City of Kalamazoo
Postretirement Welfare Benefits Plan
Actuarial Valuation Report
as of January 1, 2017

Table of Contents

GRS Retirement Consulting

800.521.0498 | P: 248.799.9000 | F: .248. 799.9020 | www.grsconsulting.com

June 16, 2017

Mr. Thomas Skrobola
Director of Management Services/CFO
City of Kalamazoo
241 W. South Street
Kalamazoo, Michigan 49007-4796

Dear Mr. Skrobola:

Submitted in this report are the results of an Actuarial Valuation of the assets and liabilities associated with the employer financed retiree health benefits provided by the City of Kalamazoo. The date of the valuation was January 1, 2017 effective for the 2017 calendar year.

This report was prepared at the request of the City of Kalamazoo and is intended for use by the City of Kalamazoo and those designated or approved by the City. This report may be provided to parties other than the City of Kalamazoo only in its entirety and only with the permission of the City. GRS is not responsible for unauthorized use of this report.

The actuarial calculations were prepared for purposes of complying with the requirements of Statement No. 45 of the Governmental Accounting Standards Board (GASB). In addition, we have included information which may be helpful if there is a trust requiring a GASB Statement No. 43 disclosure. The calculations reported herein have been made on a basis consistent with our understanding of these accounting standards. This report should not be relied on for any other purpose other than the purpose described herein. Determinations of the liability associated with the benefits described in this report for purposes other than satisfying the City of Kalamazoo's financial reporting requirements may be significantly different than the values shown in this report. This report is not compliant with GASB Statements No. 74 and No. 75. A separate report that incorporates GASB Statements No. 74 and/or No. 75 will be prepared at a later date.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuary’s assignment, the actuary did not perform an analysis of the potential range of such measurements.

The valuation was based upon information furnished by the City of Kalamazoo, concerning retiree health benefits, financial transactions, plan provisions and individual members. We checked for internal and year-to-year consistency with the last valuation, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by the City of Kalamazoo.

In addition, this report was prepared using certain assumptions approved by the City as described in the section of this report entitled Actuarial Cost Method and Actuarial Assumptions.

To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the City of Kalamazoo Postretirement Welfare Benefits Plan as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. James D. Anderson and Rebecca L. Stouffer are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

The signing actuaries are independent of the plan sponsor.

Gabriel, Roeder, Smith & Company will be pleased to review this valuation report with the City and to answer any questions pertaining to the valuation.

Respectfully submitted,

James D. Anderson

James D. Anderson, FSA, EA, MAAA

Rebecca L. Stouffer

Rebecca L. Stouffer, ASA, MAAA

JDA/RLS:ah

Executive Summary

Executive Summary

Annual Required Contribution and OPEB Cost

This report presents the Annual Required Contribution (ARC), one component of the annual Other Postemployment Benefits (OPEB) cost required to be recognized by the plan sponsor for purposes of complying with the accounting requirements of the Governmental Accounting Standards Board (GASB) Statement No. 45. In addition, the plan may need to comply with GASB Statement No. 43. Please consult with legal counsel and your auditors to determine whether you have a plan for GASB Statement No. 43 purposes. Effective for fiscal years beginning after June 15, 2016, GASB Statement No. 43 will be replaced by GASB Statement No. 74. Also, effective fiscal years beginning after June 15, 2017, GASB Statement No. 45 will be replaced by GASB Statement No. 75. A separate GASB report will be issued to comply with the actuarial requirements of the new GASB Statements.

We have calculated the Annual Required Contribution (ARC) for the 2017 calendar year. Below is a summary of the results. In the first year GASB Statement No. 45 is adopted, the annual OPEB cost is equal to the ARC. In subsequent years, if there is a net OPEB obligation (NOO, see below), the annual OPEB cost is equal to the ARC for the fiscal year plus one year's interest on the net OPEB Obligation plus an adjustment to the ARC. Actual claims paid on behalf of retirees directly from the employer* may be treated as employer contributions in relation to the ARC and act to reduce the NOO. The ARCs and estimated retiree claims shown below are net of any premium payments expected to be made by retirees (retiree cost sharing).

** Premiums/claims passed through the trust in the same fiscal year might also be treated as contributions for that year. We recommend all such transactions be discussed with your accounting professional prior to their occurrence.*

	Annual Required Contribution	Estimated Claims Paid for Retirees
2017 Calendar Year	$7,610,636	$ 9,192,105

For additional details please see the Section titled "Valuation Results."

Executive Summary

Additional OPEB Reporting Requirements – Net OPEB Obligation

In addition to the annual cost described on the previous page, employers will have to disclose a Net OPEB Obligation (or asset). The NOO is the cumulative difference between annual OPEB cost and annual employer contributions in relation to the ARC accumulated from the implementation of Statement No. 45. The NOO is zero as of the beginning of the fiscal year that Statement No. 45 is implemented, unless the employer chooses to recognize a beginning balance. The requirements for determining the employer's contributions in relation to the ARC are described in paragraph 13 g. of Statement No. 45. Additional information required to be disclosed in the employer's financial statements is detailed in paragraphs 24 through 27 of Statement No. 45.

Liabilities and Assets

1. Present Value of Future Benefit Payments	$175,702,881
2. Actuarial Accrued Liability	166,056,971
3. Smoothed Plan Assets	95,305,474
4. Unfunded Actuarial Accrued Liability (2) – (3)	70,751,497
5. Funded Ratio (3)/(2)*	57.4%

* *The funded ratio on a market value basis is 57.4%.*

The Present Value of Future Benefit Payments (PVFB) is the present value of all benefits projected to be paid from the plan for past and future service. The Actuarial Accrued Liability is the portion of the PVFB allocated to past service by the Plan's funding method (see the Section titled "Actuarial Cost Method and Actuarial Assumptions").

SECTION A

VALUATION RESULTS

Valuation Results – Total Plan

Development of the Annual Required Contribution

Contributions for	2017 Calendar Year
Employer Normal Cost	$1,490,221
Amortization of Unfunded Actuarial Accrued Liability	6,120,415
Annual Required Contribution (ARC)	$7,610,636

The unfunded actuarial accrued liabilities were amortized as a level dollar amount over a period of 25 years for the 2017 calendar year.

Determination of Unfunded Actuarial Accrued Liabilities as of January 1, 2017

A. Present Value of Future Benefits	
i) Retirees and Beneficiaries*	$126,099,711
ii) Vested Terminated Members	0
iii) Active Members	49,603,170
Total Present Value of Future Benefits	$175,702,881
B. Present Value of Future Normal Costs	9,645,910
C. Actuarial Accrued Liability (A.-B.)	166,056,971
D. Actuarial Value of Assets	95,305,474
E. Unfunded Actuarial Accrued Liability (C.-D.)	70,751,497
F. Funded Ratio (D./C.)	57.4%

** Includes additional liability due to Early Retirement Incentive (ERI) Retirees currently waiving retiree health care through the City, but assumed to return to coverage at a later date.*

The Unfunded Actuarial Accrued Liability (UAAL) is not booked as an expense all in one year and does not appear in the Employer's Statement of Net Assets. Nevertheless, it is reported in the Notes to the Financial Statements and in the Required Supplementary Information. These are information sections within the employer's financial statements.

The long-term rate of investment return used in this valuation was 7.50%.

Experience Gain/(Loss)

Gains/(Losses) During the Year Ended December 31, 2016
Resulting from Differences Between Assumed and Actual Experience

A. Derivation of Actuarial Gain/(Loss):

1. Unfunded Actuarial Accrued Liability (UAAL) - Previous Valuation	$62,166,264
2. Total Normal Cost (employer) for Year Ending 12/31/2016	1,422,861
3. Total Contributions (employer) for Year Ending 12/31/2016	3,500,000
4. Interest on:	
a. UAAL: Discount Rate* x (1)	4,662,470
b. Normal Cost and Contributions: Discount Rate/2 x [(2) - (3)]	(77,893)
c. Net Total: (a) + (b)	4,584,577
5. Change in UAAL due to Benefit Changes	0
6. Change in UAAL due to Assumptions	0
7. Expected UAAL Current Year:	
(1) + (2) - (3) + (4c) + (5) + (6)	64,673,702
8. Actual UAAL Current Year	70,751,497
9. Experience Gain/(Loss): (7) - (8)	(6,077,795)

B. Approximate Portion of Gain/(Loss) due to Investments	$(247,384)
C. Approximate Portion of Gain/(Loss) due to Liabilities: (A.9) - (B)	(5,830,411)

** Based on a discount rate of 7.50%.*

Type of Activity

	Gain/(Loss)
1. **Premiums and Trends.** Gains and losses resulting from actual premiums and trends in valuation year versus that assumed from prior valuation.	$ (3,540,150)
2. **Investment Income.** If there is greater investment income than assumed, there is a gain. If less income, a loss.	(247,384)
3. **Demographic and Other.** Gains and losses resulting from demographic experience, data adjustments, timing of financial transactions, etc.	(2,290,261)
4. **Composite Gain/(Loss) During Year.**	$ (6,077,795)

Development of Valuation Assets

Year Ended December 31:	2015*	2016	2017	2018	2019	2020
A. Valuation Assets Beginning of Year	$ 9,322,458	$ 94,643,208				
B. Market Value End of Year	90,390,649	95,379,078				
C. Market Value Beginning of Year	9,322,458	90,390,649				
D. Non-Investment Net Cash Flow	82,587,668	(5,964,907)				
E. Investment Income						
E1. Market Total: B - C - D	(1,519,477)	10,953,336				
E2. Amount for Immediate Recognition (7.5%)	3,796,222	6,874,557				
E3. Amount for Phased-In Recognition: E1-E2	(5,315,699)	4,078,779				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.2 x E3	(1,063,140)	815,756				
F2. First Prior Year	0	(1,063,140)	$ 815,756			
F3. Second Prior Year	0	0	(1,063,140)	$ 815,756		
F4. Third Prior Year	0	0	0	(1,063,140)	$ 815,756	
F5. Fourth Prior Year	0	0	0	0	(1,063,139)	$ 815,755
F6. Total Phased-In Recognition	(1,063,140)	(247,384)	(247,384)	(247,384)	(247,383)	815,755
G. Valuation Assets End of Year: A + D + E2 + F6	94,643,208	95,305,474				
H. Difference between Market & Valuation Assets: B - G	(4,252,559)	73,604	320,988	568,372	815,755	0
I. Valuation Asset Recognized Rate of Return	5.40%	7.23%				
J. Market Value Recognized Rate of Return	(3.00)%	12.53%				

** In the year of implementation, the Valuation Assets Beginning of Year was set equal to the Market Value at the Beginning of Year.*

The Valuation Assets recognizes assumed investment income (line E2) fully each year. Differences between actual and assumed investment income (line E3) are phased-in over a closed 5-year period. During periods when investment performance exceeds the assumed rate, Valuation Assets will tend to be less than Market Value. During periods when investment performance is less than the assumed rate, Valuation Assets will tend to be greater than Market Value. The Valuation Assets are unbiased with respect to Market Value. At any time, it may be either greater or less than Market Value. If assumed rates are exactly realized for 4 consecutive years, it will become equal to Market Value.

Comments

COMMENT A: The Annual Required Contribution (ARC) and liabilities calculated have increased since the prior (restated for asset reallocation) valuation results, dated March 28, 2017.

Factors contributing to this increase include, but are not limited to:

- Less favorable health plan experience than projected;
- Resetting the short-term health care trend cost rates; and
- Lower employer contribution levels ($3,500,000 – fixed contribution amount) than the calculated ARC ($6,728,006).

COMMENT B: One of the key assumptions used in any valuation of the cost of postemployment benefits is the rate of return on the assets that will be used to pay Plan benefits. Higher assumed investment returns will result in a lower ARC. Lower returns will tend to increase the computed ARC. As requested by the Plan Sponsor we have calculated the liability and the resulting ARC using an assumed rate of investment return of 7.50%. A 7.50% assumed rate of return may be appropriate to develop the liabilities of the Plan in the case that the Plan Sponsor chooses to pre-fund the entire ARC and invests the resulting assets in such a way as to anticipate 7.50% return.

COMMENT C: The Plan Sponsor is required by GASB to perform actuarial valuations at least biennially, unless there are significant changes in the OPEB.

COMMENT D: The health plan closed to new hires for most groups at various dates between 2009 and 2011 (see section titled "Summary of Benefits" for more details). The Unfunded Actuarial Accrued Liabilities (UAAL) are financed over a closed 25-year period using a level dollar amortization method. A shorter amortization period would increase the ARC. The maximum time period permitted by the current GASB standard is 30 years.

Comments (Continued)

COMMENT E: The City of Kalamazoo's existing transit operations became part of the Central County Transportation Authority (CCTA) effective October 1, 2016. The details of the spinoff are covered under the Comprehensive Transition Agreement, effective October 19, 2015. For purposes of this valuation Retiree Health Care Coverage, for the CCTA group (formerly Metro Transit) under the City Plan, was assumed to continue past the 36-month term described in the Transition Agreement.

COMMENT F: The "Cadillac" tax is a 40% excise tax paid by the coverage provider (employer and/or insurer) on the value of health plan costs in excess of certain thresholds. The thresholds are $10,200 for one-person coverage or $27,500 for family coverage in 2020. Many plans are below the thresholds today, but are likely to exceed them in the next decade. The thresholds will be indexed at CPI-U, which is lower than the medical inflation rates affecting the cost of the plans. There is considerable uncertainty about how the tax would be applied, and considerable latitude in grouping of participants for tax purposes. Combining early retiree and Medicare eligible retiree costs is allowed and can keep plans under the thresholds for a longer period of time. For this valuation, the 1.25% load was continued, applied to the current retirees' health care liabilities for the future excise tax. We have not identified any other specific provision of health care reform that would be expected to have a significant impact on the measured obligation. As additional guidance on the legislation is issued, we will review and monitor the potential impact.

Comments (Concluded)

COMMENT G: The GASB issued Statements Nos. 74 and 75 for OPEB valuations similar to the new pension standards. GASB Statement No. 74 for the plan OPEB disclosures is effective for fiscal years beginning after June 15, 2016. GASB Statement No. 75 for employer OPEB disclosures is effective for employer fiscal years beginning after June 15, 2017. The GASB has issued the finalized implementation guide for Statement No. 74 but has not yet issued the finalized implementation guide for Statement No. 75. These guides will provide additional clarification related to the implementation of Statements No. 74 and No. 75. Our understanding of the application of the recent GASB Statements is stated below; however, GRS consultants are not auditors and we recommend consultation with your auditor for final determination of which standards will be applicable.

The City currently partially pre-funds the benefits and has assets in a qualifying trust, as a result, it is our opinion that the City will need to comply with GASB Statement No. 74 for the fiscal year ending December 31, 2017. We recommend you verify this with your auditors. The information necessary for GASB Statement No. 74 for the December 31, 2017 fiscal year end will need to be developed at a later date. The basis for the GASB Statement No. 74 information is expected to be this valuation (as of January 1, 2017), where roll-forward techniques will be applied. The City (and CCTA) will also need to comply with GASB Statement No. 75 for the fiscal year ending December 31, 2018 (September 30, 2018 for CCTA).

COMMENT H: Unless otherwise indicated, a funded status measurement presented in this report is based upon the actuarial accrued liability and the actuarial value of assets. Unless otherwise indicated, with regard to any funded status measurements presented in this report:

- The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations, and
- The measurement is inappropriate for assessing the need for or the amount of future employer contributions.

SECTION B

RETIREE PREMIUM RATE DEVELOPMENT

Retiree Premium Rate Development

Background

We understand that currently, eligible City retirees (and eligible spouses) receive benefits from a number of health care plans, including the self-insured Blue Cross Blue Shield (BCBS) Traditional plans and the self-insured Community Blue PPO plans.

Rate Development

For the self-insured medical plans, initial per capita costs were developed separately for pre-65 and post-65 retirees using medical and prescription drug claims experience from October 2013 to September 2016 from BCBS in conjunction with exposure data for the active and retired members of the health care program. These medical and prescription drug claims were projected on an incurred claim basis, adjusted for plan design changes (including changes to Medicare Part B coverage for current and future retirees), large claims and loaded for administrative and stop-loss expenses.

The initial medical and drug premium rates used in the valuation are a weighted average cost of the 3-year experience period (10/2013 – 9/2016) to smooth out any large year-to-year fluctuations.

Most retiree plans are closed to future retirees. The plans that remain open include suffixes 0022, 0023, 0025, 0026, 0030, 0031, 0036, 0037, 0049, and 0050. Depending on age (pre-65 or post-65) and active group membership, future retirees will be placed into one of these suffixes. We have developed separate premium rates for these future retirees in order to reflect the benefit differences.

Retiree Premium Rate Development

Age graded and sex distinct premiums are utilized by this valuation. The initial costs developed by the preceding process are appropriate for the unique age and sex distribution currently existing. Over the future years covered by this valuation, the age and sex distribution will most likely change. Therefore, our process "distributes" the average premium over all age/sex combinations and assigns a unique premium for each combination. The age/sex specific premiums more accurately reflect the health care costs in the retired population over the projection period.

The tables below show the resulting combined medical and prescription drug one-person monthly premiums at select ages. The premium (or per capita costs) rates shown below were used in this valuation of the Plan and reflect the use of age grading.

For Those Not Eligible for Medicare (Pre-65)				
	Future Retirees		Current Retirees	
Age	Male	Female	Male	Female
40	$ 305.15	$ 495.84	$ 348.37	$ 566.07
50	494.64	609.35	564.70	695.66
60	840.66	827.76	959.73	945.01
64	1,022.27	964.74	1,167.06	1,101.39

For Those Eligible for Medicare (Post-65)				
	Future Retirees		Current Retirees	
Age	Male	Female	Male	Female
65	$ 426.29	$ 402.08	$ 519.29	$ 489.79
75	498.76	486.68	607.56	592.85
85	527.40	533.62	642.46	650.03

James E. Pranschke is a Member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to certify the per capita retiree health care rates shown above.

James E. Pranschke

James E. Pranschke, FSA, MAAA

SECTION C

SUMMARY OF BENEFITS

Summary of Benefit Provisions for the Post-Retirement Welfare Benefits Plan

Group Name AFSCME and CSO Union employees - City of Kalamazoo

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
				Coverage Provided by Employer					**Retiree Share of Cost for**		
Leaving Employment as a Result of	**Eligibility for Pension Benefit**	**Eligibility for Retiree Health Benefit (if different from pension benefit)**	**When do Retiree Health Benefits Commence?**	**Retiree**	**Spouse**	**Retiree Health Care Provider(s)**	**Type of Insurance**	**Third Party Administrator**	**Retiree**	**Spouse (while Retiree is alive)**	**Spouse (after Retiree's death)**
Normal Retirement **(Unreduced pension benefits)**	Age 57 with 25 years of service or age 62 with 9 years (10 Years for CSO)	Retiree & spouse if hired before 9/12/2011 Healthcare savings account if hired after 9/12/2011	Upon retirement	Medical & Drug Life Life	Medical & Drug	Community Blue-BCBS	PPO	BCBS	$96.72/mo See Comment A	$135.41/mo See Comment A	100% after one year
Early Retirement **(Reduced pension benefits)**	Age 55 with at least 15 years of service	Retiree & spouse if hired before 9/12/2011 Healthcare savings account if hired after 9/12/2011	Upon retirement	Medical & Drug Life Life	Medical & Drug	Community Blue-BCBS	PPO	BCBS	$96.72/mo See Comment A	$135.41/mo See Comment A	100% after one year
Deferred Vested Termination	At age 62 with at least 9 years (10 Years for CSO)	None for retiree & spouse if hired before 9/12/2011 Healthcare savings account if hired after 9/12/2011	N/A								
Non-Duty Disability	After 9 years of service (10 Years for CSO)	Must meet normal age & service requirements Healthcare savings account if hired after 9/12/2011	Upon retirement if eligible	Medical & Drug Life Life	Medical & Drug	Community Blue-BCBS	PPO	BCBS	$96.72/mo See Comment A	$135.41/mo See Comment A	100% after one year
Duty Disability	Given credit to voluntary age & service requirements	Retiree & spouse if hired before 9/12/2011 Healthcare savings account if hired after 9/12/2011	Pension Board Approval	Medical & Drug Life Life	Medical & Drug	Community Blue-BCBS	PPO	BCBS	$96.72/mo See Comment A	$135.41/mo See Comment A	100% after one year
Non-Duty Death-in-Service	If vested	If age or service eligible	Day prior to death		Medical & Drug						100% after one year
Duty Death-in-Service	Same as Duty Disability										

Comment A: The retiree pays the active contribution rates in the year they retire. If the retiree has less than 25 years of service at retirement, then the retiree will continue to pay the increasing active contribution rate in future years until their contribution amount is 150% of the amount the retiree paid in the year of retirement, at which point the retiree contribution amount is frozen.

Comment B: Retirees are eligible for a $1,000 lump sum death benefit, the plan is fully-insured.

Comment C: Retirees are not reimbursed by the City for Medicare Part A or Part B Premiums. Post-Medicare retiree cost-sharing remains the same as pre-65.

Comment D: There are retirees currently opting out of the retiree health care plan, they may re-enroll at open enrollment or with a qualifying insurance event, there is no stipend for waiving coverage.

Comment E: There are retirees whose benefit is not described above, data was provided individually by the City for the valuation.

Comment F: This is a brief summary of the City of Kalamazoo's Postretirement Welfare Plan Benefit provisions. In the event that any description contained herein differs from the actual eligibility or benefit, the appropriate employee contract or governing document will prevail.

Summary of Benefit Provisions for the Post-Retirement Welfare Benefits Plan

Group Name Public Safety - KPSA & KPSOA - City of Kalamazoo

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
				Coverage Provided by Employer					**Retiree Share of Cost for**		
Leaving Employment as a Result of	**Eligibility for Pension Benefit**	**Eligibility for Retiree Health Benefit (if different from pension benefit)**	**When do Retiree Health Benefits Commence?**	**Retiree**	**Spouse**	**Retiree Health Care Provider(s)**	**Type of Insurance**	**Third Party Administrator**	**Retiree**	**Spouse (while Retiree is alive)**	**Spouse (after Retiree's death)**
Normal Retirement **(Unreduced pension benefits)**	25 years of service or age 50 with 10 years of service	Retiree & spouse if hired before 9/7/2011 Healthcare savings account if hired after 9/7/2011	Upon retirement	Medical & Drug Life Life	Medical & Drug	Community Blue-BCBS	PPO	BCBS	$96.72/mo See Comment A	$135.41/mo See Comment A	100% after one year
Early Retirement **(Reduced pension benefits)**	20 years of service	Retiree & spouse if hired before 9/7/2011 Healthcare savings account if hired after 9/7/2011	When they would have completed 25 years of service	Medical & Drug Life Life	Medical & Drug	Community Blue-BCBS	PPO	BCBS	$96.72/mo See Comment A	$135.41/mo See Comment A	100% after one year
Deferred Vested Termination	At age 50 with at least 10 years	None for retiree & spouse if hired before 9/7/2011 Healthcare savings account if hired after 9/7/2011	N/A								
Non-Duty Disability	After 10 years of service	Must meet normal age & service requirements Healthcare savings account if hired after 9/7/2011	Pension Board Approval	Medical & Drug Life Life	Medical & Drug	Community Blue-BCBS	PPO	BCBS	$96.72/mo See Comment A	$135.41/mo See Comment A	100% after one year
Duty Disability	Given 25 years of service	Retiree & spouse if hired before 9/7/2011 Healthcare savings account if hired after 9/7/2011	Pension Board Approval	Medical & Drug Life Life	Medical & Drug	Community Blue-BCBS	PPO	BCBS	$96.72/mo See Comment A	$135.41/mo See Comment A	100% after one year
Non-Duty Death-in-Service	If vested	If age or service eligible	Day prior to death		Medical & Drug						100% after one year
Duty Death-in-Service	Same as Duty Disability										

Comment A: The retiree pays the active contribution rates in the year they retire. For members retiring before December 1, 2017, the retiree will continue to pay the increasing active contribution rate in future years until their contribution amount is 150% of the amount the retiree paid in the year of retirement, at which point the retiree contribution amount is frozen. For members retiring after November 30, 2017, the retiree will continue to pay the increasing active contribution rate in future years until their contribution amount is 175% of the amount the retiree paid in the year of retirement, at which point the retiree contribution amount is frozen.

Comment B: Retirees are eligible for a $1,000 lump sum death benefit, the plan is fully-insured.

Comment C: Retirees after 1/1/2010 and certain existing retirees are reimbursed for Medicare Part B premiums. Certain retirees electing the incentive are also eligibile for reimbursement of late enrollment penalties. Post-Medicare retiree cost-sharing remains the same as pre-65.

Comment D: There are retirees currently opting out of the retiree health care plan, they may re-enroll at open enrollment or with a qualifying insurance event, there is no stipend for waiving coverage.

Comment E: There are retirees whose benefit is not described above, data was provided individually by the City for the valuation.

Comment F: This is a brief summary of the City of Kalamazoo's Postretirement Welfare Plan Benefit provisions. In the event that any description contained herein differs from the actual eligibility or benefit, the appropriate employee contract or governing document will prevail.

Summary of Benefit Provisions for the Post-Retirement Welfare Benefits Plan

Group Name ATU Union Employees - CCTA

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
				Coverage Provided by Employer					Retiree Share of Cost for		
Leaving Employment as a Result of	**Eligibility for Pension Benefit**	**Eligibility for Retiree Health Benefit (if different from pension benefit)**	**When do Retiree Health Benefits Commence?**	**Retiree**	**Spouse**	**Retiree Health Care Provider(s)**	**Type of Insurance**	**Third Party Administrator**	**Retiree**	**Spouse (while Retiree is alive)**	**Spouse (after Retiree's death)**
Normal Retirement **(Unreduced pension benefits)**	Age 57 with 25 years of service or age 62 with 10 years	Retiree & spouse if hired before 9/7/2011 Healthcare savings account if hired after 9/7/2011	Upon retirement	Medical & Drug Life Life	Medical & Drug	Community Blue-BCBS	PPO	BCBS	$96.72/mo See Comment A	$135.41/mo See Comment A	100% after one year
Early Retirement **(Reduced pension benefits)**	Age 55 with at least 15 years of service	Retiree & spouse if hired before 9/7/2011 Healthcare savings account if hired after 9/7/2011	Upon retirement	Medical & Drug Life Life	Medical & Drug	Community Blue-BCBS	PPO	BCBS	$96.72/mo See Comment A	$135.41/mo See Comment A	100% after one year
Deferred Vested Termination	At age 62 with at least 10 years	None for retiree & spouse if hired before 9/7/2011 Healthcare savings account if hired after 9/7/2011	N/A								
Non-Duty Disability	After 10 years of service	Must meet normal age & service requirements Healthcare savings account if hired after 9/7/2011	Upon retirement if eligible	Medical & Drug Life Life	Medical & Drug	Community Blue-BCBS	PPO	BCBS	$96.72/mo See Comment A	$135.41/mo See Comment A	100% after one year
Duty Disability	Given credit to voluntary age & service requirements	Retiree & spouse if hired before 9/7/2011 Healthcare savings account if hired after 9/7/2011	Pension Board Approval	Medical & Drug Life Life	Medical & Drug	Community Blue-BCBS	PPO	BCBS	$96.72/mo See Comment A	$135.41/mo See Comment A	100% after one year
Non-Duty Death-in-Service	If vested	If age or service eligible	Day prior to death		Medical & Drug						100% after one year
Duty Death-in-Service	Same as Duty Disability										

Comment A: The retiree pays the active contribution rates in the year they retire, payment does not increase after retirement.
Comment B: Retirees are eligible for a $1,000 lump sum death benefit, the plan is fully-insured.
Comment C: Retirees are not reimbursed by the City for Medicare Part A or Part B Premiums. Post-Medicare retiree cost-sharing remains the same as pre-65.
Comment D: There are retirees currently opting out of the retiree health care plan, they may re-enroll at open enrollment or with a qualifying insurance event, there is no stipend for waiving coverage.
Comment E: There are retirees whose benefit is not described above, data was provided individually by the City for the valuation.
Comment F: This is a brief summary of the City of Kalamazoo's Postretirement Welfare Plan Benefit provisions. In the event that any description contained herein differs from the actual eligibility or benefit, the appropriate employee contract or governing document will prevail.

Summary of Benefit Provisions for the
Post-Retirement Welfare Benefits Plan

Group Name KMEA Union Employees - City of Kalamazoo and CCTA

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
				Coverage Provided by Employer					Retiree Share of Cost for		
Leaving Employment as a Result of	**Eligibility for Pension Benefit**	**Eligibility for Retiree Health Benefit (if different from pension benefit)**	**When do Retiree Health Benefits Commence?**	**Retiree**	**Spouse**	**Retiree Health Care Provider(s)**	**Type of Insurance**	**Third Party Administrator**	**Retiree**	**Spouse (while Retiree is alive)**	**Spouse (after Retiree's death)**
Normal Retirement **(Unreduced pension benefits)**	Age 57 with 25 years of service or age 62 with 10 years	Retiree & spouse if hired before 6/1/2009 Healthcare savings account if hired after 6/1/2009	Upon retirement	Medical & Drug Life Life	Medical & Drug	Community Blue-BCBS	PPO	BCBS	$96.72/mo See Comment A	$135.41/mo See Comment A	100% after one year
Early Retirement **(Reduced pension benefits)**	Age 55 with at least 15 years of service	Retiree & spouse if hired before 6/1/2009 Healthcare savings account if hired after 6/1/2009	Upon retirement	Medical & Drug Life Life	Medical & Drug	Community Blue-BCBS	PPO	BCBS	$96.72/mo See Comment A	$135.41/mo See Comment A	100% after one year
Deferred Vested Termination	At age 62 with at least 10 years (8 years if hired before 1/1/2009)	None for retiree & spouse if hired before 6/1/2009 Healthcare savings account if hired after 6/1/2009	N/A								
Non-Duty Disability	After 10 years of service (8 years if hired before 1/1/2009)	Must meet normal age & service requirements Healthcare savings account if hired after 6/1/2009	Upon retirement if eligible	Medical & Drug Life Life	Medical & Drug	Community Blue-BCBS	PPO	BCBS	$96.72/mo See Comment A	$135.41/mo See Comment A	100% after one year
Duty Disability	Given credit to voluntary age & service requirements	Retiree & spouse if hired before 6/1/2009 Healthcare savings account if hired after 6/1/2009	Pension Board Approval	Medical & Drug Life Life	Medical & Drug	Community Blue-BCBS	PPO	BCBS	$96.72/mo See Comment A	$135.41/mo See Comment A	100% after one year
Non-Duty Death-in-Service	If vested	If age or service eligible	Day prior to death		Medical & Drug						100% after one year
Duty Death-in-Service	Same as Duty Disability										

Comment A: The retiree pays the active contribution rates in the year they retire. For members retiring before December 1, 2017, the retiree will continue to pay the increasing active contribution rate in future years until their contribution amount is 150% of the amount the retiree paid in the year of retirement, at which point the retiree contribution amount is frozen. For members retiring after November 30, 2017, the retiree will continue to pay the increasing active contribution rate in future years until their contribution amount is 175% of the amount the retiree paid in the year of retirement, at which point the retiree contribution amount is frozen.

Comment B: Retirees are eligible for a $1,000 lump sum death benefit, the plan is fully-insured.

Comment C: Retirees are not reimbursed by the City for Medicare Part A or Part B Premiums. Post-Medicare retiree cost-sharing remains the same as pre-65.

Comment D: There are retirees currently opting out of the retiree health care plan, they may re-enroll at open enrollment or with a qualifying insurance event, there is no stipend for waiving coverage.

Comment E: There are retirees whose benefit is not described above, data was provided individually by the City for the valuation.

Comment F: This is a brief summary of the City of Kalamazoo's Postretirement Welfare Plan Benefit provisions. In the event that any description contained herein differs from the actual eligibility or benefit, the appropriate employee contract or governing document will prevail.

SECTION D

SUMMARY OF THE INFORMATION SUBMITTED FOR THE VALUATION

Reported Financial Information
for the Year Ended December 31, 2016 (Market Value)

Revenues and Expenditures During the Year

Revenues:		
a. Retiree contributions	$ 885,073	
b. Employer contributions	3,500,000	
c. Interest and dividends	2,558,270	
d. Net Appreciation in Fair Value of Investments	2,275,599	
e. Unrealized gains and losses	6,425,507	
f. Total		$15,644,449
Expenditures:		
a. Benefits paid	10,284,889	
b. Administrative expenses	65,091	
c. Investment expenses	306,039	
d. Total		10,656,019
Reserve Increase:		
Total revenues minus total expenditures		$4,988,430

Assets and Reserves

Assets:		**Reserves for Employer Contributions:**	
a. Cash or equivalents	$ 76,276	a. General Fund	$ 95,379,078
b. Receivables net of payables	(919,695)	b. Metro Fund	0
c. Stocks	66,103,707	c. Water Fund	0
d. Fixed income	25,072,472	d. Wastewater Fund	0
e. Real Estate Investment Fund	5,046,318		
f. Funding Value Adjustment	0		
Total	$95,379,078	Total	$95,379,078

Active Members as of January 1, 2017
by Age and Years of Service *

	Years of Service to Valuation Date							Totals
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30 Plus**	**No.**
20-24								
25-29		5						5
30-34		23	16					39
35-39		5	19	7	1			32
40-44		5	14	33	11	1		64
45-49		5	7	38	39	4	1	94
50-54		6	8	12	18	9	3	56
55-59		4	6	13	18	6	1	48
60-64		3	4	11	13	4	2	37
65 & Over				2	1			3
Totals		**56**	**74**	**116**	**101**	**24**	**7**	**378**

** Excludes 243 individuals who are not eligible for retiree health insurance at retirement. A Health Savings Account is available instead. Life insurance was valued for all 621 active members.*

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age:	47.0	years
Service:	17.3	years

Inactive Members as of January 1, 2017
by Age and Coverage Type

Number of Retiree and Beneficiary Contracts*

	Opt-Out/ Ineligible	One-Person Coverage	Two-Person Coverage	Total
Male	101	158	362	621
Female	165	121	56	342
Total	266	279	418	963

** Members receiving more than one pension were only counted once for purposes of OPEB benefits.*

Notes:

Opt-Out/Ineligible: *Includes 41 retirees who waived coverage but are assumed to begin drawing benefits in the future.*

One-Person Coverage: *Includes family coverage.*

Two-Person Coverage: *Includes surviving spouses who receive City paid coverage for one year following the member's death.*

Age	Current Retirees Number of Those Covered
0-44	2
45-49	15
50-54	41
55-59	95
60-64	131
65-69	143
70-74	107
75-79	67
80-84	51
85-89	27
90-94	15
95 +	3
Totals	697

Number of Terminated Vested Contracts

Terminated vested members are not eligible for Plan benefits.

SECTION E

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Actuarial Methods

The actuarial assumptions used for this report were based upon the results of an Experience Study for the City of Kalamazoo Employees Retirement System covering the period January 1, 2009 through December 31, 2013. A report dated February 19, 2015 presented the results of this Experience Study.

Actuarial Cost Method. Normal cost and the allocation of benefit values between service rendered before and after the valuation date was determined using an **Individual Entry-Age Actuarial Cost Method** having the following characteristics:

(i) the annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement; and

(ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Actuarial gains (losses), as they occur, reduce (increase) the Unfunded Actuarial Accrued Liability.

Financing of Unfunded Actuarial Accrued Liabilities. Unfunded Actuarial Accrued Liability (UAAL) (full funding credit if assets exceed liabilities) were amortized as a level dollar over a 25-year period.

Amortization of Unfunded Actuarial Accrued Liability. The following amortization factors were used in developing the Annual Required Contribution for the year shown:

	2017 Calendar Year
City of Kalamazoo (Level Dollar)	11.5599

Asset valuation method. Last year's valuation assets are increased by contributions and expected investment income on last year's valuation assets and non-investment net cash flow and reduced by refunds, benefit payments and expenses. To this amount is added the phased-in recognition of investment income. The phased-in recognition is the sum over the five years ending on the valuation date of 20% of the difference between each year's expected return and actual market return.

Actuarial Assumptions

Investment Return. The rate of investment return is compounded annually net of investment expenses.

Investment Return	7.50%
Wage Inflation	3.50%
Price Inflation	2.75%
Spread Between Investment Return and Wage Inflation	4.00%
Spread Between Investment Return and Price Inflation	4.75%

The rates of salary increase used for individual members are in accordance with the following tables.

The annual rate of pay increases consists of two parts:

(i) a long-term rate of pay inflation equal to 3.50%; and

(ii) merit and longevity increases which vary according to age or length of service. These rates are illustrated below:

Years of Service	KMEA	AFSCME	All Exempt	Non-Sworn Public Safety	CCTA Union	Public Safety
1	6.0%	8.0%	6.0%	8.0%	7.0%	12.0%
2	5.0	3.0	6.0	7.0	7.0	12.0
3	4.0	3.0	0.5	6.0	6.0	5.5
4	2.0	2.0	0.5	4.0	5.0	4.5
5	1.0	2.0	0.5	3.0	4.0	4.5
6	1.0	1.0	0.3	1.5	0.0	4.0
7	1.0	0.0	0.3	1.5	0.0	4.0
8	1.0	0.0	0.3	1.5	0.0	4.0
9	0.0	0.0	0.3	1.5	0.0	1.5
10	0.0	0.0	0.3	1.5	0.0	1.3
11	0.0	0.0	0.3	0.5	0.0	1.0
12	0.0	0.0	0.3	0.3	0.0	1.0
13	0.0	0.0	0.3	0.3	0.0	0.5
14	0.0	0.0	0.3	0.3	0.0	0.5
thereafter	0.0	0.0	0.3	0.3	0.0	0.5

Actuarial Assumptions (Continued)

The mortality table used was the RP-2000 Mortality Combined Healthy Tables, projected 20 years with U.S. Projection Scale BB.

	Value at Retirement of $1 Monthly for Life*		Future Life Expectancy (years)	
Ages	**Men**	**Women**	**Men**	**Women**
50	$144.67	$147.85	32.99	35.59
55	137.49	141.58	28.37	30.90
60	128.51	133.44	23.94	26.34
65	117.58	123.33	19.74	21.98
70	104.59	111.45	15.83	17.93
75	89.73	97.95	12.26	14.25
80	73.73	83.02	9.13	10.95

**Values are before post-retirement increases are reflected.*

This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement. Rates for disabled members were set-forward 7 years.

Actuarial Assumptions (Continued)

The rates of retirement used to measure the probability of eligible members retiring during the next year were as follows:

Retirement Ages	KMEA	AFSCME	All Exempt	Non-Sworn Public Safety	CCTA Union
55	2%	6%	10%	10%	10%
56	2	7	10	10	10
57	5	10	25	25	25
58	5	7	25	25	25
59	7	6	20	20	20
60	15	30	25	25	25
61	15	20	30	30	30
62	50	60	30	30	30
63	15	25	15	15	15
64	10	25	15	15	15
65	100	100	100	100	100

Years of Service	Public Safety
20	2%
21	4
22	4
23	2
24	2
25	70
26	30
27	45
28	25
29	25
30	100

Retirement probabilities were applied for General and CCTA members after both attaining age 55 and completing 15 years of service, or age 62 with 10 years of service (5 years for Exempt hired before 9/1/2010, 9 years for AFSCME and 8 years for KMEA hired before 1/1/2009). AFSCME members are also considered eligible for retirement at age 60 with 20 or more years of service. Retirement probabilities were applied for Public Safety members upon completion of 20 years of service with 100% retirement probability assumed at age 60 with 10 years of service.

Actuarial Assumptions (Continued)

Rates of separation from active membership were as shown below (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members remaining in employment.

		% of Active Members Separating within Next Year					
Sample Ages	Years of Service	KMEA	AFSCME	All Exempt	Non-Sworn Public Safety	CCTA Union	Public Safety
	0	15.0%	15.0%	15.0%	15.0%	15.0%	6.0%
	1	14.0	14.0	14.0	14.0	14.0	4.0
	2	9.0	9.0	9.0	9.0	9.0	3.0
	3	8.0	8.0	8.0	8.0	8.0	2.5
	4	7.0	7.0	7.0	7.0	7.0	2.5
25	5 or Over	7.4	7.4	7.4	7.4	7.4	2.2
30		5.8	5.8	5.8	5.8	5.8	2.0
35		5.0	5.0	5.0	5.0	5.0	1.4
40		4.0	4.0	4.0	4.0	4.0	1.1
45		3.3	3.3	3.3	3.3	3.3	0.8
50		2.5	2.5	2.5	2.5	2.5	0.6
55		2.0	2.0	2.0	2.0	2.0	0.4
60		2.0	2.0	2.0	2.0	2.0	0.4

Actuarial Assumptions (Continued)

Disability Rates

Disability rates are used in the valuation to estimate the incidence of member disability in future years.

The assumed rates of disablement at various ages are shown below:

	% of Active Members Becoming Disabled Within Next Year	
Sample Ages	Public Safety CCTA Union AFSCME	KMEA All Exempt CSO
20	0.23%	0.04%
25	0.27	0.04
30	0.32	0.04
35	0.40	0.04
40	0.55	0.10
45	0.76	0.13
50	1.45	0.25
55	2.84	0.45
60	0.00	0.71

Actuarial Assumptions (Concluded)

Health care cost trend rates are displayed in the following table:

Year After Valuation	Health Care Trend Inflation Rates Medical and Drug
1	9.00%
2	8.25
3	7.50
4	6.75
5	6.25
6	5.75
7	5.25
8	4.75
9	4.25
10 +	3.50

Health Care Coverage at Retirement as described in the table below, shows the assumed portion of future retirees currently waiving coverage, electing one-person or two-person/family coverage, or opting-out of coverage entirely. It was also assumed active employees currently opting-out of health care would elect health care based on the following table:

		Two-Person/Family		
	One-Person	**Electing**	**Continuing***	**Opt-Out**
All Groups	25%	70%	100%	5%

* *Continuation period for surviving spouses is one year.*

Current Waivers:

Non-ERI retirees who are opting-out of health care were assumed to continue opting-out of health care indefinitely. If current non-ERI retirees choose to opt-back-in for coverage, if allowed, there would be a loss in future valuations.

ERI retirees currently waiving coverage are assumed to return to coverage at age 62.

Miscellaneous and Technical Assumptions

Administrative Expenses	No explicit assumption has been made for administrative expenses.
Decrement Operation	Death-in-service decrement does not operate until member becomes vested. Withdrawal does not operate during retirement eligibility.
Decrement Timing	Decrements are assumed to occur at the middle of the fiscal year.
Decrement Relativity	Decrement Rates are used directly from the experience study of the pension retirement system, without adjustment for multiple decrement effects.
Eligibility Testing	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
Incidence of Contributions	Contributions are assumed to be received continuously throughout the year based upon the computed dollar amount shown in this report.
Marriage Assumption	100% of males and 100% of females are assumed to be married at time of in-service death. Male spouses are assumed to be three years older than female spouses for active valuation purposes.
Excise Tax Liability	Current retiree rates have been loaded 1.25% to reflect expected future excise tax liability due to projected "Cadillac Plan" status.
Surviving Spouse Benefit	Surviving spouses of active and retired members of the plan are given one year of benefit at the cost the retiree has to pay, after one year the spouse must pay 100% of premium. Liabilities have been loaded 1.00% to account for this benefit.
Medicare Coverage	Assumed to be available for all covered employees on attainment of age 65. Disabled retirees were assumed to be eligible for Medicare coverage at age 65.

APPENDIX A

OVERVIEW

GASB Background

The purpose of this valuation is to provide information on the cost associated with providing postemployment benefits other than pensions, or OPEB, to current and former employees. The information is designed to assist you in complying with Governmental Accounting Standards Board (GASB) Statements No. 43 and No. 45. OPEB benefits are most often associated with postemployment health care, but cover almost any benefit not provided through a pension plan, including life insurance, dental and vision benefits. It is important to note that OPEB benefits, by definition, do not include benefits *currently* being provided to active employees; however, this report includes the liabilities for benefits expected to be paid to current active employees in the future when they retire.

GASB Statements No. 43 and No. 45 were released in the spring of 2004. GASB Statement No. 43 covers the accounting rules for OPEB *plans* while GASB Statement No. 45 describes the rules for *employers* sponsoring OPEB plans. Your auditor can assist you in determining which statements apply to your particular situation.

The specific items required to be disclosed on an OPEB sponsor's financial statements are described in detail in GASB Statements No. 43 and No. 45.

GASB Statement No. 45

Among the requirements of GASB Statement No. 45 are recognition each year of an expense called the Annual OPEB Cost, and the accumulation of a liability to be disclosed on the employer's Statement of Net Assets called the Net OPEB Obligation (NOO).

The fundamental items required to determine the Annual OPEB Cost and the NOO are:

- the Annual Required Contribution (ARC)
- the Employer's Contributions in relation to the ARC

Although GASB does not require OPEB contributions, it has chosen to call the base component of the annual OPEB cost the Annual Required Contribution (ARC). The ARC is provided in this report.

GASB Background (Continued)

Paragraph 13g. of GASB Statement No. 45 states:

> "An employer has made a contribution in relation to the ARC if the employer has:
>
> 1. made payments of benefits directly to or on behalf of a retiree or beneficiary,
> 2. made premium payments to an insurer, or
> 3. irrevocably transferred assets to a trust, or 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."

For each fiscal year shown in this report, we have provided the ARC and the estimated benefits and/or premiums (based on valuation assumptions).

The NOO is the cumulative difference between the Annual OPEB Cost each year and the Employer's Contribution in relation to the ARC. The Annual OPEB Cost for a year is equal to:

- the ARC, plus
- interest on the prior year's NOO, plus
- amortization of the prior year's NOO.

The Annual OPEB Cost and NOO are generally developed by the Plan Sponsor's auditor based on information contained herein and elsewhere.

GASB Statement No. 43

If the Plan has assets for Statement No. 43 purposes, then certain additional information useful in complying with the Statement is contained in this report.

OPEB Pre-Funding

Many employers fund retiree health care benefits using the pay-as-you-go (or cash disbursement) method. Under this method, the employer's annual contribution is equal to the actual disbursements during the year for OPEB for retired employees. This method of funding will result in increasing contributions over time. First, per capita cash disbursements will tend to increase from year-to-year as the cost of health care services, or the utilization of these services, increases. Second, the number of retired members is likely to increase for years to come. The more retirees, the greater the disbursements as a percentage of employee payroll.

A retiree health care plan is similar to a defined benefit pension plan in that promises are made to employees to provide them with a benefit payable at some future date. For defined benefit pension plan sponsors, a common funding objective is to contribute to a fund, annual amounts which will: i) remain level as a percentage of active member payroll; and ii) when combined with present assets and future investment return be sufficient to meet the financial obligations of the Plan to current and future retirees.

The GASB statements are not funding requirements. They are accounting standards that require Plan Sponsors to calculate the annual expense associated with OPEB using certain methods.

The ultimate determination as to the level of pre-funding will be the result of decisions made in an attempt to support benefit security for members and the fiscal management needs of the employer.

APPENDIX B

GLOSSARY

Glossary

Accrued Service. The service credited under the plan which was rendered before the date of the actuarial valuation.

Actuarial Accrued Liability. The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as "accrued liability" or "past service liability."

Actuarial Assumptions. Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future plan benefits" between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the "actuarial funding method."

Actuarial Equivalent. A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.

Actuarial Present Value. The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Amortization. Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

Glossary

Annual Required Contribution (ARC). The ARC is the normal cost plus the portion of the unfunded actuarial accrued liability to be amortized in the current period. The ARC is an amount that is actuarially determined in accordance with the requirements so that, if paid on an ongoing basis, it would be expected to provide sufficient resources to fund both the normal cost for each year and the amortized unfunded actuarial accrued liability.

Governmental Accounting Standards Board (GASB). GASB is the private, nonpartisan, nonprofit organization that works to create and improve the rules U.S. state and local governments follow when accounting for their finances and reporting them to the public.

Implicit Rate Subsidy. It is common practice for employers to allow retirees to continue in the employer's group health insurance plan (which also covers active employees), often charging the retiree some portion of the premium charged for active employees. Under the theory that retirees have higher utilization of services, the difference between the true cost of providing retiree coverage and what the retiree is being charged is known as the implicit rate subsidy.

Medical Trend Rate (Health Care Inflation). The increase in the cost of providing health care benefits over time. Trend includes such elements as pure price inflation, changes in utilization, advances in medical technology, and cost shifting.

Normal Cost. The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as "current service cost." Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

Other Postemployment Benefits (OPEB). OPEB are postemployment benefits other than pensions. OPEB generally takes the form of health insurance, dental, vision, prescription drugs, life insurance or other health care benefits.

Reserve Account. An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

Glossary

Unfunded Actuarial Accrued Liability. The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded actuarial accrued liability."

Valuation Assets. The value of current plan assets recognized for valuation purposes.

APPENDIX C

VALUATION RESULTS BY FUND

Valuation Results by Fund

The purpose of this appendix is to segregate the results of the January 1, 2017 valuation of Postretirement Welfare Benefits for the City of Kalamazoo by OPEB fund.

The Annual Required Contribution (ARC) is developed on a Plan-wide basis, and could be significantly different than the results as determined for each individual fund.

The following ***additional data*** was provided by the City for use in this study:

- Allocation percentages for Funding Sources within General-PublicWorks
  - 18%: General-PublicWorks
  - 31%: Major Streets
  - 25%: Local Streets
  - 26%: Solid Waste
- Asset Allocation Method: Use of equal funded ratio for each fund.
- General-Public Works results are grouped under the "General" heading.

Restatement of January 1, 2017 Valuation Results by Fund

Fund:	Total	Governmental: Total Governmental	Governmental: General	Governmental: Major Streets	Governmental: Local Streets	Governmental: Solid Waste	Wastewater	Water	Metro Transit/CCTA
Development of the Annual Required Contribution									
Contributions for Calendar Year 2017									
1. Employer Normal Cost	$ 1,490,219	$ 1,192,956	$ 1,149,613	$ 16,386	$ 13,214	$ 13,743	$ 80,137	$ 46,735	$ 170,391
2. Amortization of Unfunded Actuarial Accrued Liability^	6,120,417	4,368,996	4,124,233	92,532	74,623	77,608	725,530	580,615	445,276
3. Annual Required Contribution (ARC)	$ 7,610,636	$ 5,561,952	$ 5,273,846	$ 108,918	$ 87,837	$ 91,351	$ 805,667	$ 627,350	$ 615,667
Determination of Unfunded Actuarial Accrued Liability as of January 1, 2017									
4. Present Value of Future Benefits									
i. Retirees and Beneficiaries*	$126,099,709	$ 88,796,874	$ 84,291,885	$1,703,105	$1,373,473	$1,428,411	$16,067,955	$13,433,215	$ 7,801,665
ii. Vested Terminated Members	0	0	0	0	0	0	0	0	0
iii. Active Members	49,603,169	37,821,922	35,484,331	883,724	712,680	741,187	4,016,786	2,573,983	5,190,478
iv. Total Present Value of Future Benefits (4.i. + 4.ii. + 4.iii.)	$175,702,878	$126,618,796	$119,776,216	$2,586,829	$2,086,153	$2,169,598	$20,084,741	$16,007,198	$12,992,143
5. Present Value of Future Normal Costs	$ 9,645,909	$ 8,080,764	$ 7,879,009	$ 76,273	$ 61,511	$ 63,971	$ 399,924	$ 254,161	$ 911,059
6. Actuarial Accrued Liability (4.iv. - 5.)	$166,056,969	$118,538,031	$111,897,207	$2,510,555	$2,024,642	$2,105,627	$19,684,817	$15,753,037	$12,081,084
7. Actuarial Value of Assets	$ 95,305,474	$ 68,032,817	$ 64,221,433	$1,440,889	$1,162,007	$1,208,488	$11,297,754	$ 9,041,178	$ 6,933,725
8. Unfunded Actuarial Accrued Liability (6. - 7.)	$ 70,751,495	$ 50,505,214	$ 47,675,774	$1,069,666	$ 862,635	$ 897,139	$ 8,387,063	$ 6,711,859	$ 5,147,359
9. Funded Ratio (7. / 6.)	57.4%	57.4%	57.4%	57.4%	57.4%	57.4%	57.4%	57.4%	57.4%

^ A 25-year amortization period is utilized for the 2017 calendar year.

** Includes additional liability due to Early Retirement Incentive (ERI) retirees currently waiving retiree health care through the City, but assumed to return to coverage at a later date.*

Note: The results displayed above were developed using the census/claims data, benefits, and actuarial methods/assumptions used in the January 1, 2017 valuation, including an interest rate of 7.50%.