



Office of the Washington State Auditor
Pat McCarthy

Financial Schedule Audit Report

Tacoma Employees' Retirement System

For the period January 1, 2017 through December 31, 2017

Published November 13, 2018

Report No. 1022497





**Office of the Washington State Auditor
Pat McCarthy**

November 13, 2018

The Honorable Mayor and Members of the Board of Administration
Tacoma Employees' Retirement System
Tacoma, Washington

Report on Financial Schedule

Please find attached our report on the Tacoma Employees' Retirement System's financial Schedule.

Sincerely,

Pat McCarthy
State Auditor
Olympia, WA

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**INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL
OVER FINANCIAL REPORTING AND ON COMPLIANCE AND
OTHER MATTERS BASED ON AN AUDIT OF THE SCHEDULE OF
PENSION AMOUNTS BY EMPLOYER PERFORMED IN
ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS***

**Tacoma Employees' Retirement System
January 1, 2017 through December 31, 2017**

The Honorable Mayor and Members of the Board of Administration
Tacoma Employees' Retirement System
Tacoma, Washington

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, the Schedule of Pension Amounts by Employer of the Tacoma Employees' Retirement System, a fiduciary fund of the City of Tacoma, as of and for the year ended December 31, 2017, and the related notes (the Schedule), and have issued our report thereon dated October 16, 2018.

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Governmental Auditing Standards*, issued by the Comptroller General of the United States, the financial statements of the Tacoma Employees' Retirement System, a fiduciary fund of the City of Tacoma, as of and for the year ended December 31, 2017, and have issued our reports thereon dated June 18, 2018.

INTERNAL CONTROL OVER FINANCIAL REPORTING

In planning and performing our audit of the Schedule, we considered the Retirement System's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the Schedule, but not for the purpose of expressing an opinion on the effectiveness of the Retirement System's internal control. Accordingly, we do not express an opinion on the effectiveness of the Retirement System's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a

combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the Retirement System's Schedule will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

COMPLIANCE AND OTHER MATTERS

As part of obtaining reasonable assurance about whether the Retirement System's Schedule is free from material misstatement, we performed tests of the Retirement System's compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the determination of Schedule amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion.

The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

PURPOSE OF THIS REPORT

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Retirement System's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Retirement System's internal control and compliance. Accordingly, this communication is not suitable for any other purpose. However, this report is a matter of public record and its distribution is not

limited. It also serves to disseminate information to the public as a reporting tool to help citizens assess government operations.

A handwritten signature in cursive script that reads "Pat McCarthy".

Pat McCarthy

State Auditor

Olympia, WA

October 16, 2018

INDEPENDENT AUDITOR'S REPORT ON THE SCHEDULE OF PENSION AMOUNTS BY EMPLOYER

Tacoma Employees' Retirement System January 1, 2017 through December 31, 2017

The Honorable Mayor and Members of the Board of Administration
Tacoma Employees' Retirement System
Tacoma, Washington

REPORT ON THE SCHEDULE

We have audited the accompanying Schedule of Pension Amounts by Employer of the Tacoma Employees' Retirement System, a fiduciary fund of the City of Tacoma, as of and for the year ended December 31, 2017, and the related notes (the Schedule), as listed on page 10.

Management's Responsibility for the Schedule

Management is responsible for the preparation and fair presentation of the Schedule in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the Schedule that is free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on the Schedule based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the Schedule is free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the Schedule. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the Schedule, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Retirement System's preparation and fair presentation of the Schedule in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the

effectiveness of the Retirement System's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the Schedule.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the Schedule referred to above presents fairly, in all material respects, the beginning employer net pension liability, ending employer net pension liability, deferred outflows, and deferred inflows of resources, and the proportionate share of net pension liability of the Tacoma Employees' Retirement System, as of December 31, 2017, and the employer pension expense, and the employer contributions, percentage of contributions, and proportionate share of pension expenses for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Governmental Auditing Standards*, issued by the Comptroller General of the United States, the financial statements of the Tacoma Employees' Retirement System, a fiduciary fund of the City of Tacoma, as of and for the year ended December 31, 2017, and our report thereon, dated June 18, 2018, expressed an unmodified opinion on those financial statements.

OTHER REPORTING REQUIRED BY GOVERNMENT AUDITING STANDARDS

In accordance with *Government Auditing Standards*, we have also issued our report dated October 16, 2018 on our consideration of the Retirement System's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That

report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the System's internal control over financial reporting and compliance.

A handwritten signature in black ink that reads "Pat McCarthy". The signature is written in a cursive, flowing style.

Pat McCarthy

State Auditor

Olympia, WA

October 16, 2018

FINANCIAL SECTION

Tacoma Employees' Retirement System January 1, 2017 through December 31, 2017

FINANCIAL SCHEDULE

Schedule of Pension Amounts by Employer – 2017

Notes to the Schedule – 2017

Schedule of Pension Amounts by Employer

Employer	Proportionate Share		Net Pension Liability		Deferred Outflows of Resources				Deferred Inflows of Resources				Pension Expense		
	2017 Employer Contributions	Rounded Percentage of Total Contributions	Beginning Net Pension Liability ^a	Ending Net Pension Liability ^b	Differences Between Expected and Actual Experience	Changes in Assumptions	Net Difference Between Projected And Actual Investment Earnings	Changes in Employer Proportion	Differences Between Expected and Actual Experience	Changes in Assumptions	Net Difference Between Projected And Actual Investment Earnings	Changes in Employer Proportion	Proportionate Share ^c of 2017 Collective Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion ^{d,e}	Total Employer Pension Expense
City of Tacoma	\$24,124,140	92.46037%	\$92,880,523	(\$39,323,298)	\$0	\$23,688,824	\$0	\$27,878	(\$21,788,842)	\$0	(\$45,123,372)	(\$24,218)	(\$12,020,353)	\$10,986	(\$12,009,357)
South Sound 811	22,863	0.08707%	136,405	(37,414)	0	22,822	0	677	(20,732)	0	(42,933)	(20,382)	(11,437)	(4,176)	(15,613)
Pierce Transit	73,435	0.28145%	274,143	(119,702)	0	73,017	0	9,713	(66,329)	0	(137,358)	0	(38,591)	2,810	(33,781)
Tacoma-Pierce Co Health Dept	1,870,803	7.17021%	7,138,763	(3,046,483)	0	1,860,164	0	35,478	(1,868,780)	0	(3,466,273)	(28,144)	(932,166)	(8,630)	(641,766)
Grand Total	26,091,331	100.00000%	100,430,834	(42,529,898)	0	25,942,817	0	73,744	(23,586,863)	0	(48,802,836)	(73,744)	(13,000,547)	0	(13,000,547)

*Based on unrounded contributions from 2016.

**Based on unrounded contributions from 2017.

***Equal to the sum of all years by employer in the final column of page 4, based on unrounded amounts.

Notes to the Schedules

Note 1: Plan Description

The Tacoma Employees' Retirement System (TERS, the System) is a cost-sharing, multiple-employer defined benefit public employee pension plan, covering a majority of the employees of the City of Tacoma, and three Member Public Agencies. The Member Public Agencies are Tacoma-Pierce County Health Department, certain employees of the Pierce Transit and the South Sound 911 (formerly known as Law Enforcement Support Agency) who established membership in the System when these agencies were still City of Tacoma departments.

It has been administered in accordance with Chapter 1.30 of the Tacoma Municipal Code and Chapter 41.28 the Revised Code of Washington.

Note 2: Presentations and Allocations**A. Allocation Method**

The employer contributions received and accrued within the calendar years ended December 31, 2017 and December 31, 2016, are used as the basis for determining each employer's proportionate share of the collective pension amounts reported in the *Schedule Pension Amounts by Employer*.

B. Net Pension Liability

Components of the calculation of net pension liability (NPL) or assets for the participating employers are calculated in accordance with *GASB Statement No. 67*, are shown in the table below.

Net Pension Liability	December 31, 2016	December 31, 2017
Total pension liability	\$ 1,648,094,551	\$ 1,680,719,624
Fiduciary net position	1,547,663,717	1,723,249,522
Net pension liability	100,430,834	(42,529,898)
Fiduciary net position as a % of total pension liability	93.91%	102.53%
Covered payroll	236,444,759	241,586,398
Net pension liability as a % of covered payroll	42.48%	-17.60%

The total pension liability was determined by an actuarial valuation as of the valuation date, calculated based on the discount rate and actuarial assumptions. See Note 4 for the actuarial methods and assumptions used.

Deferred Outflows/(Inflows) for Employer-Specific Adjustments per Paragraph 54 of GASB 68

Employer	Beginning of Measurement Period for Initial Recognition	Proportion at Measurement Beginning Date	Proportion at Measurement End Date	Total Net Pension Liability (NPL) at Measurement Beginning Date	Balance of Deferred Outflow at Measurement Beginning Date	Balance of Deferred (Inflow) at Measurement Beginning Date	Original Balance of Outflow/(Inflow) due to change in Proportionate Share *	Original Amortization Period	Remaining Amortization Period	Measurement Date Balance of Outflow/(Inflow) due to change in Proportionate Share	Outflow/(Inflow) Recognized in Measurement Period Expense due to change in Proportionate Share
City of Tacoma	12/31/2016	92.48208%	92.48037%	100,430,834	\$100,323,976	(\$42,881,924)	(\$9,334)	5.7	4.7	(\$7,608)	(\$1,637)
City of Tacoma	12/31/2015	92.82628%	92.48208%	93,477,102	89,291,902	(13,181,004)	(25,011)	5.5	3.5	(15,916)	(4,548)
City of Tacoma	12/31/2014	92.85658%	92.62628%	(10,367,535)	0	(14,368,669)	(1,335)	5.5	2.5	(608)	(242)
City of Tacoma	12/31/2013	91.78634%	92.65958%	11,173,966	0	0	97,576	5.6	1.6	27,879	17,424
South Sound 911	12/31/2016	0.13582%	0.08797%	100,430,834	100,323,976	(42,881,924)	(20,569)	5.7	4.7	(16,961)	(3,609)
South Sound 911	12/31/2015	0.16681%	0.13582%	93,477,102	89,291,902	(13,181,004)	(5,376)	5.5	3.5	(3,421)	(977)
South Sound 911	12/31/2014	0.16359%	0.16681%	(10,367,535)	0	(14,368,669)	129	5.5	2.5	59	23
South Sound 911	12/31/2013	0.14424%	0.16359%	11,173,966	0	0	2,163	5.6	1.6	618	386
Pierce Transit	12/31/2016	0.27297%	0.28145%	100,430,834	100,323,976	(42,881,924)	3,648	5.7	4.7	3,008	640
Pierce Transit	12/31/2015	0.22081%	0.27297%	93,477,102	89,291,902	(13,181,004)	9,048	5.5	3.5	5,758	1,645
Pierce Transit	12/31/2014	0.20435%	0.22081%	(10,367,535)	0	(14,368,669)	658	5.5	2.5	299	120
Pierce Transit	12/31/2013	0.18407%	0.20435%	11,173,966	0	0	2,268	5.6	1.6	647	405
Tacoma-Pierce Co Health Dept	12/31/2016	7.10913%	7.17021%	100,430,834	100,323,976	(42,881,924)	26,255	5.7	4.7	21,649	4,606
Tacoma-Pierce Co Health Dept	12/31/2015	6.98612%	7.10913%	93,477,102	89,291,902	(13,181,004)	21,339	5.5	3.5	13,579	3,880
Tacoma-Pierce Co Health Dept	12/31/2014	6.97248%	6.98612%	(10,367,535)	0	(14,368,669)	546	5.5	2.5	248	99
Tacoma-Pierce Co Health Dept	12/31/2013	7.88535%	6.97248%	11,173,966	0	0	(102,005)	5.6	1.6	(29,144)	(18,215)
Grand Total	12/31/2016	100.000000%	100.000000%	100,430,834	100,323,976	(42,881,924)	0	5.7	4.7	0	0
Grand Total	12/31/2015	100.000000%	100.000000%	93,477,102	89,291,902	(13,181,004)	0	5.5	3.5	0	0
Grand Total	12/31/2014	100.000000%	100.000000%	(10,367,535)	0	(14,368,669)	0	5.5	2.5	0	0
Grand Total	12/31/2013	100.000000%	100.000000%	11,173,966	0	0	0	5.6	1.6	0	0

* Based on unrounded contributions.

The collective NPL as of 12/31/2013 was \$11,173,966. The deferred outflow/(inflow) due to the change in the proportionate share for the City of Tacoma is equal to the beginning of period NPL times the increase in the proportionate share during the year. The proportionate share for the City of Tacoma for 12/31/2013, based on 2013 contributions was 91.78634%. The proportionate share for 12/31/2014, based on 2014 contributions was 92.65958%. The original balance of the outflow due to change in proportionate share = $(92.65958\% - 91.78634\%) \times \$11,173,966 = \$97,576$. That amount was then established and recognized over 5.6 years based on the average remaining service life as of the beginning of that measurement period. This means that $\$97,576 / 5.6 = \$17,424$ is recognized each year as seen in the final column. After four years, the remainder of the original balance is $\$97,576 - 4 \times \$17,424 = \$27,880$. The \$27,879 in the exhibit is different by a dollar due to rounding.

In the most recent year for the City of Tacoma, the NPL and the deferred outflows/(inflows) are included with the calculation. For the City of Tacoma, the most recent balance of outflow/(inflow) due to change in proportionate share is equal to $(92.46037\% - 92.48208\%) \times \$100,430,834 + 92.46037\% - 92.48208\% \times (\$100,323,976) + (92.46037\% - 92.48208\%) \times \$42,881,924 = (\$21,804) + \$21,780 + (\$9,310) = (\$9,334)$. That amount is being recognized over 5.7 years based on the average remaining service life as of the beginning of the period. The amount recognized in each year is $(\$9,334) / 5.7 = (\$1,637)$ which includes a \$1 rounding adjustment.

City of Tacoma's Amortization Schedule

As of December 31, 2017, the deferred inflows and outflows of resources for City of Tacoma were as follows:

Deferred Inflows / Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources
Differences between expected and actual experience	\$ (21,789,842)	-
Changes of assumptions	-	\$ 23,986,824
Net difference between projected and actual earnings	(45,123,372)	-
Contributions made subsequent to measurement date	NA	TBD
Changes in Employer Proportion	(24,218)	27,878
Total	<u>\$ (66,937,432)</u>	<u>\$ 24,014,702</u>

Other amounts currently reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows.*Note that the employer reporting date is one year later than the measurement date.

Year ending December 31:

2018	\$ (3,079,587)
2019	(543,524)
2020	(20,343,452)
2021	(17,944,634)
2022	(1,011,533)
Thereafter	-

TBD reported as deferred outflows of resources resulting from employer contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ending December 31, 2018.

**Additional future deferred inflows and outflows of resources may impact these numbers.*

South Sound 911's Amortization Schedule

As of December 31, 2017, the deferred inflows and outflows of resources for South Sound 911 were as follows:

Deferred Inflows / Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources
Differences between expected and actual experience	\$ (20,732)	-
Changes of assumptions	-	\$ 22,822
Net difference between projected and actual earnings	(42,933)	-
Contributions made subsequent to measurement date	NA	TBD
Changes in Employer Proportion	(20,382)	677
Total	<u>\$ (84,047)</u>	<u>\$ 23,499</u>

Other amounts currently reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows. *Note that the employer reporting date is one year later than the measurement date.

Year ending December 31:

2018	\$ (7,117)
2019	(4,852)
2020	(23,924)
2021	(21,167)
2022	(3,488)
Thereafter	-

TBD reported as deferred outflows of resources resulting from employer contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ending December 31, 2018.

**Additional future deferred inflows and outflows of resources may impact these numbers.*

Pierce Transit's Amortization Schedule

As of December 31, 2017, the deferred inflows and outflows of resources for Pierce Transit were as follows:

Deferred Inflows / Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources
Differences between expected and actual experience	\$ (66,329)	-
Changes of assumptions	-	\$ 73,017
Net difference between projected and actual earnings	(137,358)	-
Contributions made subsequent to measurement date	NA	TBD
Changes in employer proportion	-	9,713
Total	<u>\$ (203,687)</u>	<u>\$ 82,730</u>

Other amounts currently reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows. *Note that the employer reporting date is one year later than the measurement date.

Year ending December 31:

2018	\$ (6,598)
2019	981
2020	(59,562)
2021	(53,150)
2022	(2,628)
Thereafter	-

TBD reported as deferred outflows of resources resulting from employer contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ending December 31, 2018.

**Additional future deferred inflows and outflows of resources may impact these numbers.*

Tacoma-Pierce County Health Department's Amortization Schedule

As of December 31, 2017, the deferred inflows and outflows of resources for Tacoma-Pierce County Health Department were as follows:

Deferred Inflows / Outflows of Resources	Deferred Inflows of Resources	Deferred Outflows of Resources
Differences between expected and actual experience	\$ (1,689,780)	-
Changes of assumptions	-	\$ 1,860,154
Net difference between projected and actual earnings	(3,499,273)	-
Contributions made subsequent to measurement date	NA	TBD
Changes in Employer Proportion	(29,144)	35,476
Total	<u>\$ (5,218,197)</u>	<u>\$ 1,895,630</u>

Other amounts currently reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows.*Note that the employer reporting date is one year later than the measurement date.

Year ending December 31:

2018	\$ (249,302)
2019	(44,806)
2020	(1,568,590)
2021	(1,384,739)
2022	(75,130)
Thereafter	-

TBD reported as deferred outflows of resources resulting from employer contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ending December 31, 2018.

**Additional future deferred inflows and outflows of resources may impact these numbers.*

D. Pension Expense

Components of the pension expense reported in the *Schedule of Pension Amounts by Employer* are presented below.

Measurement Period	January 1, 2016 to December 31, 2016	January 1, 2017 to December 31, 2017
Service cost	\$ 42,533,534	\$ 40,301,955
Interest on total pension liability	115,288,127	115,522,246
Effect of plan changes	-	(36,833,135)
Adjustment on fiduciary net position*	76,147	-
Administrative expenses	1,917,955	1,663,105
Member contributions	(22,407,327)	(23,008,946)
Expected investment return net of investment expenses	(104,110,957)	(107,303,170)
Recognition of Deferred Inflows/Outflows of Resources		
Recognition of economic/demographic gains or losses	(5,386,966)	(6,948,080)
Recognition of assumption changes or inputs	7,412,233	7,412,233
Recognition of investment gains or losses	15,855,866	(3,806,755)
Pension Expense	<u>\$ 51,178,612</u>	<u>\$ (13,000,547)</u>

* December 31, 2015 Fiduciary Net Position adjusted after Milliman's 2015 financial reporting valuation was issued.

Note 3: Reconciliation of TERS financial statements and employer records to *Schedule of Proportionate Share by Employer* and *Schedule of Pension Amounts by Employer*

A. Basis of Accounting

TERS' financial statements conform to generally accepted accounting principles (GAAP) in the United States.

The retirement plan is accounted for in pension trust funds using the flow of economic resources measurement focus and the accrual basis of accounting. Employer contributions are recognized when due and the employer has made a formal commitment to provide the contributions.

B. Employer Contribution

The employer contributions reported in *TERS' Statement of Changes in Fiduciary Net Position* included in the separately issued Comprehensive Annual Financial Report (CAFR) agree with the employer allocation totals in the *Schedule of Proportionate Share by Employer*, which includes the accrual prepared at the plan level.

The employer contributions were used in determining each employer's proportionate share of the collective pension amounts for the calendar years ended December 31, 2016 and December 31, 2017.

Note 4: Actuarial Methods and Assumptions Used for Funding and GASB Valuation

The following actuarial methods and assumptions were used for funding valuation. Please see the actuarial valuation reporting for funding for further details.

Actuarial Cost Method	Entry Age Normal
Amortization Method	Funding is based on statutory contribution rate. This amount is compared to a 25-year amortization for the purposes of calculating the Actuarially Determined Contribution. The amortization method for the ADC is as follows*:
Level percent or level dollar:	Level percent
Closed, open, or layered periods:	Open
Amortization period:	25 years*
Amortization growth rate:	3.75%
Asset Valuation Method	
Smoothing period:	4 years
Corridor:	None
Inflation	2.75%
Salary Increases	Varies by service; details in funding valuation report.
Investment Rate of Return	7.00%
Cost of Living Adjustments	2.125%
Retirement Age	Varies by age, gender, eligibility; details in funding valuation report.
Turnover	Varies by service, gender; details in funding valuation report.
Mortality	RP-2014 Mortality for Employees, Healthy and Disabled Annuitants. Generational improvements with projection scale based on Social Security Administration Data.
Active Members:	RP-2014 Employee Mortality, sex-distinct.
Male Inactive Members and Male Beneficiaries:	RP-2014 50% Blue Collar/50% White Collar Mortality for Healthy Males, RP-2014 Disabled Mortality for males.
Female Inactive Members and Female Beneficiaries:	RP-2014 Blue Collar Mortality for Healthy Females, RP-2014 Disabled Mortality for females.

*The actual contribution is used if that rate is greater than the rate necessary to amortize the Unfunded Actuarial Accrued Liability (UAAL). Note that the UAAL amortization period is 30 years for years 2017 and earlier and 25 for years beginning January 1, 2018 and later.

Note 5: Long-Term Expected Rate of Return

The long-term expected rate of return is determined by adding expected inflation to expected long-term real returns and reflecting expected volatility and correlation. The capital market assumptions are per Milliman's investment consulting practice as of December 31, 2017. The target asset allocation is based on the Tacoma Employees' Retirement System Investment Policy Statement dated March 2016.

Asset Class	Index	Target Allocation	Long-Term Expected Arithmetic Real Rate of Return
Investment Grade Fixed Income	Barclays Aggregate	15.0%	2.06%
US Inflation-Indexed Bonds	Barclays US TIPS	5.0%	1.36%
High Yield Bonds	BAML High Yield	9.0%	4.69%
Emerging Market Debt	JP Morgan EMBI Plus	5.0%	3.39%
Global Equity	MSCI ACWI NR	41.5%	4.95%
Public Real Estate	FTSE EPRA/NAREIT Developed	2.0%	5.55%
Private Real Estate	NCREIF Property	2.5%	3.83%
Private Equity	Cambridge Private Equity	10.0%	8.88%
Master Limited Partnerships	Alerian MLP	4.0%	4.20%
Timber	NCREIF Timber	2.0%	4.04%
Infrastructure	S&P Global Infrastructure	2.0%	4.89%
Agriculture	NCREIF Farmland	2.0%	4.54%
Assumed Inflation - Mean			2.75%
Assumed Inflation - Standard Deviation			1.85%
Portfolio Arithmetic Real Mean Return			4.56%
Portfolio Median Nominal Geometric Return			6.68%
Portfolio Standard Deviation			11.77%
Long-Term Expected Rate of Return, net of investment expenses			7.00%

Note 6: Depletion Date Projection

Determining the discount rate under GASB 67 and 68 will often require that the actuary perform projections of future benefit payments and asset values. GASB 68 (paragraph 29) allows for alternative evaluations of projected solvency, if such evaluation can reliably be made. GASB does not contemplate a specific method for making an alternative evaluation of sufficiency; it is left to professional judgement.

The following circumstances justify an alternative evaluation of sufficiency for TERS:

- TERS members and employers are committed to contributing the statutory amount, which exceeds the current normal cost rate. The total contribution rate as of December 31, 2017 was 20.00% and then effective February 2018 it increased to 21.00%, while the normal cost rate is 18.59% of pay.
- The current Fiduciary Net Position exceeds the Total Pension Liability.
- GASB 67 and 68 specify that the projections regarding future solvency assume that plan assets earn the assumed rate of return and there are no future changes in the plan provisions or actuarial methods and assumptions. This means that the projections would not reflect any adverse future experience which might impact the Plan's funded position.

Based on these circumstances, it is the professional opinion of the Plan's actuary, Milliman, that the Fiduciary Net Position is projected to be sufficient to cover benefit payments and administrative expenses. If all assumptions are met, the Fiduciary Net Position will continue to exceed the Total Pension Liability. Therefore, no depletion date is projected for TERS, and that the 7.00% investment return assumption is used for financial reporting valuation.

Note 7: Sensitivity Analysis of NPL

The following presents the NPL of the System, calculated using the current discount rate of 7.00%, as well as what the System's NPL would be if it were calculated using a discount rate that is 1 percentage point lower (6.00%) or 1 percentage point higher (8.00%) than the current rate.

	1% Decrease 6.00%	Current Discount Rate 7.00%	1% Increase 8.00%
Total pension liability	\$ 1,896,168,463	\$ 1,680,719,624	\$ 1,500,682,402
Fiduciary net position	1,723,249,522	1,723,249,522	1,723,249,522
Net pension liability	<u>\$ 172,918,941</u>	<u>\$ (42,529,898)</u>	<u>\$ (222,567,120)</u>

Employers' Proportionate Share of the NPL

Employer	1% Decrease 6.00%	Current Discount Rate 7.00%	1% Increase 8.00%
City of Tacoma	\$ 159,881,485	\$ (39,323,299)	\$ (205,786,372)
South Sound 911	152,120	(37,414)	(195,796)
Pierce Transit	486,687	(119,702)	(626,423)
Tacoma-Pierce County Health Department	12,398,649	(3,049,483)	(15,958,528)
Total NPL	<u>\$ 172,918,941</u>	<u>\$ (42,529,898)</u>	<u>\$ (222,567,119)</u>

Note 8: Additional Information

Additional actuarial and pension plan information is included in the TERS 2017 CAFR. All other actuarial data, assumptions and methods relied on for the preparation of GASB 67 and 68 are included in Milliman's 2017 GASB 67 and 68 Disclosure Report.

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Contact information for the State Auditor's Office	
Public Records requests	PublicRecords@sao.wa.gov
Main telephone	(360) 902-0370
Toll-free Citizen Hotline	(866) 902-3900
Website	www.sao.wa.gov