



City of Rockville Post-Employment Medical Benefits

Actuarial Valuation to Determine the City's Contribution for
the Fiscal Years Ending
June 30, 2023 and June 30, 2024

Bolton

Submitted by:

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November 15, 2021

Ms. Stacey Webster
Director of Finance
City of Rockville
111 Maryland Avenue
Rockville, MD 20850-2364

Dear Stacey:

The following sets forth the calculation of the Actuarially Determined Contribution for the City of Rockville's Other Post-Employment Benefit (OPEB) Plan (the Plan) to determine the FY 2023 & FY 2024 recommended contribution for the Plan.

Section 1 of the report provides an executive summary while Sections 2 through 7 contain the development of the City's contribution for the FY 2023 and FY 2024 along with a summary of the census and asset data, plan provisions, assumptions and actuarial methods. Section 8 provides a glossary of many of the terms used in this report.

This report has been prepared for City of Rockville for the purpose of computing the Actuarially Determined Contribution (ADC) for FY 2023 and FY 2024 and to provide a 5-year projection of the ADC. It is neither intended nor necessarily suitable for other purposes. Bolton Partners is not responsible for the consequences of any other use or the reliance upon this report by any other party.

In general, post-employment medical valuations are based on an assumption for post-retirement medical increases. If medical costs increase at a rate greater than our assumption there could be a dramatic increase in the cost. The report shows the impact of a 1% (over all years) increase in the medical trend assumption.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: retiree group benefits program experience differing from that anticipated by the assumptions; changes in assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and changes in retiree group benefits program provisions or applicable law. Retiree group benefits models necessarily rely on the use of approximations and estimates and are sensitive to changes in these approximations and estimates. Small variations in these approximations and estimates may lead to significant changes in actuarial measurements. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

Because the net impact of COVID-19 on mortality, health costs and changes in turnover and retirement behavior is not possible to estimate at this time, we have made no adjustments to any of the assumptions selected before the COVID-19 pandemic. The valuation was completed using both proprietary and third-party models (including software and tools). We have tested these models to ensure they are used for their intended purposes, within their known limitations, and without any known material inconsistencies unless otherwise stated.

The report is based on data submitted by City of Rockville and premium rates by the carriers. We reviewed the data for reasonableness, but we did not perform an audit of the data. We relied on this information for purposes of preparing this report. For demographic assumptions (retirement, termination, disability), we relied upon the assumptions used for valuing the City of Rockville's



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pension plan.

The actuarial methods and assumptions used in this report comply with GASB Standards and the actuarial standards of practice promulgated by the Actuarial Standards Board.

Bolton Partners is completely independent of City of Rockville, its programs, activities, officers and key personnel. Bolton Partners, and anyone closely associated with us, does not have any relationship which would impair or appear to impair our independence on this assignment.

Tom Vicente meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.

Respectfully submitted,

A handwritten signature in blue ink that reads "Tom Vicente". The signature is written in a cursive style with a large, stylized initial "T".

Tom Vicente, FSA, EA





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Section I. Executive Summary

Background

Bolton Partners has prepared the following report that sets forth the FY 2023 and FY 2024 Actuarially Determined Contribution (ADC) for the City of Rockville. This report does not provide GASB 75 accounting information.

This report has been prepared for budgeting purposes. The City has decided to determine the ADC by adding the Normal Cost of the plan to an amortization of the unfunded liability (the amortization is on a fixed declining period basis), offset by the expected value of the implicit subsidy included in retiree benefit payments. This offset is an adjustment to recognize that retiree premiums are subsidized by the active employee premiums (so the employer already "paid" these amounts). The plan is in a "Surplus" position. As a result, the current amortization policy should be reviewed to see if it still appropriate. The implicit subsidy offset amount used in the FY 2024 ADC is equal to the same percentage of total expected benefit payments as determined for the FY 2023 ADC.

OPEB Trust Arrangement and Funding Policy

The City's OPEB plan is a single employer plan. It is our understanding that the City's contribution policy is to contribute an amount at least equal to the sum of normal cost and amortization payments less an implicit subsidy adjustment, as shown in this report. Based on the assumptions and methods disclosed elsewhere in this report, the Plan reached 100% funded status for this fiscal year.

Assets

Asset information was provided by the City. The July 1, 2021 asset value is \$12,426,877.

Actuarially Determined Contribution

The Actuarially Determined Contribution (ADC) for FY 2023 and FY 2024 are \$0 and \$0, respectively. The calculations and a reconciliation from the prior year are shown in Section 2.

Funding Status

The total below compares the actuarial accrued liability to the market value of assets.

Funding Measures		7/1/2021
1. Actuarial Accrued Liability	\$	7,828,985
2. Market Value of Assets	\$	12,426,877
3. Funded Ratio (2 / 1)		158.7%



Section I. Executive Summary

Comparison with Previous Valuation

The ADC has decreased from \$163,815 to \$1,027. This decrease is due to passage of time, favorable demographic and mortality.

Comparison of Current and Previous Valuations		
Data as of	July 1, 2019	July 1, 2021
Data is used to calculate ADC for FY	2021	2023
Demographic Data (with Medical Coverage)		
Employees	344	328
Disabled	3	1
Beneficiaries	0	1
Retirees	23	29
Reconciliation of Actuarially Determined Contribution (ADC)		
ADC Previous Valuation, FYE 2021		\$164,000
Increase (Decrease) due to Passage of time/Demographic Experience		115,000
Increase (Decrease) due to Investment Experience		(291,000)
Increase (Decrease) due to Claims Experience		(118,000)
Increase (Decrease) due to Trend		(97,000)
Increase (Decrease) due to Mortality		(7,000)
Adjustment for Implicit Subsidy		(51,000)
ADC Current Valuation, FY 2023		<u>(\$285,000)</u>

Plan Provisions

Employees who retire prior to Medicare eligibility may choose between several medical plans including a PPO plan, an HMO plan, and a POS plan, all of which are packaged with prescription benefits. Retirees and their families pay 20% of the published rates of the lowest cost plan or the same rate as active employees. Surviving spouses receive no explicit subsidy, but are permitted to remain in the plan and pay 100% of the published costs. The City makes no contribution toward the benefits after Medicare eligibility, generally age 65.

More details regarding the Plan provisions are given in Section 6.

Demographic Data

Demographic data as of July 1, 2021 was provided to us by the City. This data included current medical coverage for current employees and retirees. Although we have not audited this data, we have no reason to believe that it is inaccurate.

Claims Data

Monthly premium rates for 2021 were provided by the City. Although we have not audited the rate information, we have no reason to believe that it is inaccurate.

Section I. Executive Summary

Impact of Health Care Reform

The December 2019 Federal appropriations bill eliminated the excise tax on high-cost plans that was part of the Affordable Care Act (this excise tax is commonly referred to as the “Cadillac Tax”). It is our understanding from the Standard that the disclosure should be “in accordance with the benefit terms and any additional legal agreements to provide benefits that are in force at the measurement date”. Accordingly, we have adjusted the results to show the impact of the elimination of the excise tax which was signed into law before the measurement date.

Implicit Subsidy

The published insurance rates for persons prior to Medicare eligibility are based primarily on the healthcare usage of active employees. Since retirees use healthcare at a rate much higher than employees, using these blended rates creates an implicit subsidy for the retiree group. Actuarial standards require that the claims assumption we use for this valuation be based on per-capita retiree cost. The difference between the actual usage of healthcare by retirees and the assumption built into the published rates is identified as the implicit subsidy amount.

Demographic Assumptions

Demographic assumptions mirror those used for the City of Rockville Pension Plan. Section 5 details the assumptions including the percentage of future retirees electing coverage.

Discount Rate Assumption

The discount rate assumption is 7.00%. This rate is the expected long-term rate of return on the OPEB trust.

Other Economic Assumptions

The medical trend assumption was developed using the Society of Actuaries (SOA) Long-Run Medical Cost Trend Model. The following assumptions were used as input variables into this model:

Rate of Inflation	2.5%
Rate of Growth in Real Income / GDP per capita	1.5%
Extra Trend due to Technology and other factors	1.1%
Health Share of GDP Resistance Point	25.0%
Year for Limiting Cost Growth to GDP Growth	2075

The SOA Long-Run Medical Cost Trend Model and its baseline projection are based on an econometric analysis of historical U.S. medical expenditures and the judgments of experts in the field. The long-run baseline projection and input variables have been developed under the guidance of an SOA Project Oversight Group.



Section I. Executive Summary

Other Economic Assumptions

Payroll is assumed to increase at 2.5% per annum. This assumption is used to determine the level percentage of payroll amortization factor.

Actuarial Certification

In preparing the valuation we relied on demographic data, health care premium rates and asset information provided by the City of Rockville. We reviewed the data for reasonableness, but did not audit the data. The actuarial methods and assumptions used in this report comply with the actuarial standards of practice promulgated by the American Academy of Actuaries.

Future medical care cost increase rates are unpredictable and could be volatile. They will depend upon the economy, future health care delivery systems and emerging technologies. The trend rate selected is based on an economic model developed by a health care economist for the Society of Actuaries. Future medical trend increases could vary significantly from the model. Model inputs will be updated periodically based on the best estimate of the economy at that time. Small changes in the model inputs can result in actuarial losses or gains of 5 to 15 percent of liabilities.

Tom Vicente meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.



Section II. Actuarially Determined Contribution

Actuarially Determined Contribution for FY 2023 and FY 2024

Below is a summary of the calculation of the Plan's Actuarially Determined Contribution (ADC). For retirees we use the subsidy percent found in the data. Item (5) shows the impact of a 1% increase in trend.

	7/1/2019 FYE 2021	7/1/2020 FYE 2022	7/1/2021 FYE 2023	7/1/2022 FYE 2024
Expected Rate of Return	7.00%	7.00%	7.00%	7.00%
1) Actuarial Accrued Liability				
a. Actives	\$6,333,330	\$7,154,270	\$5,671,774	\$6,397,275
b. Retirees in Pay Status	\$1,740,215	\$1,427,030	\$2,157,211	\$1,723,216
c. Total (a + b)	\$8,073,545	\$8,581,300	\$7,828,985	\$8,120,491
2) Assets	\$8,702,541	\$9,040,534	\$12,426,877	\$12,712,000
3) Amortization of Unfunded Accrued Liability				
a. Unfunded Accrued Liability	(\$628,996)	(\$459,234)	(\$4,597,892)	(\$4,591,509)
b. Amortization Period	19	18	17	16
c. Amortization Factor	12.40	11.97	11.52	11.05
d. Amortization Amount	(\$50,725)	(\$38,365)	(\$399,123)	(\$415,521)
4) Actuarially Determined Contribution (ADC)				
a. Normal Cost	\$377,607	\$392,334	\$328,477	\$341,616
b. Amortization of Unfunded Accrued Liability	<u>(\$50,725)</u>	<u>(\$38,365)</u>	<u>(\$399,123)</u>	<u>(\$415,521)</u>
c. Subtotal	\$326,882	\$353,969	(\$70,646)	(\$73,905)
d. Implicit subsidy benefit payments	\$163,067	\$218,916	\$214,396	\$236,288
e. Total (c-d)	\$163,815	\$135,053	(\$285,042)	(\$310,193)
5) 1% Sensitivity ADC	\$451,794	\$493,202	\$43,216	\$53,874



Section III. Liabilities

Liabilities as of Measurement Date

Below is a summary of the Plan's liabilities Item (4) shows the impact of a 1% increase in trend.

	7/1/2019 FYE 2021	7/1/2021 FYE 2023
1) Discount Rate	7.00%	7.00%
2) Actuarial Accrued Liability		
a. Actives	\$6,333,330	\$5,671,774
b. Retirees in Pay Status	\$1,740,215	\$2,157,211
c. Total	\$8,073,545	\$7,828,985
3) Normal Cost		
a. Normal Cost for Benefits	\$377,607	\$328,477
b. Expense Load	0	\$0
c. Total	\$377,607	\$328,477
4) 1% Increase in Trend Sensitivity		
a. Actuarial Accrued Liability	\$8,873,486	\$8,532,128
b. Total Normal Cost	\$438,008	\$381,302



Section IV. Assets

Asset Reconciliation

Below is a reconciliation of the trust assets for FY 2023.

	June 30, 2020	June 30, 2021
Market Value of Assets		
Beginning of the Year Amount	8,702,541	10,130,504
Investment Income	1,053,228	2,383,108
Employer Contribution	591,190	163,815
Benefit Payments (net of retiree payments)	(193,415)	(244,300)
Administrative Expense	<u>(23,040)</u>	<u>(6,250)</u>
End of Year amount as of Measurement Date	10,130,504	12,426,877



Section V. Valuation Data

Memberships

The following table summarizes the memberships, ages, and coverage as the current and prior valuation data collection dates.

	7/1/2020	7/1/2021
1) Number of Participants		
(a) Employees	344	332
(b) Disabled	3	1
(c) Beneficiary	0	1
(d) Retirees (Pre-Medicare)	23	29
(e) Total	370	363
2) Employee Statistics		
(a) Average Age	45.20	45.24
(b) Average Service	12.45	12.39
3) Retiree Statistics (In Pay Status)		
(a) Average Age – Retirees (Pre-Medicare)	60.41	60.17

Section V. Valuation Data

Active Age - Service Distribution

Shown below is the distribution of active participants with medical coverage based on age and service as of the valuation data collection date.

Age	Years of Service as of 07/1/2021							Total
	Under 1	1-4	5-9	10-14	15-19	20-24	25+	
Under 25	1	1	0	0	0	0	0	2
25 – 29	7	19	2	1	0	0	0	29
30 – 34	5	17	14	5	2	0	0	43
35 – 39	4	16	14	11	4	3	0	52
40 – 44	1	4	12	8	8	2	1	36
45 – 49	3	6	11	9	4	6	3	42
50 – 54	4	5	4	8	7	10	4	42
55 – 59	1	3	2	7	6	13	22	54
60 – 64	0	1	7	3	5	5	11	32
65 & Up	0	0	0	0	0	0	0	0
Totals	26	72	66	52	36	39	41	332

The following table shows averages in total for active participants in this valuation.

Averages	Amount
Age:	45.24
Service:	12.39



Section VI. Summary of Principal Plan Provisions

General Eligibility Rules

Eligible participants are assumed to be employees, former employees or beneficiaries of the City of Rockville who had health coverage as an active employee.

The Rockville Employee Retirement System administers the OPEB plan and stipulates the age and service requirements for retirements. Generally, retirees must be vested in the retirement system, meet early or normal retirement requirements and elect to remain in the plan upon retirement.

Underlying Plan Description

Pre-Medicare retirees may choose between several medical plans including a PPO plan, an HMO plan, and a POS plan, all of which are packaged with prescription benefits. Retirees who elect to stay with the City's group health policy receive the same level of medical insurance premium support given to current employees up until age 65. Outside of the geographic area served by the City's group health insurance carriers a retiree may purchase coverage and receive reimbursement from the City in an amount not to exceed the prevailing two-person coverage employer rate granted to current employees.

Retiree Contribution

Retirees and their families pay 20% of the published rates for the lowest cost plan, similar to the active employee contributions. Surviving spouses receive no explicit subsidy, but are permitted to remain in the plan and pay 100% of the published costs.

Changes in Plan Provisions Since Prior Valuation

None.



Section VII. Valuation Methods and Assumptions

Cost Method

This valuation uses the Projected Unit Credit method, with linear pro-ratio to assumed benefit commencement.

Amortization Method

Liabilities are amortized over a closed 17-year period as a level of percentage of payroll.

Assets

Are valued using the market value of assets.

Coverage Status and Age of Spouse

Actual coverage status is used; females are assumed to be 3 years younger than their male spouse. Employees with individual coverage are assumed to elect individual coverage in retirement, and those with spouse/family coverage are assumed to continue this coverage upon retirement. Employees currently waiving coverage are assumed to continue to waive coverage upon retirement.

This valuation assumes that 100% of eligible participants will continue the same coverage levels upon retirement.

Interest Assumptions

	Rates
Discount Rate	7.00%
Payroll Growth	2.50%

Election rate

90% of Police and 70% of Non-Police active members will elect coverage in the plan if eligible upon retirement.



Section VII. Valuation Methods and Assumptions

Medical Cost Trend Assumptions

Based upon SOA Model, released August 2017, 1.6% GDP. Medical cost trend rates used in this valuation include an adjustment for Cadillac tax effective in 2022.

Year	Trend Rates
2021	5.2%
2022	5.3%
2023	6.4%
2024	6.3%
2026	6.2%
2029	6.1%
2032	6.0%
2035	5.9%
2039	5.8%
2044	5.6%
2045	5.5%
2046	5.4%
2048	5.3%
2050	5.2%
2053	5.1%
2056	5.0%
2059	4.9%
2063	4.8%
2066	4.7%
2067	4.6%
2068	4.5%
2069	4.4%
2071	4.3%
2072	4.2%
2073	4.1%
2074	4.0%
2075	4.0%

Employer flat dollar subsidy amounts are assumed to increase with medical trend annually.

Section VII. Valuation Methods and Assumptions

Decrement Assumptions

Below is a summary of decrements used in this valuation. Sample Retirement, Disability, and Termination rates are illustrated in the tables below.

Mortality

Decrements	Description
1) Active Healthy	Pub-2010 General and Safety Employees Headcount-Weighted mortality table projected generationally using scale MP-2020
2) Inactive Healthy	Pub-2010 General and Safety Retirees Headcount-Weighted mortality table projected generationally using scale MP-2020
3) Inactive Disabled	Pub-2010 General and Safety Disabled Retirees Headcount-Weighted mortality table projected generationally using scale MP-2020

Projection to the year of the valuation is assumed to be current mortality experience. The generational projection beyond the year of the valuation is assumed to account for future mortality improvements. The mortality assumption is based on a standard mortality table with the initial projection scale produced with the table. The mortality was updated to mirror the pension assumptions.

Disability

Sample Disability rates are as follows:

Age	Male	Female
25	0.02%	0.04%
30	0.06%	0.09%
35	0.11%	0.14%
40	0.17%	0.19%
45	0.30%	0.30%
50	0.42%	0.45%
55	0.55%	0.57%
60	N/A	N/A

Section VII. Valuation Methods and Assumptions

Termination

Sample Termination rates are as follows:

<i>Years of Service</i>	<i>Police</i>	<i>Administrative and Union</i>
0	20.0%	17.0%
1	20.0%	13.0%
5	4.0%	9.0%
10	1.0%	4.0%
15	1.0%	3.5%
25	0.0%	2.5%

Retirement

Sample Retirement rates are as follows:

<i>Age</i>	<i>Police</i>	<i>Administrative and Union</i>
<50	0.0%	0.0%
50-53	10.0%	2.5%
54	10.0%	5.0%
55-57	20.0%	5.0%
58	30.0%	5.0%
59	40.0%	25.0%
60	50.0%	20.0%
61-63	100.0%	20.0%
64-69		25.0%
70		100.0%

Claims Assumption

The plan is fully insured. To determine the assumed cost and the retiree contributions, we weighted the premium rates by the current enrollment.

Gross claims are equal to the age adjusted assumed cost. The resulting average pre-age 65 claims were age adjusted.

Section VII. Valuation Methods and Assumptions

The following chart shows the total costs including both medical and prescription drug as well as the assumed costs.

	Claims Cost	
	Single	Family
1. Total Costs		
a. Under 50	\$7,052	\$17,136
b. Age 50-54	\$8,798	\$21,379
c. Age 55-59	\$10,876	\$26,429
d. Age 60-64	\$13,355	\$32,453
e. Age 65 and Older	N/A	N/A
2. Assumed Costs	8,395	\$20,400

Section VIII. Glossary

Actuarially Determined Contribution (ADC):

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.

Annual Required Contributions of the Employer(s) (ARC):

The employer's periodic required contributions to a defined benefit OPEB plan, calculated in accordance with the parameters under GASB 45 accounting.

Covered Group:

Plan members included in an actuarial valuation.

Decrement:

Assumptions used to determine the probability of key change-in-status events (e.g., turnover, date of retirement, death).

Defined Benefit OPEB Plan:

An OPEB plan having terms that specify the amount of benefits to be provided at or after separation from employment. The benefits may be specified in dollars (for example, a flat dollar payment or an amount based on one or more factors such as age, years of service, and compensation), or as a type or level of coverage (for example, prescription drugs or a percentage of healthcare insurance premiums).

Employer's Contributions:

Contributions made in relation to the annual required contributions of the employer (ARC). An employer has made a contribution in relation to the ARC if the employer has (a) made payments of benefits directly to or on behalf of a retiree or beneficiary, (b) made premium payments to an insurer, or (c) irrevocably transferred assets to a trust, or an equivalent arrangement, in which plan assets are dedicated to providing benefits to retirees and their beneficiaries in accordance with the terms of the plan and are legally protected from creditors of the employer(s) or plan administrator.

Funded Ratio:

The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Healthcare Cost Trend Rate:

The rate of change in per capita health claim costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.

Investment Return Assumption (Discount Rate):

The rate used to adjust a series of future payments to reflect the time value of money.

Section VIII. Glossary

Level Percentage of Projected Payroll Amortization Method:

Amortization payments are calculated so that they are a constant percentage of the projected payroll of active plan members over a given number of years. The dollar amount of the payments generally will increase over time as payroll increases due to inflation; in dollars adjusted for inflation, the payments can be expected to remain level. This method cannot be used if the plan is closed to new entrants.

Normal Cost or Normal Actuarial Cost:

That portion of the Actuarial Present Value of plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

Other Post-employment Benefits:

Post-employment benefits other than pension benefits. Other post-employment benefits (OPEB) include post-employment healthcare benefits, regardless of the type of plan that provides them, and all post-employment benefits provided separately from a pension plan, excluding benefits defined as termination offers and benefits.

Pay-as-you-go (PAYGO):

A method of financing a benefit plan under which the contributions to the plan are generally made at about the same time and in about the same amount as benefit payments and expenses becoming due.

Payroll Growth Rate:

An actuarial assumption with respect to future increases in total covered payroll attributable to inflation; used in applying the level percentage of projected payroll amortization method.

Plan Liabilities:

Obligations payable by the plan at the reporting date, including, primarily, benefits and refunds due and payable to plan members and beneficiaries, and accrued investment and administrative expenses. Plan liabilities do not include actuarial accrued liabilities for benefits that are not due and payable at the reporting date.

Plan Members:

The individuals covered by the terms of an OPEB plan. The plan membership generally includes employees in active service, terminated employees who have accumulated benefits but are not yet receiving them, and retired employees and beneficiaries currently receiving benefits.

Post-employment:

The period between termination of employment and retirement as well as the period after retirement.



Section VIII. Glossary

Post-employment Healthcare Benefits:

Medical, dental, vision, and other health-related benefits provided to terminated or retired employees and their dependents and beneficiaries.

Select and Ultimate Rates:

Actuarial assumptions that contemplate different rates for successive years. Instead of a single assumed rate with respect to, for example, the investment return assumption, the actuary may apply different rates for the early years of a projection and a single rate for all subsequent years. For example, if an actuary applies an assumed investment return of 8% for year 2000, 7.5% for 2001, and 7% for 2002 and thereafter, then 8% and 7.5% are select rates, and 7% is the ultimate rate.

Appendix 1 – The Actuarial Valuation Process

Step 1 – Determining the Present Value of Benefits

The first step of the actuarial valuation process is to determine the Present Value of Benefits (PVB). The PVB represents the estimated amount needed to provide all future OPEB benefits.

For a retiree it is based on the following assumptions:

- The current cost of medical benefits
- How fast medical costs will increase (medical trend)
- Mortality

For an employee it *also* considers the following assumptions:

- How many employees will leave before becoming eligible for the benefit
- At what age will employees retire
- What percentage of eligible retirees will elect coverage
- What percent of eligible retirees will have spouse coverage

Based on these assumptions, the actuary estimates a payment stream for each year in the future.

The streams of payments are discounted to the valuation date using a discount rate. The discount rate is similar to the rate of return you would expect to earn on funds in a bank or other investment vehicle. The sum of the discounted payment stream is the PVB.

Step 2 – The Actuarial Funding Method

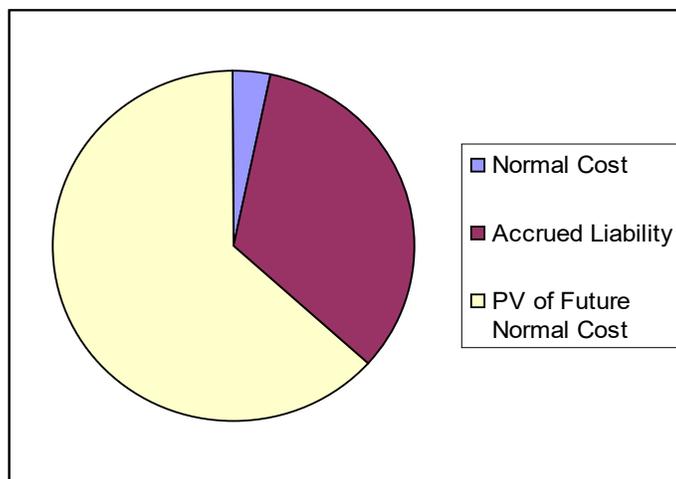
If the entire present value of benefits was deposited into a trust when every new employee was hired, there would be (in the absence of actuarial losses caused by experience different than that assumed) no cost after the first year. The goal of an actuarial funding method is to spread the present value of benefits throughout the employee's career.

Accordingly, the second step of an actuarial valuation is to divide the Present Value of Benefits into three components:

- The normal cost (the liability accrual for the year)
- The accrued liability (the liability amount allocated for past service)
- The present value of future normal costs (the liability amount allocated to the future)

Appendix 1 – The Actuarial Valuation Process

The following chart illustrates the 3 components of the Present Value of Benefits:



For a retired employee, the present value of benefits equals the accrued liability.

Step 3 – Determining the Actuarially Determined Contribution (ADC)

The Actuarial Determined Contribution is equal to the sum of the:

- Normal Cost and
- An Amortization Payment of the Unfunded Accrued Liability

The unfunded accrued liability is equal to the accrued liability minus the assets (if any).

The amortization payment is not a straight line amortization payment. It is more like a mortgage payment on a house. It includes interest on the unfunded liability and a principal payment, and is designed to be a level payment. This could mean level as in a dollar payment, or as a level percentage of payroll. If it is a level percentage of payroll, the payment amount will increase as payroll increases.



Appendix 2 – 10 Year Cash Flow Projections

Below is a summary of the Plan’s expected benefit payments (including implicit subsidy). For retirees we use the subsidy percent found in the data.

Fiscal year ending	Expected Benefit Payments	
	Total	Implicit
2022	565,000	214,000
2023	627,000	236,000
2024	702,000	269,000
2025	737,000	294,000
2026	796,000	317,000
2027	819,000	328,000
2028	822,000	337,000
2029	882,000	356,000
2030	895,000	375,000
2031	838,000	351,000

Please note:

- *The expected benefit payment stream shown above assumes that the covered population is a closed group, i.e. there are no new entrants or re-entrants.*
- *The Plan’s actual benefit payments may be greater or lesser than the amounts shown, depending on actual demographic experience and claims experience.*
- *Implicit benefit payments are the amount of the retiree premium that is assumed to be subsidized by active employee rates because the same rates are charged to active employees and retired participants under age 65*



Appendix 3 – 5 Year ADC Projections – Revised for new funding policy

The following table shows the estimated ADC for FY 2023 to FY 2029. The projections reflect data as of July 1, 2021, and an expected return on assets of 7.0%. Any deviation in assumptions, census demographics, or asset performance would impact these results.

	FYE 2023	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028	FYE 2029
Assumptions:							
Trust Investment Return	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%
Discount Rate	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%
Salary Scale	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Ultimate Trend	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Amortization Factor	16.10	16.10	16.10	16.10	16.10	16.10	16.10
# Years to Amortize	30	30	30	30	30	30	30
Unfunded Accrued Liability:							
APBO BOY	7,828,985	8,120,491	8,382,000	8,597,000	8,805,000	8,981,000	9,161,000
Assets BOY	<u>12,426,877</u>	<u>12,712,000</u>	<u>12,953,000</u>	<u>13,133,000</u>	<u>13,289,000</u>	<u>13,395,000</u>	<u>13,485,000</u>
Unfunded Funding Target	(4,597,892)	(4,591,509)	(4,571,000)	(4,536,000)	(4,484,000)	(4,414,000)	(4,324,000)
Percent Funded	159%	157%	155%	153%	151%	149%	147%
ADC (Actuarially Determined Contribution):							
Normal Cost	328,477	341,616	355,000	369,000	384,000	399,000	415,000
Amortization of Unfunded Target	(285,583)	(285,187)	(284,000)	(282,000)	(279,000)	(274,000)	(269,000)
Implicit Subsidy Benefit Payments	(214,396)	(236,288)	(268,777)	(293,770)	(316,598)	(327,759)	(336,787)
Total (ADC)	(171,502)	(179,859)	(197,777)	(206,770)	(211,598)	(202,759)	(190,787)
Trust Assets:							
Beginning of Year Amount	12,426,877	12,712,000	12,953,000	13,133,000	13,289,000	13,395,000	13,485,000
Return on Investments	870,000	890,000	907,000	919,000	930,000	938,000	944,000
Employer Contributions with Interest	0	0	0	0	0	0	0
Benefit Payments with Interest	<u>(585,000)</u>	<u>(649,000)</u>	<u>(727,000)</u>	<u>(763,000)</u>	<u>(824,000)</u>	<u>(848,000)</u>	<u>(851,000)</u>
End of Year Amount	12,712,000	12,953,000	13,133,000	13,289,000	13,395,000	13,485,000	13,578,000
Benefit Payments	565,499	627,145	702,115	737,485	796,340	819,136	822,334
Benefit Payment as % of contribution	-330%	-349%	-355%	-357%	-376%	-404%	-431%