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City of Crossville, Tennessee

GASB Statement No. 75 - OPEB Reporting
(Postemployment Benefits Other than Pensions)

Actuarial Valuation
For the Fiscal Year Ending
June 30, 2018

Report: October 1, 2018

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October 1, 2018

Fred Houston, CPA
Finance Department
City of Crossville
99 Municipal Avenue
Crossville, Tennessee 38555

Re: GASB 75 OPEB Actuarial Valuation for Fiscal Year Ending June 30, 2018

Dear Mr. Houston,

CapRisk presents the following FY2018 GASB 75 report, summarizing the results of the OPEB valuation performed by our consulting actuary for the City of Crossville. Please note all references to FY2018 are for the 12-month period ending June 30, 2018.

The medical plan has both a direct and implicit subsidy by the employer sponsor, so there are costs determined under GASB 75. The City pays all or part of the contribution for elected coverage for eligible retirees until they reach age 65. This valuation has been prepared without the sunset provision used in prior valuations. That provision provided subsidized medical coverage for retirements prior to July 1, 2020 but not thereafter.

The mortality assumption for this valuation was updated using the RPH-2014 mortality table with Projection MP-2017. The termination and retirement rate tables were revised based on the assumptions used in the current actuarial valuations prepared for the Tennessee Consolidated Retirement plan covering local governments. More detail about this update may be found on Page 14 of the valuation report. Please note the discount rate was raised from 3.00% to 3.88% to conform with the discount selection requirements of GASB 75.

This analysis has been performed using generally accepted actuarial principles and in accord with all relevant Actuarial Standards of Practice. Thank you for the opportunity to work on this assignment. Please let us know should you have any questions or require additional information regarding this report.

Best Regards,

CAPRISK CONSULTING GROUP:

James M. Owen

James M. Owen, Managing Principal
877.747.5238, Ext. 411 / JOwen@CapRiskGroup.com

Cc: Wilfred L. Thornthwaite, Consulting Actuary

City of Crossville, Tennessee

Postemployment Benefits Other than Pensions Actuarial Valuation

SCOPE OF STUDY

CapRisk Consulting Group was engaged by the **City of Crossville, Tennessee** to provide an actuarial valuation of the liabilities for postemployment benefits other than pensions ("OPEB") for the fiscal year ending June 30, 2018. The following report includes:

- Net OPEB Liability ("NOL") for the fiscal year.
- Net OPEB Expense ("NOE") for the fiscal year.
- Other disclosure items for the fiscal year.

The City adopted GASB Statement No. 75 ("GASB 75") for the fiscal year beginning July 1, 2017. This report has been prepared on that basis. All references to FY2018 are for the 12-month period ending June 30, 2018.

This report has been prepared by Wilfred L. Thornthwaite, FSA, MAAA, Consulting Actuary for the firm. Other members of the firm also assisted in this project.

EXECUTIVE SUMMARY

The City of Crossville ("City") provides medical benefits (including prescription drugs), to eligible retirees and their covered dependents. The City pays the full single coverage contribution rate for these benefits and approximately 55% of the contribution rate for family coverage. Other benefits such as dental and life coverage are also available to retirees but are not deemed subsidized by the City. All active employees who retire directly from the City and meet the eligibility criteria may participate.

The Medicare Prescription Drug, Improvement and Modernization Act of 2003 was enacted on December 8, 2003. As a result of this legislation, employers providing drug coverage to Medicare eligible retirees, that is, at least actuarially equivalent to the standard benefit provided by Medicare, may be eligible to receive a federal subsidy.

GASB has taken the position that any federal subsidy received should be reported as revenue to the plan sponsor and not used as an offset to the GASB liabilities. This report is prepared on that basis.

This summary identifies the value of benefits at June 30, 2018 and costs for the 2018 Fiscal Year:

	June 30, 2018		
	Initial Results	Medicare Prescription Savings	Final
Present Value of Future Benefits	2,395,858	NA	2,395,858
Total OPEB Liability (TOL)	1,753,400	NA	1,753,400
Fiduciary Net Position (FNP)	0	NA	0
Net OPEB Liability (NOL)	1,753,400	NA	1,753,400
FY 2018 Expected OPEB Contributions [includes any implicit subsidy] *	140,299	NA	140,299
* The FY2018 implicit subsidy is $ 60,558.			

This section presents detailed valuation results for the City's Plan.

- ► The **Present Value of Future Benefits** is the total present value of all expected future benefits, based on certain actuarial assumptions. The Present Value of Future Benefits is a measure of total liability or obligation. Essentially, this present value is the value (on the valuation date) of the benefits promised current and future retirees. The Plan's present value of all projected benefits (at June 30, 2018) is **$ 2,395,858**. The majority of this liability is for current active employees (future retirees).

- ► The **Total OPEB Liability (TOL)** is the liability or obligation for benefits earned through the valuation date, based on certain actuarial methods and assumptions. The Plan's TOL (at June 30, 2018) is **$ 1,753,400**. The majority of this liability is for active employees. The TOL represents **73.18%** of the present value of all projected benefits.

- ► **Service Cost** is the value of benefits expected to be earned during the year, again based on certain actuarial methods and assumptions. The 2018 Fiscal Year Service Cost (at June 30, 2018) is **$ 49,775**.

The results were calculated based upon plan provisions, as provided by the City, along with certain demographic and economic assumptions as recommended by our consulting actuary with guidance from the GASB statement.

Demographic Assumptions

Data was provided by the City as of September 2018. Appropriate adjustments in this data were made for the actuarial valuation. There is no assumption for future hires.

Economic Assumptions

The GASB statement requires that the discount rate used to determine the plan liabilities for retiree healthcare benefits is based on the earnings rate of the plan assets if the projected assets are sufficient to cover the projected benefit payments. If the projected assets are not sufficient then a municipal bond index rate must be used for discounting benefits not covered by the projected assets. Since there are no plan assets held in trust the Bond Buyer GO Bond 20 Index is used for determining the discount rate of **3.88%**.

The trend assumption is used to project the growth of the expected claims over the lifetime of the healthcare recipients. The GASB statement does not require a particular source for information to determine healthcare trends, but it does recommend selecting a source that is "publicly available, objective and unbiased".

The balance of this report provides greater detail for the above results.

The following highlights the City's recognition of the above amounts:

- The June 30, 2018 Plan Fiduciary Net Position is $ 0
- The FY 2018 Total OPEB Expense is $ 116,027.
- Expected FY 2018 OPEB contributions are $ 140,299 (includes $ 79,741 in direct subsidy contributions made by the employer.)

The following table shows results by active and retired employee groups as of June 30, 2018:

	Initial Results	Medicare Prescription Savings	Final
Present Value of Future Benefits			
Actives	1,539,114	NA	1,539,114
Retirees	856,744	NA	856,744
Total	2,395,858	NA	2,395,858
Total OPEB Liability (TOL)			
Actives	896,656	NA	896,656
Retirees	856,744	NA	856,744
Total	1,753,400	NA	1,753,400
Plan Fiduciary Net Position			0
Net OPEB Liability (NOL)			1,753,400
Service Cost			49,775

ACCOUNTING INFORMATION

The adoption date for the new GASB 75 OPEB Accounting Standard was for the Fiscal Year beginning July 1, 2017. The following shows the development of the Net OPEB Liability (NOL), the Total OPEB Expense, the Schedule of Deferred Inflows/Outflows and the Trend and Discount Rate Sensitivity Analysis.

Net OPEB Liability (NOL)

The Standard sets the method for determining the City's Total OPEB Liability and Net OPEB Liability. The Net OPEB Liability is the difference between the Total OPEB liability and the Plan Fiduciary Net Position. The Plan Fiduciary Net Position is zero for plans with no dedicated plan assets. To be included as assets of the plan the assets must be held in an irrevocable trust for the exclusive purpose of providing post-retirement benefits. Changes in benefit terms are recognized immediately. Changes in assumptions and experience gains/losses are amortized over the average remaining service of active employees and inactive participants. Investment gains/losses are amortized over five (5) years.

	Increase (Decrease)		
	Total OPEB Liability (a)	**Plan Fiduciary Net Position (b)**	**Net OPEB Liability (a) – (b)**
Total OPEB Liability July 1, 2017	1,777,672	0	1,777,672
Service Cost	47,916	0	47,916
Interest Cost	68,111	0	68,111
Changes of Benefit Terms	0	0	0
Differences between expected and actual experience	0	0	0
Changes in assumptions	0	0	0
Other changes	0	0	0
Contributions-employer	0	0	0
Net investment income	0	0	0
Benefit payments	(140,299)	0	(140,299)
Administrative Expense	0	0	0
Net change in total OPEB liability	(24,272)	0	(24,272)
Total OPEB Liability June 30, 2018	1,753,400	0	1,753,400

Total OPEB Expense

Part of the disclosure is the Total OPEB Expense included in the financial statements each fiscal year. This expense includes the service cost, interest cost and the amortized amount of each basis required by GASB 75.

Total OPEB Expense	FY2018
Service Cost at July 1, 2017	47,916
Interest Cost (including interest on Service Cost)	68,111
Changes of benefit terms	0
Current Recognized Deferred Outflows/(Inflows)	0
Difference between expected and actual experience	0
Changes in assumptions or other inputs	0
(Other changes, if significant)	0
Difference of Projected Investment Earnings	0
Total OPEB Expense as of June 30, 2018	116,027

Schedule of Deferred Inflows/Outflows

GASB75 requires disclosure of the deferred inflows/outflows resulting from the changes in the Total OPEB liability each year. Included will be a schedule showing the original amortization amount, the years to be amortized, and the remaining balance. If applicable, Appendix A to this report discloses any detailed amortization information.

Schedule of Deferred Inflows/Outflows	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	0	0
Changes of assumptions/inputs	0	0
Net difference between projected and actual investments	0	0
Total	0	0

Sensitivity Analysis of the Trend and Discount Rate

GASB75 requires that a sensitivity analysis of the trend and discount rates used in the valuation. The sensitivity is plus or minus 1% from the base rates used in the valuation. The values shown are as of June 30, 2018.

Trend	Total OPEB Liability	% Difference
1% Decrease (5.50%)	1,599,442	-8.8%
Current Trend 6.50%	1,753,400	
1% Increase (7.50%)	1,933,920	10.3%

Discount Rate	Total OPEB Liability	% Difference
+1% Discount Sensitivity (4.88%)	1,628,956	-7.1%
Current Discount Rate 3.88%	1,753,400	
-1% Discount Sensitivity (2.88%)	1,888,550	7.7%

Projection of Net Inflows (Outflows)

Fiscal Year	Net Inflows (Outflows)
2019	0
2020	0
2021	0
2022	0
2023	0

Required Supplementary Information

Below is the Schedule of Funding Progress. Ultimately 10 years of funding progress will be shown:

Measurement Date	Fiduciary Net Position (a)	Total OPEB Liability – Entry Age Normal Percentage of Salary (b)	Net OPEB Liability (b) – (a)	Funded Ratio (a) / (b)	Covered Payroll (c)	Net OPEB Liability as a Percentage of Covered Payroll [(b) –(a)]/(c)
June 30, 2018	0	1,753,400	1,753,400	0.00%	6,289,366	27.88%
	0			0.00%		
	0			0.00%		

ACTUARIAL CERTIFICATION

Thornthwaite & Co. was retained by CapRisk Consulting Group, on behalf of the City of Crossville, to perform a valuation of its postretirement welfare plan benefits in accordance with GASB Statement No. 75. This valuation has been prepared based on our interpretation of GASB No. 75 and using generally accepted actuarial principles and practices as set forth in the following Actuarial Standards of Practice: ASOP No. 6; ASOP No. 21; ASOP No. 23; and ASOP No. 41.

The consulting actuary is member of the Society of Actuaries and the American Academy of Actuaries and meets their "General Qualification Standards for Prescribed Statements of Actuarial Opinion" related to postretirement welfare plan benefits.

In preparing the results presented in this report, we have relied upon information provided to us regarding plan provisions, plan participants and financial data. While the scope of our engagement did not call for us to perform an audit or independent verification of this information, we have reviewed the information for reasonableness. The accuracy of the results presented in this report is dependent upon the accuracy and completeness of the underlying information.

The actuarial assumptions employed in the development of postretirement welfare plan costs have been selected by the plan sponsor, with the concurrence of Thornthwaite & Co. GASB 75 requires that each significant assumption individually represent the best estimate of a particular future event.

The results shown in this report are reasonable actuarial results. However, a different set of results could also be considered reasonable actuarial results, since the Actuarial Standards of Practice describe a "best-estimate range" for each assumption, rather than a single best-estimate value. Thus, reasonable results differing from those presented in this report could have been developed by selecting different points within the best-estimate ranges for various assumptions.

The information contained in this report was prepared for the internal use of the City of Crossville and its auditors in connection with the actuarial valuation of postretirement welfare plan benefits. It is not intended for, or necessarily suitable for, other purposes. Further distribution or use of all or part of this report to other parties is expressly prohibited without Thornthwaite & Co.'s prior written consent.

Wilfred L. Thornthwaite, FSA, MAAA
Consulting Actuary

October 1, 2018
Date

DEMOGRAPHIC INFORMATION

The following table summarizes active and retiree demographic information.

Status	Employee Only	Employee & Family
Active (=167)	82	85
Retired (=15)	12	3
Total = 182	**94**	**88**

This table reflects eligible active employees and retirees as of June 30, 2018 based on the data provided. Excluded are plan participants who were 65 or older on that date or hired after that date.

Plan Provisions

Medical Benefits

Eligibility	Retirement after age 55 with 30 years of service or age 60 with 20 years of service.
Dependent eligibility	Spouse and eligible children.
Postretirement contributions	There is no retiree contribution for single medical coverage. The retiree pays approximately 45% of the additional contribution for family medical coverage.

Medical Plan Benefit Schedule

Medical	Network	Non-Network
Ind Deduct	$2,500	$5,000
IP Copay	80%	60%
Fam OOP Max	$6,000	$18,000

Other Benefits

Other benefits such as dental and life insurance are provided to eligible retirees with the retiree paying the full contribution rate. These are not included in this valuation.

Retiree medical benefits continue to age 65.

Change in Plan Provisions

The sunset provision that retirement must occur prior to July 1, 2020 to have continued retiree medical coverage has been removed.

Actuarial Method Individual Entry Age Normal Cost Method – Level Percentage of Projected Salary.

Service Cost Determined for each employee as the Actuarial Present Value of Benefits allocated to the valuation year. The benefit attributed to the valuation year is that incremental portion of the total projected benefit earned during the year in accordance with the plan's benefit formula. This allocation is based on each participant's service between date of hire and date of expected termination.

Total OPEB Liability

The Actuarial Present Value of Benefits allocated to all periods prior to the valuation year.

Discount Rate 3.88% (0.88% real rate of return plus 3.00% inflation)

Average Per Capita Claim Cost: Determined as of July 1, 2015

Age	Medical
55	8,158
56	8,362
57	8,571
58	8,786
59	9,005
60	9,230
61	9,461
62	9,698
63	9,940
64	10,189

Health Care Cost Trend 6.50% initial for FY2018 grading to 3.50% in FY2024.

Effect of ACA — The excess coverage excise tax penalty of the Affordable Care Act has been postponed until the plan year beginning in 2022 and is not included in the projection of benefits in this valuation. This plan has current medical costs well under the limits in current law. Current legislative discussions include both repeal of the excise tax and postponement beyond 2022.

Mortality — RPH-2014 Total Table with Projection MP-2017

Turnover — Rates varying based on unisex age and select and ultimate at 3 years. Rates based the TCRS actuarial assumptions from the 2017 retirement plan valuation report. More detail is shown on Page 14.

Disability — None assumed

Retirement Rates — Detail is shown on Page 14.

Retiree Contributions — No contribution paid by the retiree for single medical coverage and approximately 45% contribution for additional family medical coverage. Monthly contribution for retiree for Network P is $ 455.39 for Family, $269.45 for retiree and spouse and $ 209.28 for retiree and children.

Salary Scale — 3.50%

Data Assumptions

Coverage — 100% of all retirees who currently have healthcare coverage will continue with the same coverage.

100% of all actives who currently have healthcare coverage will continue with employee only coverage upon retirement.

Valuation Methodology and Terminology

We have used GASB accounting methodology to determine the postretirement medical benefit obligations.

Valuation Date — June 30, 2018

Measurement Date — June 30, 2018

SELECTION OF ASSUMPTIONS

The discount rate was selected by reviewing the recent published Bond Buyer GO-20 bond index. This is one of the indices acceptable under GASB 75. This index is published weekly and is trending toward 4.00% in recent months. We selected 3.88% as the discount rate for this valuation.

The termination rates were developed from the withdrawal assumption used in the 2017 actuarial report for the TCRS retirement plan covering local government participants. The rates are a two year select and ultimate table. The following are representative rates used in this valuation.

Employee Termination Rates			
	1st Year	2nd Year	Ultimate
Male			
Age 30	21.8%	17.9%	7.4%
Age 40	19.2%	15.9%	3.5%
Age 50	17.0%	13.0%	2.8%
Female			
Age 30	21.8%	17.9%	11.1%
Age 40	19.2%	15.9%	5.4%
Age 50	17.0%	13.0%	3.8%

The retirement rates were developed from the assumption used in the 2017 actuarial report for the TCRS retirement plans. These rates are gender specific and for local government participants in TCRS. The following are representative rates used in this valuation.

Employee Retirement Rates		
Age	Male	Female
60	10.5%	11.0%
61	15.0%	13.0%
62	20.0%	18.0%
63	17.5%	16.0%
64	17.5%	16.0%
65	24.0%	24.0%

The RPH-2014 Total mortality table is a current table used for valuation purposes and the MP-2017 mortality projection used is the most current available.

SUMMARY OF GOVERNMENTAL ACCOUNTING STANDARDS BOARD STATEMENTS NO. 74 AND NO. 75

APPLICABILITY OF ACCOUNTING STANDARDS

The Governmental Accounting Standards Board released Statements No. 74 – Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans ("GASB 74") and Statement No. 75 – Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions ("GASB 75") in June 2015. These two statements supersede GASB Statements 43 and 45, respectively, and establish uniform accounting and financial reporting standards for state and local governmental entities related to postemployment benefits other than pensions.

GASB 74 must be adopted for fiscal years beginning after June 15, 2016, and GASB 75 must be adopted for fiscal years beginning after June 15, 2017. While the previous statements allowed smaller entities the ability to have valuations every three years, the replacement standards require all entities, regardless of size, to have a valuation performed every two years, with roll forward valuations performed on years in between.

ACTUARIAL COST METHOD

Whereas GASB 43 and GASB 45 allowed for one of six different actuarial cost methods, GASB 74 and GASB 75 require the Entry Age Normal cost method based on a level percentage of projected salary.

REQUIRED NOTES TO FINANCIAL STATEMENTS

The following information is required to be disclosed in the notes to financial statements:

- Plan description
- Sources of changes in the net OPEB liability
- Significant assumptions used to calculate the total OPEB liability

REQUIRED SUPPLEMENTARY INFORMATION

The following information is to be included as Required Supplementary Information ("RSI"):

- A ten-year schedule of changes in the net OPEB liability that separately presents the information required for each year
- A ten-year schedule presenting the components of the net OPEB liability and related ratios
- Actuarially-determined contributions (if applicable), with notes showing significant methods and assumptions used in the determination of contributions

GLOSSARY

Actuarial Assumptions Factors that must be assumed for purposes of projecting future benefit payments as part of an actuarial valuation.

Actuarial Cost Method A procedure for determining the Actuarial Present Value of pension plan benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, in the form of a Normal Cost and an Actuarial Accrued Liability. GASB 74/75 requires the Entry Age Normal Method assuming Service Cost is determined as a level percent of pay that would fully fund the benefit promise by the time of retirement.

Actuarial Determined Contributions of the Employer (ADC) The contribution determined by the adopted OPEB Funding Policy. Not applicable to plans using "pay-as-you go" funding where there is no pre-funding of future benefits in a dedicated trust.

Actuarial Valuation A process used by actuaries to 1) project future benefit payments, 2) discount those payments to their total present value, and 3) systematically allocate an appropriate portion of that amount to each period of employee service using the EAN actuarial cost method.

Advance Funding A method of financing benefits by placing resources in trust as employees earn benefits so that the resources thus accumulated, along with related earnings, can be used to make benefit payments as they become due.

Discount (or Interest) Rates The rates used to reflect the time value of money. Discount rates are used in determining the present value as of the valuation date of future cash flows currently expected to be required to satisfy the postretirement benefit obligation.

- For **unfunded plans**, interest rate using a long-term expected rate of return on tax-exempt, high-quality municipal bond.
- For **funded plans**, the expected long-term rate of return on trust assets, to the extent the net fiduciary position is projected to be sufficient to provide the benefits.
- For **partially funded plans** or if a **funded** shortfall is projected, the interest rate is blended between the funded and the unfunded rate.

Explicit Subsidy is created when the public entity contributes to any or all of the retiree healthcare cost.

Implicit Subsidy is created when Public entities offer eligible early retirees the opportunity to purchase lower than age-adjusted premiums using a single/common or blended premium for both retirees and active employees.

Measurement Date The Net OPEB Liability must be measured as of a date no earlier than the end of the prior fiscal year and no later than the end of the current fiscal year.
GASB 74/75 requires an actuarial valuation date to be within 30 months and one day of the end of the most recent fiscal year.

Net OPEB Liability (NOL) (GASB 74/75) or **Unfunded Actuarial Accrued Liability ("UAAL")** (GASB 43/45) is the difference between the AAL and the actuarial value of plan assets. Plan assets are financial assets that are segregated and restricted in a trust (or equivalent arrangement). Assets in this trust are dedicated to providing benefits to plan participants and are legally protected from creditors of employers.

Normal Cost / Service Cost is the portion of the Actuarial Present Value of plan benefits and expenses for active employees which is allocated to a valuation year by the Actuarial Cost Method.

OPEB Expense (GASB 74/75) reflects the annual change in the employer's net OPEB liability, with deferred recognition provided for certain items.

Other Postemployment Benefits (OPEB) are benefits (other than pensions) that employers provide to their former employees. These benefits principally involve health care benefits, but also may include life insurance, dental, disability, legal, and other services when those benefits are provided separately from a pension plan.

Pay-as-you-go A method of financing benefits by making required payments only as they come due.

The **Present Value of Future Benefits (PVFB)** is the present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value of money and the probabilities of payment. Future benefits include all benefits estimated to be payable to plan members based on their service through the valuation date and their expected future service.

Total OPEB Liability (TOL) (GASB 74/74) or **Actuarial Accrued Liability (AAL)** (GASB 43/45) is the portion of the actuarial present value of the total projected benefits allocated to years of employment prior to the measurement date.