



# GASB 75 ACTUARIAL VALUATION

## Fiscal Year Ending June 30, 2020

# TOPEKA METROPOLITAN TRANSIT AUTHORITY

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**September 3, 2020**

**Chip Falldine, CFO  
Topeka Metropolitan Transit Authority  
201 N. Kansas Avenue  
Topeka, KS 66603**

This report summarizes the GASB actuarial valuation for the Topeka Metropolitan Transit Authority 2019/20 fiscal year. To the best of our knowledge, the report presents a fair position of the funded status of the plan in accordance with GASB Statement No. 75 (Accounting and Financial Reporting by Employers for Post-Employment Benefits Other Than Pensions).

The information presented herein is based on the actuarial assumptions and substantive plan provisions summarized in this report and participant information furnished to us by the Plan Sponsor. We have reviewed the employee census provided by the Plan Sponsor for reasonableness when compared to the prior information provided but have not audited the information at the source, and therefore do not accept responsibility for the accuracy or the completeness of the data on which the information is based. When relevant data may be missing, we may have made assumptions we feel are neutral or conservative to the purpose of the measurement. We are not aware of any significant issues with and have relied on the data provided.

The discount rate, other economic assumptions, and demographic assumptions have been selected by the Plan Sponsor with the concurrence of Nyhart. In our opinion, the actuarial assumptions are individually reasonable and in combination represent our estimate of anticipated experience of the Plan. All calculations have been made in accordance with generally accepted actuarial principles and practice.

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); and
- changes in plan provisions or applicable law.

We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement.

To our knowledge, there have been no significant events prior to the current year's measurement date or as of the date of this report that could materially affect the results contained herein.



Neither Nyhart nor any of its employees has any relationship with the plan or its sponsor that could impair or appear to impair the objectivity of this report. Our professional work is in full compliance with the American Academy of Actuaries "Code of Professional Conduct" Precept 7 regarding conflict of interest. The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Should you have any questions please do not hesitate to contact us.

A handwritten signature in black ink, appearing to read "S M Datta".

Suraj M. Datta, ASA, MAAA  
Consulting Actuary

A handwritten signature in black ink, appearing to read "John Mallows".

John Mallows, FSA, MAAA  
Valuation Actuary

# Executive Summary

## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

### Summary of Results

Presented below is the summary of GASB 75 results for the fiscal year ending June 30, 2020 compared to the prior fiscal year as shown in the Transit Authority's Notes to Financial Statement.

	As of June 30, 2019	As of June 30, 2020
<b>Total OPEB Liability</b>	\$ 112,091	\$ 82,672
<b>Actuarial Value of Assets</b>	\$ 0	\$ 0
<b>Net OPEB Liability</b>	\$ 112,091	\$ 82,672
<b>Funded Ratio</b>	0.0%	0.0%

	FY 2018/19	FY 2019/20
<b>OPEB Expense</b>	\$ 6,522	\$ (2,979)
<b>Annual Employer Contributions</b>	\$ 0	\$ 0

	As of June 30, 2019	As of June 30, 2020
<b>Discount Rate</b>	3.51%	2.66%
<b>Expected Return on Assets</b>	N/A	N/A

	As of June 30, 2020
<b>Total Active Participants</b>	83
<b>Total Retiree Participants</b>	1

The active participants' number above may include active employees who currently have no health care coverage. Refer to Summary of Participants section for an accurate breakdown of active employees with and without coverage.

# Executive Summary

## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

### Summary of Results

Below is a breakdown of total GASB 75 liabilities allocated to past and current service compared to the prior year. The table below also provides a breakdown of the Total OPEB Liability allocated to pre- and post- Medicare eligibility. The liability shown below includes explicit (if any) and implicit subsidies. Refer to the Substantive Plan Provisions section for complete information on the Plan Sponsor's GASB subsidies.

Present Value of Future Benefits	As of June 30, 2019	As of June 30, 2020
Active Employees	\$ 205,168	\$ 151,220
Retired Employees	7,495	3,119
<b>Total Present Value of Future Benefits</b>	<b>\$ 212,663</b>	<b>\$ 154,339</b>

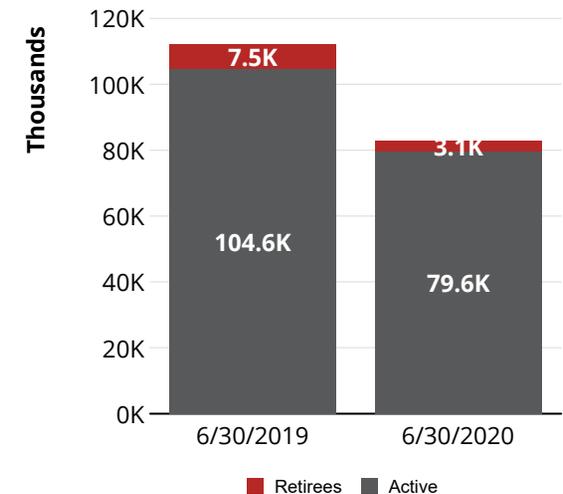
Total OPEB Liability	As of June 30, 2019	As of June 30, 2020
Active Pre-Medicare	\$ 104,596	\$ 79,553
Active Post-Medicare	0	0
Active Liability	\$ 104,596	\$ 79,553

Retiree Pre-Medicare	\$ 7,495	\$ 3,119
Retiree Post-Medicare	0	0
Retiree Liability	\$ 7,495	\$ 3,119

<b>Total OPEB Liability</b>	<b>\$ 112,091</b>	<b>\$ 82,672</b>
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	As of June 30, 2019	As of June 30, 2020
Discount Rate	3.51%	2.66%

### Changes In Total OPEB Liability



**Present Value of Future Benefits (PVFB)** is the amount needed as of June 30, 2020 and June 30, 2019, to fully fund the Transit Authority's retiree health care subsidies for existing and future retirees and their dependents assuming all actuarial assumptions are met.

**Total OPEB Liability** is the portion of PVFB considered to be accrued or earned as of June 30, 2020 and June 30, 2019. This amount is a required disclosure in the Required Supplementary Information section.

# GASB Disclosures

Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

## Schedule of Changes in Net OPEB Liability and Related Ratios

OPEB Liability	FY 2019/20	FY 2018/19	FY 2017/18
<b>Total OPEB Liability</b>			
Total OPEB Liability - beginning of year	\$ 112,091	\$ 140,755	\$ 146,176
Service cost	8,497	10,473	13,611
Interest	4,119	5,729	5,688
Change of benefit terms	0	0	0
Changes in assumptions	(2,230)	2,504	(12,568)
Differences between expected and actual experience	(33,259)	(40,950)	(10,341)
Benefit payments	(6,546)	(6,420)	(1,811)
Net change in total OPEB liability	\$ (29,419)	\$ (28,664)	\$ (5,421)
Total OPEB Liability - end of year	\$ 82,672	\$ 112,091	\$ 140,755
<b>Plan Fiduciary Net Position</b>			
Plan fiduciary net position - beginning of year	\$ 0	\$ 0	\$ 0
Contributions - employer	0	0	1,811
Contributions - active employees	0	0	0
Net investment income	0	0	0
Benefit payments	(6,546)	(6,420)	(1,811)
Trust administrative expenses	0	0	0
Net change in plan fiduciary net position	\$ 0	\$ 0	\$ 0
Plan fiduciary net position - end of year	\$ 0	\$ 0	\$ 0
<b>Net OPEB Liability - end of year</b>	<b>\$ 82,672</b>	<b>\$ 112,091</b>	<b>\$ 140,755</b>
Plan fiduciary net position as % of total OPEB liability	0.0%	0.0%	0.0%
Covered employee payroll	\$ 3,844,098	\$ 4,223,949	\$ 3,464,914
Net OPEB liability as % of covered payroll	2.2%	2.7%	4.1%

# GASB Disclosures

Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

## OPEB Expense

OPEB Expense		FY 2019/20		FY 2018/19
Discount Rate				
Beginning of year		3.51%		3.87%
End of year		2.66%		3.51%
Service cost	\$	8,497	\$	10,473
Interest		4,119		5,729
Change of benefit terms		0		0
Projected earnings on OPEB plan investments		0		0
Reduction for contributions from active employees		0		0
OPEB plan administrative expenses		0		0
Current period recognition of deferred outflows / (inflows) of resources				
Differences between expected and actual experience	\$	(13,845)	\$	(8,302)
Changes in assumptions		(1,750)		(1,378)
Net difference between projected and actual earnings on OPEB plan investments		0		0
Total current period recognition	\$	(15,595)	\$	(9,680)
Total OPEB expense	\$	(2,979)	\$	6,522

# GASB Disclosures

## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

### Deferred Outflows / (Inflows) of Resources

Deferred Outflows / (Inflows) of Resources represents the following items that have not been recognized in the OPEB Expense:

1. Differences between expected and actual experience of the OPEB plan
2. Changes of assumptions
3. Differences between projected and actual earnings in OPEB plan investments (for funded plans only)

The initial amortization period for the first two items noted above is based on expected future service lives while the difference between the projected and actual earnings in OPEB plan investment is amortized over five years. All balances are amortized linearly on a principal only basis and new bases will be created annually for each of the items above.

Differences between expected and actual experience for FYE	Initial Balance	Initial Amortization Period	Annual Recognition	Unamortized Balance as of June 30, 2020
June 30, 2018	\$ (10,341)	7	\$ (1,477)	\$ (5,910)
June 30, 2019	\$ (40,950)	6	\$ (6,825)	\$ (27,300)
June 30, 2020	\$ (33,259)	6	\$ (5,543)	\$ (27,716)

Changes in assumptions for FYE	Initial Balance	Initial Amortization Period	Annual Recognition	Unamortized Balance as of June 30, 2020
June 30, 2018	\$ (12,568)	7	\$ (1,795)	\$ (7,183)
June 30, 2019	\$ 2,504	6	\$ 417	\$ 1,670
June 30, 2020	\$ (2,230)	6	\$ (372)	\$ (1,858)

Net Difference between projected and actual earnings in OPEB plan investments for FYE	Initial Balance	Initial Amortization Period	Annual Recognition	Unamortized Balance as of June 30, 2020
June 30, 2018	\$ 0	N/A	\$ 0	\$ 0
June 30, 2019	\$ 0	N/A	\$ 0	\$ 0
June 30, 2020	\$ 0	N/A	\$ 0	\$ 0

# GASB Disclosures

Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

## Deferred Outflows / (Inflows) of Resources (Continued)

As of fiscal year ending June 30, 2020	Deferred Outflows	Deferred Inflows
Differences between expected and actual experience	\$ 0	\$ (60,926)
Changes in assumptions	1,670	(9,041)
Net difference between projected and actual earnings in OPEB plan investments	N/A	N/A
<b>Total</b>	<b>\$ 1,670</b>	<b>\$ (69,967)</b>

## Annual Amortization of Deferred Outflows / (Inflows)

The balances as of June 30, 2020 of the deferred outflows / (inflows) of resources will be recognized in OPEB expense in the future fiscal years as noted below.

FYE	Balance
2021	\$ (15,595)
2022	\$ (15,595)
2023	\$ (15,595)
2024	\$ (15,598)
2025	\$ (5,914)
Thereafter	\$ 0

# GASB Disclosures

## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

### Sensitivity Results

The following presents the Net OPEB Liability as of June 30, 2020, calculated using the discount rate assumed and what it would be using a 1% higher and 1% lower discount rate.

- The current discount rate is 2.66%.
- The 1% decrease in discount rate would be 1.66%.
- The 1% increase in discount rate would be 3.66%.

As of June 30, 2020	Net OPEB Liability	
1% Decrease	\$	87,944
Current Discount Rate	\$	82,672
1% Increase	\$	77,540

The following presents the Net OPEB Liability as of June 30, 2020, using the health care trend rates assumed and what it would be using 1% higher and 1% lower health care trend rates.

- The current health care trend rate starts at an initial rate of 8.00%, decreasing to an ultimate rate of 4.50%.
- The 1% decrease in health care trend rates would assume an initial rate of 7.00%, decreasing to an ultimate rate of 3.50%.
- The 1% increase in health care trend rates would assume an initial rate of 9.00%, decreasing to an ultimate rate of 5.50%.

As of June 30, 2020	Net OPEB Liability	
1% Decrease	\$	74,266
Current Trend Rates	\$	82,672
1% Increase	\$	92,516

# Projection of GASB Disclosures

## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

The Total OPEB Liability (TOL) is expected to change on an annual basis as a result of expected and unexpected events. Under normal circumstances, it is generally expected to have a net increase each year. Below is a list of the most common events affecting the total OPEB liability and whether they increase or decrease the liability.

### Expected Events

- Increases in TOL due to additional benefit accruals as employees continue to earn service each year
- Increases in TOL due to interest as the employees and retirees age
- Decreases in TOL due to benefit payments

### Unexpected Events

- Increases in TOL when actual premium rates increase more than expected. A liability decrease occurs when the reverse happens.
- Increases in TOL when more new retirements occur than expected or fewer terminations occur than anticipated. Liability decreases occur when the opposite outcomes happen.
- Increases or decreases in TOL depending on whether benefits are improved or reduced.

Projection of Total OPEB Liability (TOL)	FY 2019/20	FY 2020/21
TOL as of beginning of year	\$ 112,091	\$ 82,672
Normal cost as of beginning of year	8,497	6,395
Exp. benefit payments during the year	(6,546)	(4,535)
Interest adjustment to end of year	4,119	2,309
Exp. TOL as of end of year	\$ 118,161	\$ 86,841
Actuarial Loss / (Gain)	(35,489)	TBD
<b>Actual TOL as of end of year</b>	<b>\$ 82,672</b>	<b>\$ TBD</b>

Discount rate as of beginning of year	3.51%	2.66%
Discount rate as of end of year	2.66%	TBD

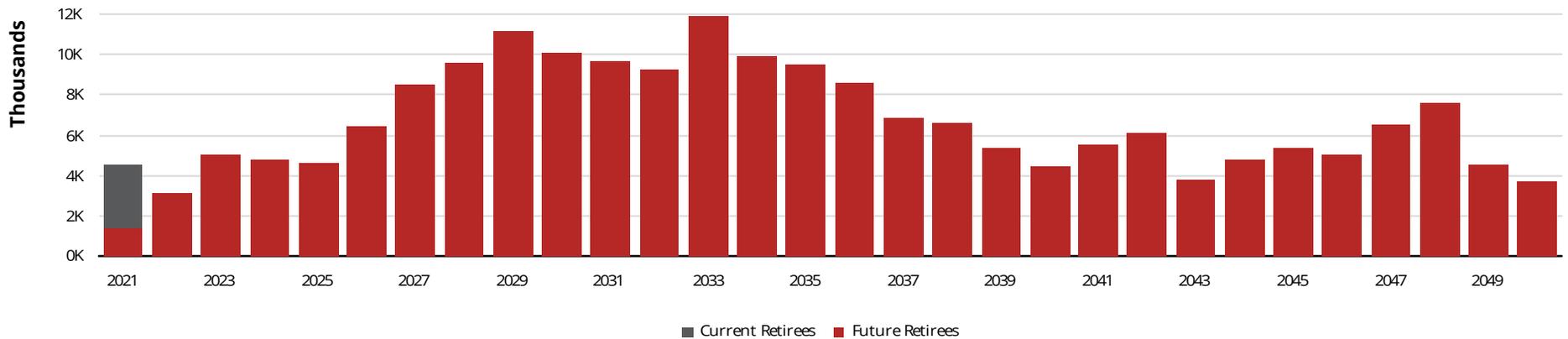
# Cash Flow Projections

## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

The below projections show the actuarially estimated employer-paid contributions for retiree health benefits for the next thirty years. Results are shown separately for a closed group of current/future retirees. These projections include explicit and implicit subsidies.

FYE	Current Retirees	Future Retirees*	Total	FYE	Current Retirees	Future Retirees*	Total	FYE	Current Retirees	Future Retirees*	Total
2021	\$ 3,161	\$ 1,374	\$ 4,535	2031	\$ 0	\$ 9,699	\$ 9,699	2041	\$ 0	\$ 5,586	\$ 5,586
2022	\$ 0	\$ 3,129	\$ 3,129	2032	\$ 0	\$ 9,241	\$ 9,241	2042	\$ 0	\$ 6,141	\$ 6,141
2023	\$ 0	\$ 5,081	\$ 5,081	2033	\$ 0	\$ 11,883	\$ 11,883	2043	\$ 0	\$ 3,847	\$ 3,847
2024	\$ 0	\$ 4,806	\$ 4,806	2034	\$ 0	\$ 9,971	\$ 9,971	2044	\$ 0	\$ 4,838	\$ 4,838
2025	\$ 0	\$ 4,675	\$ 4,675	2035	\$ 0	\$ 9,529	\$ 9,529	2045	\$ 0	\$ 5,361	\$ 5,361
2026	\$ 0	\$ 6,488	\$ 6,488	2036	\$ 0	\$ 8,595	\$ 8,595	2046	\$ 0	\$ 5,023	\$ 5,023
2027	\$ 0	\$ 8,503	\$ 8,503	2037	\$ 0	\$ 6,860	\$ 6,860	2047	\$ 0	\$ 6,542	\$ 6,542
2028	\$ 0	\$ 9,567	\$ 9,567	2038	\$ 0	\$ 6,653	\$ 6,653	2048	\$ 0	\$ 7,605	\$ 7,605
2029	\$ 0	\$ 11,191	\$ 11,191	2039	\$ 0	\$ 5,397	\$ 5,397	2049	\$ 0	\$ 4,516	\$ 4,516
2030	\$ 0	\$ 10,132	\$ 10,132	2040	\$ 0	\$ 4,478	\$ 4,478	2050	\$ 0	\$ 3,757	\$ 3,757

### Projected Employer Pay-go Cost



\* Projections for future retirees do not take into account future new hires.

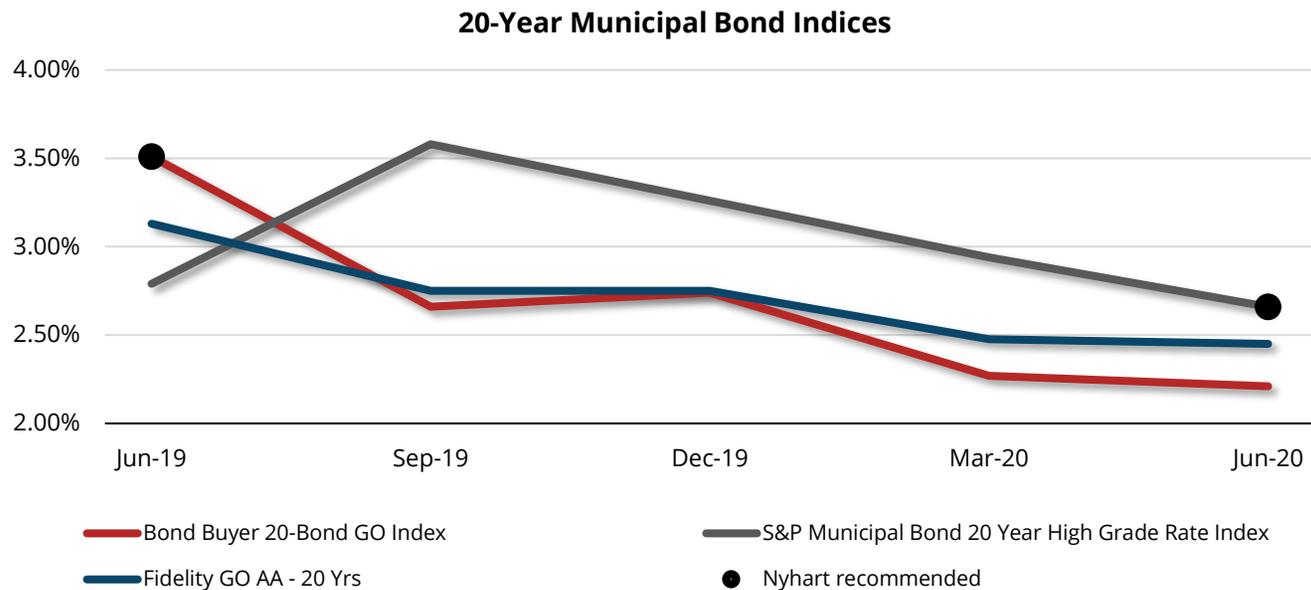
# Discussion of Discount Rates

## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

Under GASB 75, the discount rate used in valuing OPEB liabilities for unfunded plans as of the Measurement Date must be based on a yield for 20-year tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another rating scale).

For the current valuation, the discount rate was selected from the range of indices as shown in the table below, where the range is given as the spread between the lowest and highest rate shown.

	Bond Buyer Go 20-Bond Municipal Bond Index	S&P Municipal Bond 20-Year High Grade Rate Index	Fidelity 20-Year Go Municipal Bond Index	Bond Index Range	Actual Discount Rate Used
Yield as of July 1, 2019	3.51%	2.79%	3.13%	2.79% - 3.51%	<b>3.51%</b>
Yield as of June 30, 2020	2.21%	2.66%	2.45%	2.21% - 2.66%	<b>2.66%</b>



# Summary of Plan Participants

Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

## Active Employees<sup>1</sup>

Actives with coverage	Single <sup>2</sup>	Family	Total	Avg. Age	Avg. Svc	Salary
\$1,500/\$3,000 Deductible Plan	13	2	15	57.8	11.3	\$ 786,466
\$2,500/\$5,000 Deductible Plan	12	1	13	52.1	7.3	\$ 624,670
\$3,500/\$7,000 Deductible Plan	42	12	54	53.3	6.9	\$ 2,375,596
<b>Total actives with coverage</b>	<b>67</b>	<b>15</b>	<b>82</b>	<b>53.9</b>	<b>7.8</b>	<b>\$ 3,786,372</b>

Actives without coverage	Total	Avg. Age	Avg. Svc	Salary
<b>Total actives without coverage</b>	<b>1</b>	<b>56.9</b>	<b>7.1</b>	<b>\$ 57,366</b>

## Active Age-Service Distribution

Age	Years of Service										Total
	< 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	
Under 25											0
25 to 29			1								1
30 to 34		2		1							3
35 to 39			1	2	1						4
40 to 44	1	2	1			1					5
45 to 49	1	5	3	3							12
50 to 54	1	6	4		2	1	2				16
55 to 59	1	8	3	1	1		1				15
60 to 64	2	7	5	5			1				20
65 to 69		3	1	2							6
70 & up			1								1
<b>Total</b>	<b>6</b>	<b>33</b>	<b>20</b>	<b>14</b>	<b>4</b>	<b>2</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>83</b>

<sup>1</sup>Enrollment information above is for full-time employees who are eligible for retiree health care benefits. Twenty individuals not eligible for coverage have been excluded from this valuation.

<sup>2</sup>Employees with single coverage also includes those with EE + CH coverage.

# Summary of Plan Participants

Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

## Retirees

Retirees with coverage	Single	Family	Total	Avg. Age
\$3,500/\$7,000 Deductible Plan	1		1	64.0
<b>Total retirees with coverage</b>	<b>1</b>		<b>1</b>	<b>64.0</b>

## Retiree Age Distribution

Age	Retirees
< 45	
45 to 49	
50 to 54	
55 to 59	
60 to 64	1
65 to 69	
70 to 74	
75 to 79	
80 to 84	
85 to 89	
90 & up	
<b>Total</b>	<b>1</b>

# Substantive Plan Provisions

## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

### Eligibility

Employees are eligible for retiree health benefits until Medicare eligibility upon attainment of 10 years of service with the Transit Authority and the following requirements under KPERs:

Eligibility for Tier I members (hired before July 1, 2009) is the earlier of:

1. Age 55 with 10 years of service (early retirement)
2. Age 62 with 10 years of service
3. Rule of 85
4. Age 65 with 1 year of service

Eligibility for Tier II members (hired on/after July 1, 2009 and prior to January 1, 2015) is the earlier of:

1. Age 55 with 10 years of service (early retirement)
2. Age 65 with 5 years of service
3. Age 60 with 30 years of service

Eligibility for Tier III members (hired on/after January 1, 2015) is the earlier of:

1. Age 55 with 10 years of service (early retirement)
2. Age 65 with 5 years of service
3. Age 60 with 30 years of service

### Spouse Benefit

Surviving spouses of retirees or active employees are eligible for COBRA coverage upon the member's death.

### Explicit Subsidy

None

### Retiree Cost Sharing

Retirees are responsible for the full premium rates up to 125% of the premium.

### Medical Benefit

Same benefit options are offered to retirees as active employees. The Transit Authority's health plans are fully-insured and experience-rated. The monthly premiums by plan effective on January 1, 2020 are as shown below.

<b>Plan</b>	<b>EE</b>	<b>EE + Spouse</b>
\$1,500/\$3,000 Ded Plan	\$ 645.57	\$ 1,380.78
\$2,500/\$5,000 Ded Plan	\$ 585.88	\$ 1,253.12
\$3,500/\$7,000 Ded Plan	\$ 544.95	\$ 1,165.57

# Actuarial Methods and Assumptions

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## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

The actuarial assumptions used in this report represent a reasonable long-term expectation of future OPEB outcomes. As national economic and Transit Authority experience change over time, the assumptions will be tested for ongoing reasonableness and, if necessary, updated.

There are changes to the plan provisions and actuarial methods and assumptions since the last GASB valuation, which was for the fiscal year ending June 30, 2018. Please refer to the Detailed Actuary's Notes in the appendix for complete information on these changes. For the current year GASB valuation, we have also updated the per capita costs. We expect to update the discount rate, health care trend rates, mortality tables, and per capita costs again in the next full valuation, which will be for fiscal year ending June 30, 2020.

### Measurement Date

For a fiscal year ending June 30, 2020, a June 30, 2020 measurement date was used.

### Actuarial Valuation Date

July 1, 2020 with no adjustments to get to the June 30, 2020 measurement date. Liabilities as of July 1, 2019 are based on an actuarial valuation date of July 1, 2019.

### Discount Rate

2.66% as of June 30, 2020 and 3.51% as of July 1, 2019; refer to the Discussion of Discount Rates section for more information on selection of the discount rate.

### Payroll Growth

Payroll growth rates including general wage inflation of 3.50% (2.75% general inflation and 0.75% productivity) plus merit increases as shown below are based on the Kansas Public Employees Retirement System December 31, 2019 Actuarial Valuation for local employees.

<b>YOS</b>	<b>General</b>
0	6.50%
5	2.20%
10	1.20%
15	0.80%
20	0.60%
25	0.10%
30+	0.00%

### Inflation Rate

2.75% per year

# Actuarial Methods and Assumptions

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## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

### Cost Method

Allocation of Actuarial Present Value of Future Benefits for services prior and after the Measurement Date was determined using Entry Age Normal Level % of Salary method where:

- Service Cost for each individual participant, payable from date of employment to date of retirement, is sufficient to pay for the participant's benefit at retirement; and
- Annual Service Cost is a constant percentage of the participant's salary that is assumed to increase according to the Payroll Growth.

### Employer Funding Policy

Pay-as-you-go cash basis

### Census Data

Census information was provided by the Transit Authority in July 2020. We have reviewed it for reasonableness and no material modifications were made to the census data.

### Health Care Coverage Election Rate

Active employees with current coverage: 40% will elect coverage at retirement.  
Active employees with no coverage: 0% will elect coverage at retirement.

Inactive employees with current coverage: 100%  
Inactive employees with no coverage: 0%

### Spousal Coverage

15% of employees are assumed to be married at retirement. Husbands are assumed to be three years older than wives.

### Disability

None

### Mortality

Retirees: SOA Pub-2010 General Headcount Weighted Mortality Table fully generational using Scale MP-2019.

Surviving Spouses: SOA Pub-2010 Contingent Survivor Headcount Weighted Mortality Table fully generational using Scale MP-2019

# Actuarial Methods and Assumptions

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## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

### Turnover Rate

Assumption used to project annual terminations (voluntary and involuntary) prior to meeting minimum retirement eligibility for retiree health coverage. The rates represent the probability of termination in the next 12 months.

Rates are based on the Kansas Public Employees Retirement System December 31, 2019 Actuarial Valuation for local employees. Sample annual turnover rates are shown below:

<b>Service</b>	<b>Male</b>	<b>Female</b>
0	23.00%	25.00%
1	19.00%	22.00%
5	10.00%	12.10%
10	5.60%	6.70%
15	3.80%	4.50%
20	2.80%	3.40%
25	1.80%	2.00%
30	0.80%	0.80%
30+	0.00%	0.00%

# Actuarial Methods and Assumptions

## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

### Retirement Rate

Annual retirement rates are as shown below and are based on the Kansas Public Employees Retirement System December 31, 2019 Actuarial Valuation for local employees.

#### KPERS Tier I

Age	0-4 YOS	5-9 YOS	10-23 YOS	24 YOS	25 YOS	26 YOS	27 YOS	28 YOS	29 YOS	30 YOS
55	0%	0%	3%	3%	3%	3%	3%	3%	3%	15%
56	0%	0%	3%	3%	3%	3%	3%	3%	15%	8%
57	0%	0%	3%	3%	3%	3%	3%	15%	8%	8%
58	0%	0%	3%	3%	3%	3%	15%	10%	10%	10%
59	0%	0%	6%	6%	6%	15%	10%	10%	10%	10%
60	0%	0%	6%	6%	15%	10%	10%	10%	10%	10%
61	0%	0%	10%	25%	20%	20%	20%	20%	20%	20%
62 - 64	0%	0%	20%	20%	20%	20%	20%	20%	20%	20%
65	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
66 - 70	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
71 - 74	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
75+	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

#### KPERS Tier II

Age	0-4 YOS	5-9 YOS	10-23 YOS	24 YOS	25 YOS	26 YOS	27 YOS	28 YOS	29 YOS	30 YOS
55	0%	0%	3%	3%	3%	3%	3%	3%	3%	3%
56	0%	0%	3%	3%	3%	3%	3%	3%	3%	3%
57	0%	0%	3%	3%	3%	3%	3%	3%	3%	3%
58	0%	0%	3%	3%	3%	3%	3%	3%	3%	3%
59	0%	0%	6%	6%	6%	6%	6%	6%	6%	6%
60	0%	0%	6%	6%	15%	15%	15%	15%	15%	15%
61	0%	0%	10%	20%	20%	20%	20%	20%	20%	20%
62 - 64	0%	0%	20%	20%	20%	20%	20%	20%	20%	20%
65	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
66 - 70	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
71 - 74	22%	22%	22%	22%	22%	22%	22%	22%	22%	22%
75+	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

# Actuarial Methods and Assumptions

## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

### Health Care Trend Rates

FYE	Rates	FYE	Rates
2021	8.0%	2025	6.0%
2022	7.5%	2026	5.5%
2023	7.0%	2027	5.0%
2024	6.5%	2028+	4.5%

The initial trend rate was based on a combination of employer history, national trend surveys, and professional judgment.

The ultimate trend rate was selected based on historical medical CPI information.

### Retiree Contributions

Retiree contributions are assumed to increase according to medical trend rates.

### Per Capita Costs

Annual per capita costs were calculated based on the Transit Authority's monthly premium rates effective on January 1, 2020 actuarially increased using health index factors and current enrollment. The costs are assumed to increase with health care trend rates. Sample annual per capita costs are shown below:

The per capita costs represent the cost of coverage for a retiree-only population.

Actuarial standards require the recognition of higher inherent costs for a retired population versus an active population.

Age	\$1,500/\$3,000 Ded Plan		\$2,500/\$5,000 Ded Plan		\$3,500/\$7,000 Ded Plan	
	Male	Female	Male	Female	Male	Female
50 – 54	\$ 6,300	\$ 7,100	\$ 5,700	\$ 6,500	\$ 5,300	\$ 6,000
55 – 59	\$ 8,500	\$ 8,200	\$ 7,700	\$ 7,500	\$ 7,200	\$ 7,000
60 – 64	\$ 11,500	\$ 10,200	\$ 10,500	\$ 9,200	\$ 9,700	\$ 8,600

### Explicit Subsidy

The difference between (a) the premium rate and (b) the retiree contribution. Below is an example of the monthly explicit subsidies for a future retiree on the \$3,500/\$7,000 Deductible Plan.

	Premium Rate	Retiree Contribution	Explicit Subsidy
	A	B	C = A - B
Retiree	\$ 544.95	\$ 544.95	\$ 0.00
Spouse	\$ 620.62	\$ 620.62	\$ 0.00

# Actuarial Methods and Assumptions

## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

### Implicit Subsidy

The difference between (a) the per capita cost and (b) the premium rate. Below is an example of the monthly implicit subsidies for a male retiree age 64 with a female spouse of the same age enrolled in the \$3,500/\$7,000 Deductible Plan.

	Per Capita Cost	Premium Rate	Implicit Subsidy
	A	B	C = A - B
Retiree	\$ 808.33	\$ 544.95	\$ 263.38
Spouse	\$ 716.67	\$ 620.62	\$ 96.05

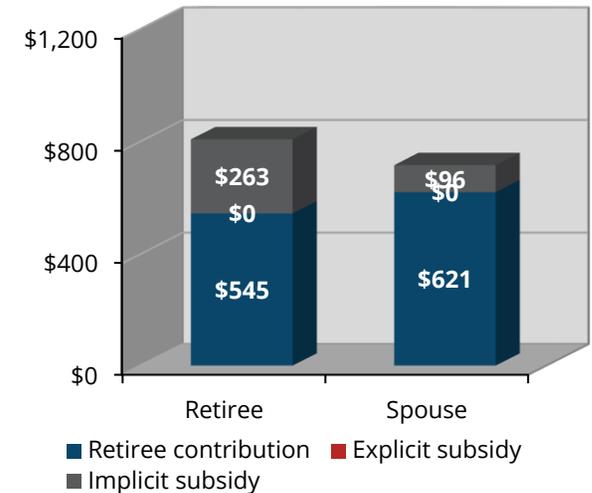
All employers that utilize premium rates based on blended active/retiree claims experience will have an implicit subsidy. There is an exception for Medicare plans using a true community-rated premium rate.

### GASB Subsidy Breakdown

Below is a breakdown of the GASB 75 monthly total cost for a male retiree age 64 with spouse of the same age enrolled in the \$3,500/\$7,000 Deductible Plan.

	Retiree	Spouse
Retiree contribution	\$ 544.95	\$ 620.62
Explicit subsidy	\$ 0.00	\$ 0.00
Implicit subsidy	\$ 80.05	\$ 187.71
Total monthly cost	\$ 808.33	\$ 717.67

**GASB Subsidy Breakdown**



# APPENDIX

The background features a complex geometric design. The top half is a solid dark gray. The bottom half is composed of several overlapping, semi-transparent shapes. On the left, there are white and light gray shapes. On the right, there are large, vibrant red shapes that overlap with the lighter tones. The overall effect is a modern, minimalist aesthetic.

# Appendix

## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

### Comparison of Participant Demographic Information

The active participants' number below may include active employees who currently have no health care coverage. Refer to Summary of Participants section for an accurate breakdown of active employees with and without coverage.

	As of June 30, 2018	As of June 30, 2020
Active Participants	83	83
Retired Participants	1	1
Averages for Active		
Age	51.0	53.9
Service	7.4	7.8
Averages for Inactive		
Age	62.0	64.0

# Appendix

## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

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### Detailed Actuary's Notes

There have been no substantive plan provision changes since the last full valuation, which was for the fiscal year ending June 30, 2018.

The following assumptions have been updated:

1. Mortality table has been updated from SOA RPH-2017 Total Dataset Mortality Table fully generational using Scale MP-2017 to:
  - a. Retirees: SOA Pub-2010 General Headcount Weighted Mortality Table fully generational using Scale MP-2019
  - b. Surviving Spouses: SOA Pub-2010 Contingent Survivor Headcount Weighted Mortality Table fully generational using Scale MP-2019The impact of this change is a slight increase in liabilities.
2. The turnover rate assumption has been updated based on the local employees' rates from the most recent Kansas Public Employees Retirement System actuarial valuation as of December 31, 2019. This change has led to a slight increase in liabilities,
3. The retirement rate assumption has been updated based on the local employees' rates from the most recent Kansas Public Employees Retirement System actuarial valuation as of December 31, 2019. This change has led to a decrease in liabilities,
4. Health care trend rates have been updated to an initial rate of 8.0% decreasing by 0.5% annually to an ultimate rate of 4.5%. This change has led to a decrease in liabilities.
5. Discount rate as of the Measurement Date has been updated to be based on a yield for 20-year tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher (or equivalent quality on another rating scale). The current full valuation uses a discount rate of 3.51% as of July 1, 2019 and 2.66% as of June 30, 2020. This change has led to an increase in liabilities. The discount rate will be updated annually to reflect market conditions as of the Measurement Date.
6. Additionally, there was a significant decrease in liabilities due to per capita costs, which is explained by the following:
  - a. 2020 premium rates were 23.4% lower than expected
  - b. Participants moved to cheaper plans between 2018 and 2020, decreasing liabilities by a further 3.6%
  - c. Aging of the population drove the remaining changes in liabilities due to per capita costs

# Appendix

## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

### Summary of Medical Benefits

A brief summary of all health plans offered by the Transit Authority effective on January 1, 2020 is as shown below. The out-of-pocket maximum includes the deductible, coinsurance, and copayments.

Health Plan	\$1,500/\$3,000 Ded Plan	\$2,500/\$5,000 Ded Plan	\$3,500/\$7,000 Ded Plan
Deductible (EE / Family)	\$1,500 / \$3,000	\$2,500 / \$5,000	\$3,500 / \$7,000
Coinsurance	50%	50%	50%
Out-of-Pocket Maximum (EE / Family)	\$3,500 / \$7,000	\$5,000 / \$10,000	\$6,850 / \$13,700
Co-pay / co-insurances for:			
Office Visit (primary / specialist)	\$20 / \$40	\$30 / \$60	\$30 / \$60
Emergency Room	\$200 then ded/coins	\$200 then ded/coins	\$200 then ded/coins
Prescription drugs			
Retail (30-day supply) <sup>3</sup>	\$3/10 / \$45 / \$70 / 20% up to \$150	\$3/10 / \$45 / \$70 / 20% up to \$150	\$3/10 / \$45 / \$70 / 20% up to \$150

<sup>3</sup>Mail Order is 2.5x the retail copay for a 90-day supply.

# GLOSSARY

The background features a complex geometric design. The top half is a solid dark gray. Below this, several overlapping triangles in various shades of gray and white create a layered, three-dimensional effect. A prominent bright red triangle is located in the bottom right corner, overlapping the other shapes.

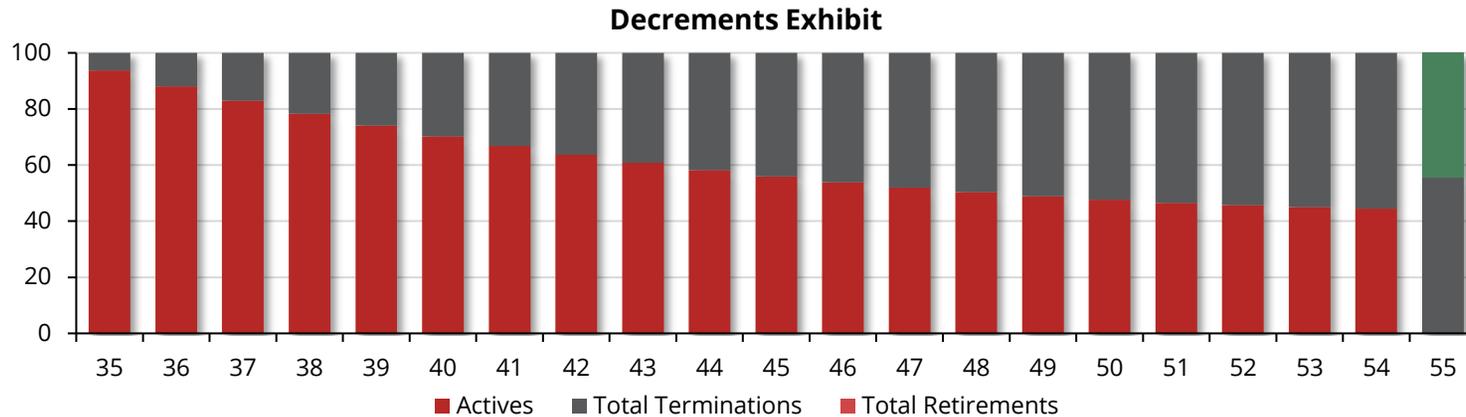
# Glossary – Decrements Exhibit

## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

The table below illustrates how actuarial assumptions can affect a long-term projection of future liabilities. Starting with 100 employees at age 35, the illustrated actuarial assumptions show that 44.43 employees out of the original 100 are expected to retire and could elect retiree health benefits at age 55.

Age	# Remaining Employees	# of Terminations per Year <sup>4</sup>	# of Retirements per Year	Total Decrements
35	100.000	6.276	0.000	6.276
36	93.724	5.677	0.000	5.677
37	88.047	5.136	0.000	5.136
38	82.911	4.648	0.000	4.648
39	78.262	4.209	0.000	4.209
40	74.053	3.814	0.000	3.814
41	70.239	3.456	0.000	3.456
42	66.783	3.131	0.000	3.131
43	63.652	2.835	0.000	2.835
44	60.817	2.564	0.000	2.564
45	58.253	2.316	0.000	2.316

Age	# Remaining Employees	# of Terminations per Year	# of Retirements per Year	Total Decrements
46	55.938	2.085	0.000	2.085
47	53.853	1.866	0.000	1.866
48	51.987	1.656	0.000	1.656
49	50.331	1.452	0.000	1.452
50	48.880	1.253	0.000	1.253
51	47.627	1.060	0.000	1.060
52	46.567	0.877	0.000	0.877
53	45.690	0.707	0.000	0.707
54	44.983	0.553	0.000	0.553
55	44.430	0.000	44.430	44.430



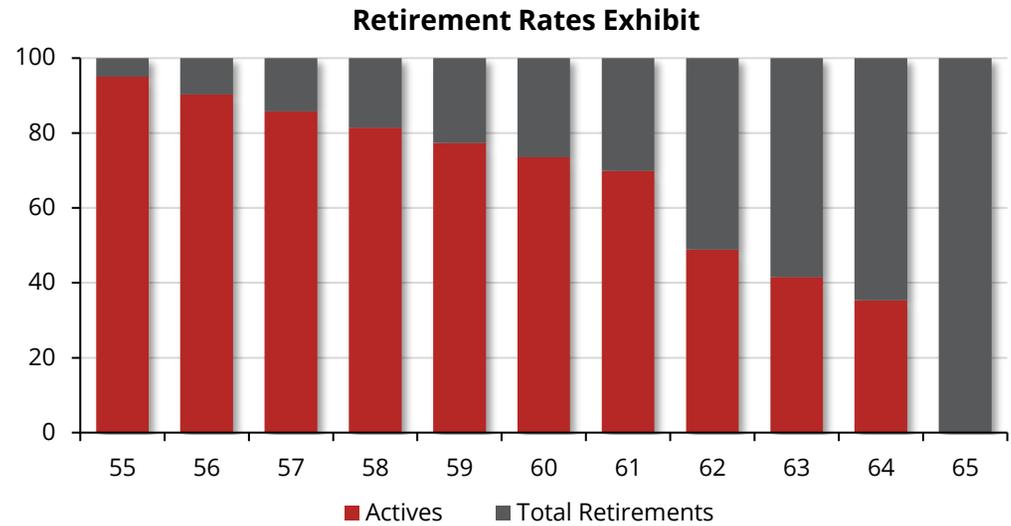
<sup>4</sup> The above rates are illustrative rates and are not used in our GASB calculations.

# Glossary – Retirement Rates Exhibit

## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

The table below illustrates how actuarial assumptions can affect a long-term projection of future liabilities. The illustrated retirement rates show the number of employees who are assumed to retire annually based on 100 employees age 55 who are eligible for retiree health care coverage. The average age at retirement is 62.0.

Age	Active Employees BOY	Annual Retirement Rates*	# Retirements per Year	Active Employees EOY
55	100.000	5.0%	5.000	95.000
56	95.000	5.0%	4.750	90.250
57	90.250	5.0%	4.513	85.738
58	85.738	5.0%	4.287	81.451
59	81.451	5.0%	4.073	77.378
60	77.378	5.0%	3.869	73.509
61	73.509	5.0%	3.675	69.834
62	69.834	30.0%	20.950	48.884
63	48.884	15.0%	7.333	41.551
64	41.551	15.0%	6.233	35.318
65	35.318	100.0%	35.318	0.000



\* The above rates are illustrative rates and are not used in our GASB calculations.

# Glossary – Definitions

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## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

GASB 75 defines several unique terms not commonly employed in the funding of pension and retiree health plans. The definitions of the terms used in the GASB actuarial valuations are noted below.

1. **Actuarial Assumptions** – Assumptions as to the occurrence of future events affecting health care costs, such as: mortality, withdrawal, disablement and retirement; changes in compensation and Government provided health care benefits; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the Actuarial Value of Assets; characteristics of future entrants for Open Group Actuarial Cost Methods; and other relevant items.
2. **Actuarial Cost Method** – A procedure for determining the Actuarial Present Value of Future Benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Service Cost and a Total OPEB Liability.
3. **Actuarially Determined Contribution** - A target or recommended contribution to a defined benefit OPEB plan for the reporting period, determined in accordance with the parameters and in conformity with Actuarial Standards of Practice.
4. **Actuarial Present Value** – The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, each such amount or series of amounts is:
  - a. adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, Social Security, marital status, etc.);
  - b. multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned; and
  - c. discounted according to an assumed rate (or rates) of return to reflect the time value of money.
5. **Deferred Outflow / (Inflow) of Resources** – represents the following items that have not been recognized in the OPEB Expense:
  - a. Differences between expected and actual experience of the OPEB plan
  - b. Changes in assumptions
  - c. Differences between projected and actual earnings in OPEB plan investments (for funded plans only)
6. **Explicit Subsidy** – The difference between (a) the amounts required to be contributed by the retirees based on the premium rates and (b) actual cash contribution made by the employer.
7. **Funded Ratio** – The actuarial value of assets expressed as a percentage of the Total OPEB Liability.

# Glossary – Definitions

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## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

8. **Healthcare Cost Trend Rate** – The rate of change in the per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.
9. **Implicit Subsidy** – In an experience-rated healthcare plan that includes both active employees and retirees with blended premium rates for all plan members, the difference between (a) the age-adjusted premiums approximating claim costs for retirees in the group (which, because of the effect of age on claim costs, generally will be higher than the blended premium rates for all group members) and (b) the amounts required to be contributed by the retirees.
10. **OPEB** – Benefits (such as death benefits, life insurance, disability, and long-term care) that are paid in the period after employment and that are provided separately from a pension plan, as well as healthcare benefits paid in the period after employment, regardless of the manner in which they are provided. OPEB does not include termination benefits or termination payments for sick leave.
11. **OPEB Expense** – Changes in the Net OPEB Liability in the current reporting period, which includes Service Cost, interest cost, changes of benefit terms, expected earnings on OPEB Plan investments, reduction of active employees' contributions, OPEB plan administrative expenses, and current period recognition of Deferred Outflows / (Inflows) of Resources.
12. **Pay-as-you-go** – 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.
13. **Per Capita Costs** – The current cost of providing postretirement health care benefits for one year at each age from the youngest age to the oldest age at which plan participants are expected to receive benefits under the plan.
14. **Present Value of Future Benefits** – Total projected benefits include all benefits estimated to be payable to plan members (retirees and beneficiaries, terminated employees entitled to benefits but not yet receiving them, and current active members) as a result of their service through the valuation date and their expected future service. The actuarial present value of total projected benefits as of the valuation date is the present value of the cost to finance benefits payable in the future, discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment. Expressed another way, it is the amount that would have to be invested on the valuation date so that the amount invested plus investment earnings will provide sufficient assets to pay total projected benefits when due.
15. **Real Rate of Return** – the rate of return on an investment after adjustment to eliminate inflation.

# Glossary – Definitions

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## Topeka Metropolitan Transit Authority GASB 75 Valuation for Fiscal Year Ending June 30, 2020

16. **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 20W0, then 7.5% for 20W1, and 7% for 20W2 and thereafter, then 8% and 7.5% select rates, and 7% is the ultimate rate.
17. **Service Cost** – The portion of the Actuarial Present Value of projected benefit payments that are attributed to a valuation year by the Actuarial Cost Method.
18. **Substantive Plan** – The terms of an OPEB plan as understood by the employer(s) and plan members.
19. **Total OPEB Liability** – That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of Future Benefits which is attributed to past periods of employee service (or not provided for by the future Service Costs).