00%	0.00%
50	10.00%	15.00%	17.50%	0.00%	0.00%
51	10.00%	15.00%	17.50%	0.00%	0.00%
52	12.50%	20.00%	25.00%	0.00%	0.00%
53	12.50%	20.00%	25.00%	0.00%	0.00%
54	12.50%	20.00%	25.00%	0.00%	0.00%
55	20.00%	40.00%	35.00%	3.00%	3.00%
56	20.00%	40.00%	35.00%	3.00%	3.00%
57	20.00%	40.00%	35.00%	6.00%	6.00%
58	20.00%	40.00%	35.00%	6.00%	6.00%
59	20.00%	40.00%	35.00%	6.00%	6.00%
60	40.00%	40.00%	40.00%	6.00%	10.00%
61	40.00%	40.00%	40.00%	6.00%	10.00%
62	40.00%	40.00%	40.00%	8.00%	25.00%
63	40.00%	40.00%	40.00%	8.00%	25.00%
64	40.00%	40.00%	40.00%	8.00%	25.00%
65	100.00%	100.00%	100.00%	20.00%	30.00%
66	100.00%	100.00%	100.00%	20.00%	30.00%
67	100.00%	100.00%	100.00%	20.00%	30.00%
68	100.00%	100.00%	100.00%	20.00%	30.00%
69	100.00%	100.00%	100.00%	20.00%	30.00%
70	100.00%	100.00%	100.00%	50.00%	50.00%
71	100.00%	100.00%	100.00%	50.00%	50.00%
72	100.00%	100.00%	100.00%	50.00%	50.00%
73	100.00%	100.00%	100.00%	50.00%	50.00%
74	100.00%	100.00%	100.00%	50.00%	50.00%
75	100.00%	100.00%	100.00%	100.00%	100.00%

Termination Rates

Service	Group A, H, and GRIP		Group E and J		Group F & G	
	Male	Female	Male	Female	Male	Female
0	11.50%	12.50%	12.00%	15.00%	6.00%	9.00%
1	9.50%	10.50%	10.00%	12.00%	5.00%	7.00%
2	8.00%	9.50%	6.00%	7.00%	4.00%	5.00%
3	6.00%	6.50%	5.00%	6.50%	3.00%	4.50%
4	4.50%	4.50%	4.00%	4.00%	2.50%	3.50%
5	4.00%	4.25%	3.90%	3.90%	2.25%	3.00%
6	4.00%	4.25%	3.80%	3.80%	2.00%	2.75%
7	4.00%	4.25%	3.70%	3.70%	1.75%	2.50%
8	4.00%	4.25%	3.60%	3.60%	1.50%	2.00%
9	4.00%	4.25%	3.50%	3.50%	1.25%	1.75%
10	3.25%	2.75%	2.00%	2.00%	1.00%	1.50%
11	3.25%	2.75%	1.50%	1.50%	0.75%	1.25%
12	3.25%	2.75%	1.00%	1.00%	0.50%	1.00%
13	3.25%	2.75%	1.00%	1.00%	0.50%	0.75%
14	3.25%	2.75%	1.00%	1.00%	0.50%	0.50%
15	2.00%	2.50%	1.00%	1.00%	0.50%	0.50%
16	2.00%	2.50%	1.00%	1.00%	0.50%	0.50%
17	2.00%	2.50%	1.00%	1.00%	0.50%	0.50%
18	2.00%	2.50%	1.00%	1.00%	0.50%	0.50%
19	2.00%	2.50%	1.00%	1.00%	0.50%	0.50%
20+	2.00%	2.50%	1.00%	1.00%	0.50%	0.50%

Disability Rates

Age	Non-PS		Group E and J		Group F		Group G	
	Male	Female	Male	Female	Male	Female	Male	Female
20	0.0257%	0.0068%	0.0515%	0.0315%	0.1029%	0.1125%	0.1029%	0.1125%
25	0.0527%	0.0180%	0.1054%	0.0840%	0.2107%	0.3000%	0.2107%	0.3000%
30	0.1078%	0.0480%	0.2156%	0.2240%	0.4312%	0.8000%	0.4312%	0.8000%
35	0.1323%	0.0705%	0.2646%	0.3290%	0.5292%	1.1750%	0.5292%	1.1750%
40	0.1752%	0.0983%	0.3504%	0.4585%	0.7007%	1.6375%	0.9109%	1.6375%
45	0.3332%	0.2631%	0.6664%	1.2278%	1.3328%	4.3850%	1.5994%	4.3850%
50	0.5537%	0.3537%	1.1074%	1.6506%	2.2148%	5.8950%	2.5692%	5.8950%
55	0.6762%	0.3717%	1.3524%	1.7346%	2.7048%	6.1950%	3.5162%	6.1950%
60	0.7987%	0.3789%	1.3524%	1.7346%	2.7048%	6.1950%	3.5162%	6.1950%
65	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%

Salary Scale Rates

Overall payroll growth: 3.00% (used for amortization of unfunded liability)

Service	Group A, H, and GRIP	Group E and J	Group F	Group G
0	6.00%	9.50%	8.00%	9.50%
1	5.50%	9.00%	8.00%	9.00%
2	5.00%	7.00%	8.00%	7.00%
3	4.50%	6.50%	6.50%	6.50%
4	4.00%	6.00%	6.00%	6.00%
5	4.00%	5.50%	5.50%	6.00%
6	4.00%	5.00%	5.00%	6.00%
7	4.00%	4.50%	4.50%	6.00%
8-9	4.00%	4.00%	4.00%	6.00%
10-14	3.25%	4.00%	4.00%	4.50%
15-19	3.25%	4.00%	4.00%	4.00%
20+	3.25%	3.25%	3.25%	3.25%

Trend Rates

Medical, prescription drug, and dental trend rates used for July 1, 2018 valuations

Fiscal Year Beginning in	Dental	<u>Active Medical and Rx</u>		<u>POS Medical Without Rx</u>		<u>POS Medical With Standard Plan</u>		<u>POS Medical With High Plan</u>		<u>Indemnity Medical With Rx</u>	
		Pre-65	65+	Pre-65	65+	Pre-65	65+	Pre-65	65+	Pre-65	65+
2018	4.50%	7.89%	8.15%	6.95%	5.27%	7.76%	7.68%	8.20%	8.30%	8.27%	7.39%
2019	4.50%	7.42%	7.68%	6.60%	5.14%	7.31%	7.27%	7.70%	7.80%	7.77%	7.02%
2020	4.50%	6.96%	7.18%	6.25%	5.01%	6.86%	6.84%	7.19%	7.29%	7.26%	6.63%
2021	4.50%	6.48%	6.67%	5.90%	4.88%	6.40%	6.39%	6.67%	6.76%	6.74%	6.22%
2022	4.50%	6.00%	6.14%	5.55%	4.75%	5.94%	5.93%	6.14%	6.21%	6.22%	5.80%
2023	4.50%	5.51%	5.61%	5.20%	4.62%	5.47%	5.46%	5.61%	5.65%	5.69%	5.37%
2024	4.50%	5.02%	5.07%	4.85%	4.50%	5.00%	4.98%	5.08%	5.09%	5.15%	4.93%
2025	4.50%	4.53%	4.56%	4.50%	4.50%	4.53%	4.55%	4.54%	4.57%	4.61%	4.55%
2026 and Future years	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%

Trend Rates (cont.)

Medical, prescription drug, and dental trend rates used for July 1, 2018 valuations

Fiscal Year Beginning in	<u>UHC Medical</u> <u>Without Rx</u>		<u>UHC Medical With</u> <u>Standard Plan</u>		<u>UHC Medical With</u> <u>High Plan</u>		<u>Kaiser Medical</u>		<u>EGWP</u>
	Pre-65	65+	Pre-65	65+	Pre-65	65+	Pre-65	65+	65+
2018	6.95%	5.27%	7.82%	8.10%	8.28%	8.68%	6.95%	5.27%	10.20%
2019	6.60%	5.14%	7.37%	7.63%	7.77%	8.13%	6.60%	5.14%	9.40%
2020	6.25%	5.01%	6.91%	7.14%	7.25%	7.56%	6.25%	5.01%	8.60%
2021	5.90%	4.88%	6.44%	6.64%	6.72%	6.97%	5.90%	4.88%	7.80%
2022	5.55%	4.75%	5.97%	6.12%	6.18%	6.38%	5.55%	4.75%	7.00%
2023	5.20%	4.62%	5.49%	5.59%	5.64%	5.77%	5.20%	4.62%	6.20%
2024	4.85%	4.50%	5.01%	5.06%	5.09%	5.16%	4.85%	4.50%	5.40%
2025	4.50%	4.50%	4.53%	4.56%	4.54%	4.57%	4.50%	4.50%	4.60%
2026 and Future years	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%	4.50%

Retiree Contributions – Future Retirees

Service at Retirement	Retiree Contribution
5 Years	50%
6 Years	48%
7 Years	46%
8 Years	44%
9 Years	42%
10 Years	40%
11 Years	38%
12 Years	36%
13 Years	34%
14 Years	32%
15 Years and Over	30%
Or if hired prior to 1/1/1987	20%