

**Pension Plan for
Bargaining Unit Employees of
TriMet**

**Actuarial Valuation Report
as of July 1, 2018**

Produced by Cheiron

September 2018

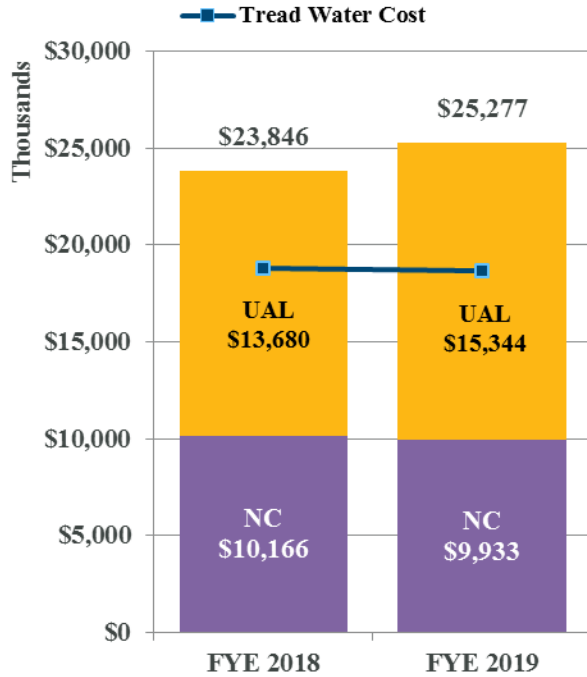
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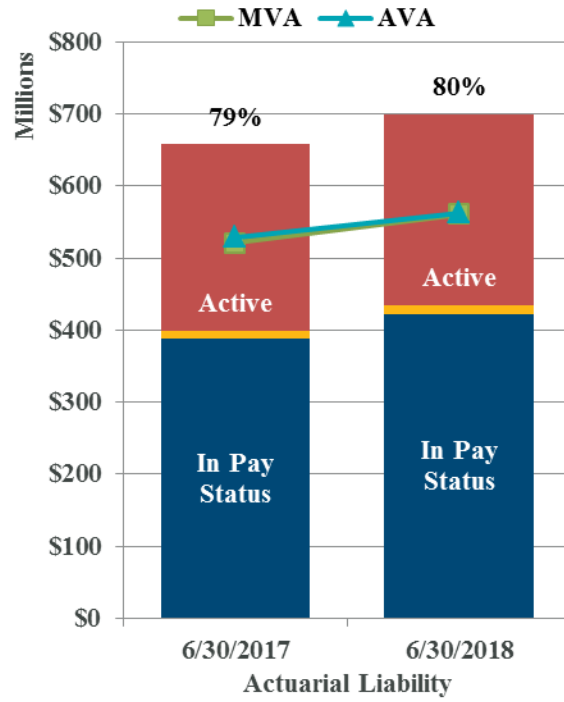
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SECTION I – BOARD SUMMARY

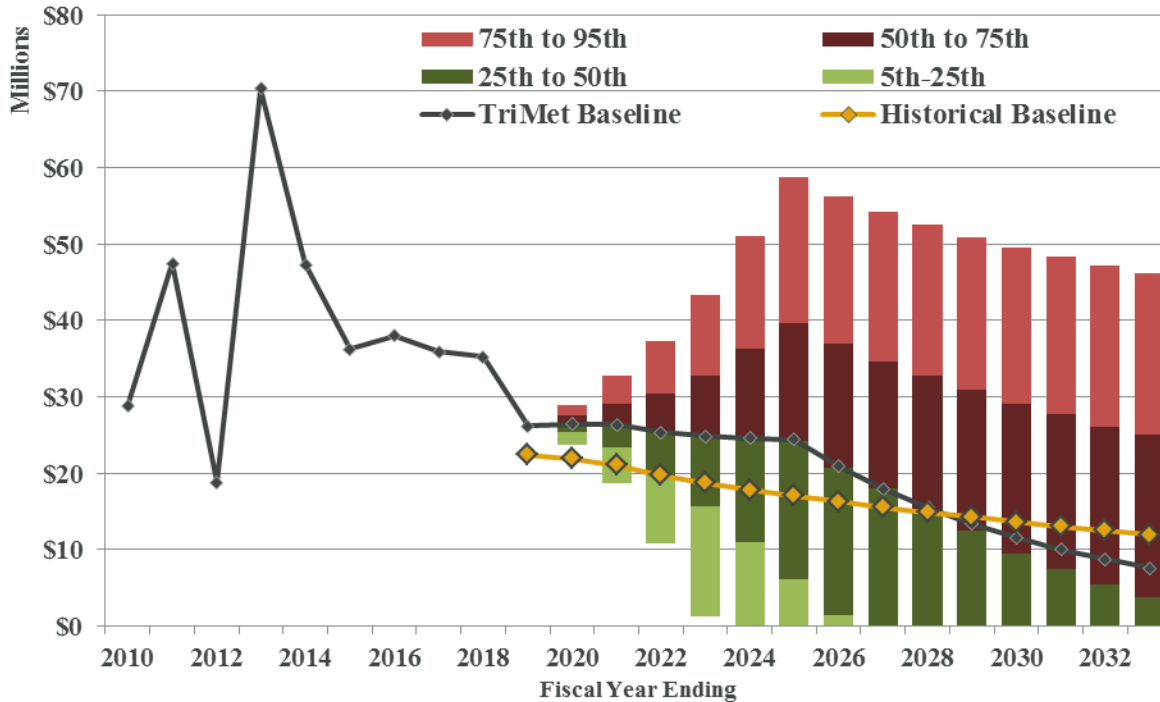
TriMet Policy Contributions



Funded Status



Historical and Projected Contributions



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Contributions and Pension Expense

The chart in the upper left corner of the dashboard on the prior page shows the Actuarially Determined Contribution (ADC) as of the beginning of the year under the TriMet Funding Policy compared to the Tread Water Cost for the fiscal year ending June 30, 2018 and 2019, respectively. The ADC is composed of the normal cost plus an amortization payment on the Unfunded Actuarial Liability (UAL).

There are currently two separate funding policies: the “TriMet” policy and the “Historical” policy. The “Historical” policy was established by the Trustees and is based on a rolling 20-year amortization of the UAL. The “TriMet” policy was established by TriMet and is based on a closed 15-year amortization commencing July 1, 2014 until the remaining period reaches five years at which time it becomes a rolling 5-year amortization period. The different policies are described in more detail in Appendix B.

The Tread Water Cost is the normal cost plus interest on the UAL. The normal cost represents the expected cost of the benefits attributed to the next year of service, and the interest on the UAL represents the amount that would need to be contributed to keep the UAL at the same dollar amount if all assumptions are met. To the extent the ADC exceeds the Tread Water Cost, the UAL is expected to decline, and to the extent actual contributions are even greater, the UAL is expected to decline further.

For FYE 2018, actual contributions were approximately \$35.2 million, exceeding the ADC and paying off about \$16 million of the UAL. However, other changes caused the UAL to increase and the amortization period became a year shorter. As a result, the ADC for FYE 2019 is approximately \$25.3 million as of the beginning of the year, about \$1.5 million higher than the \$23.8 million for FYE 2018.

Under GASB 68, the annual pension expense equals the Tread Water Cost plus the cost of any benefit increases and the recognized portion of prior experience gains and losses and assumption changes. Details of this calculation are shown in Section VII of the report.

Table I-1 on the following page compares the ADC to actual contribution amounts and pension expense for the fiscal years ending in 2017 and 2018. The pension expense increased from \$19.1 million for FYE 2017 to \$25.1 million for FYE 2018, while the ADC declined under both the “Historical” and “TriMet” funding policies.

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Table I-1

Annual Contributions and Pension Expense					
	FYE 2018		FYE 2017		% Change
Pension Expense (\$ Amount)	\$	25,121,768	\$	19,072,107	31.7%
Actuarially Determined Contribution					
Historical Policy	\$	21,950,801	\$	26,170,464	-16.1%
TriMet Policy	\$	24,565,994	\$	28,497,521	-13.8%
Actual Contribution	\$	35,227,507	\$	35,862,442	-1.8%

As shown by the chart at the bottom of the dashboard on page 1, actual contributions have exceeded \$35 million for the last six years, which is significantly more than the ADC. For FYE 2019 and in the future, the projections in the chart assume that the ADC under the “TriMet” funding policy is contributed. The “TriMet” and “Historical” baselines represent the projected ADC under the respective policies if all assumptions are met and contributions are made in accordance with that policy. The “Historical” baseline shows a gradual decline in the ADC throughout the projection period. The “TriMet” baseline shows the ADC remaining relatively level through FYE 2025, when the policy transitions to a rolling 5-year amortization, at which point the ADC gradually declines, crossing below the projected “Historical” ADC in 2028. This crossover is the result of the accumulated difference in assumed contributions prior to 2028. As long as the Plan is not fully funded, the “TriMet” ADC will be greater than the “Historical” ADC. The range of the bars represents the potential range of the “TriMet” ADC based on the potential range of actual investment returns. There is a wide range of projected ADC’s that is the combined result of investment volatility and the relatively short 5-year amortization period in the funding policy. For these projections, we used an expected return of 6.75% and a standard deviation of 11.35%.

Section II of this report provides information on the risks to contribution amounts and Section VI of this report provides additional detail on the development of the ADC.

Funded Status

The chart in the upper right corner of the dashboard on page 1 shows the measures of assets, Actuarial Liability, and funded status for the current and prior valuations. These measures are for the purpose of assessing funding progress in a budgeting context, and are not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan’s benefit obligations. For many pension plans, the measures for financial reporting under GASB 67 and 68 are different, but for TriMet, they are the same.

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The bars represent the Actuarial Liability (or Total Pension Liability), which is used as a funding target, and are separated between the liability for members currently receiving benefits (dark blue), inactive members entitled to future benefits (gold), and active members (red). About 60% of the liability is for members currently receiving benefits. The green line shows the Market Value of Assets (or Fiduciary Net Position), and the light blue line is the Actuarial Value of Assets that recognizes investment gains and losses over five years. The percentage on the top of the bar represents the funded status based on the Market Value of Assets, which increased from 79% to 80%.

Table I-2 below summarizes the Actuarial Liability, assets, and funded status as of July 1, 2017 and 2018.

Table I-2

Summary of Funded Status			
	July 1, 2018	July 1, 2017	% Change
Actuarial Liability			
Actives	\$ 263,739,275	\$ 257,737,613	2.3%
Deferred Vested	13,519,286	11,082,727	22.0%
In Pay Status	<u>421,675,445</u>	<u>388,578,420</u>	<u>8.5%</u>
Total	\$ 698,934,006	\$ 657,398,760	6.3%
Market Value of Assets (MVA)	\$ 560,882,099	\$ 520,926,813	7.7%
Unfunded Actuarial Liability - MVA Basis	\$ 138,051,907	\$ 136,471,947	1.2%
Funding Ratio - MVA Basis	80.2%	79.2%	1.3%
<u>Historical Policy Basis</u>			
Actuarial Value of Assets (AVA)	\$ 563,561,685	\$ 528,911,971	6.6%
Unfunded Actuarial Liability - AVA Basis	\$ 135,372,321	\$ 128,486,789	5.4%
Funding Ratio - AVA Basis	80.6%	80.5%	0.2%
<u>TriMet Policy Basis</u>			
Actuarial Value of Assets (AVA)	\$ 563,111,042	\$ 528,010,685	6.6%
Unfunded Actuarial Liability - AVA Basis	\$ 135,822,964	\$ 129,388,075	5.0%
Funding Ratio - AVA Basis	80.6%	80.3%	0.3%

The Actuarial Liability represents the target amount of assets the plan should have in the trust as of the valuation date based on the actuarial cost method. In aggregate, the Actuarial Liability increased 6.3%. The Market Value of Assets increased 7.7% due to actual contributions and the better than expected investment returns offset by benefit payments and expenses. As a result, the Unfunded Actuarial Liability (UAL) measured on the Market Value of Assets increased from approximately \$136.5 million to \$138.1 million.

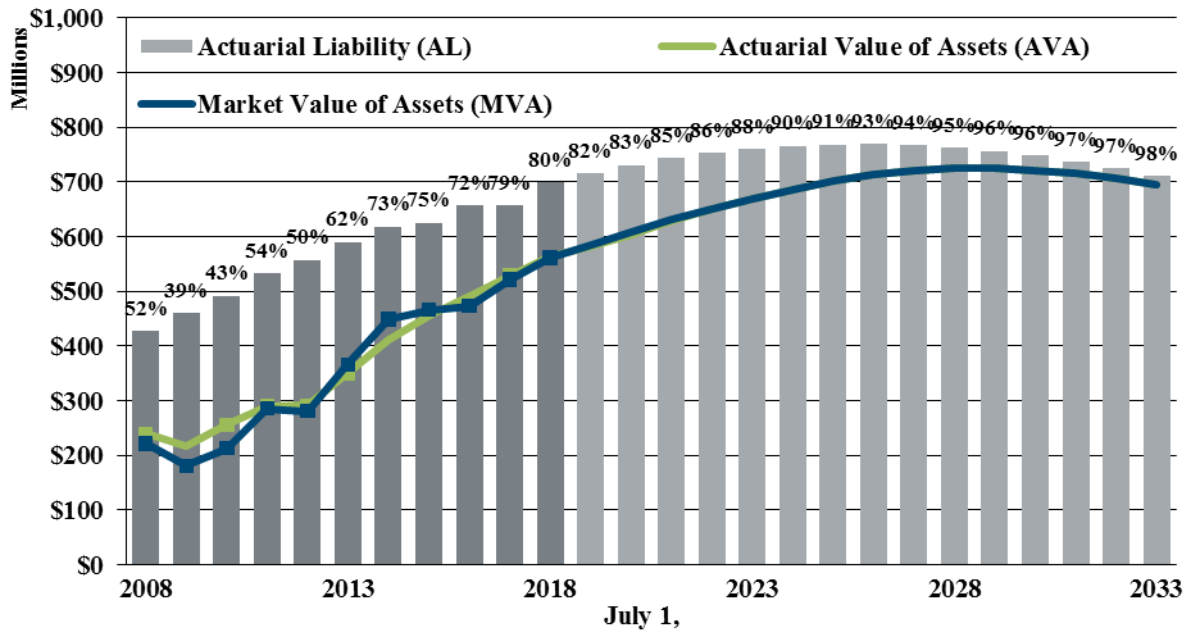
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The asset smoothing method deferred 80% of the current year’s investment gain while recognizing 20% of the prior four years’ gains and losses, resulting in an increase in the Actuarial Value of Assets of 6.6% on both the “Historical” and “TriMet” bases. The UAL measured on the Actuarial Value of Assets increased to \$135.4 million and \$135.8 million on the “Historical” and “TriMet” bases respectively. The Market Value of Assets is smaller than the actuarial value, so if assumptions are met in the future, we expect an increase in the ADC as the deferred asset losses are recognized in the Actuarial Value of Assets.

The chart below shows the historical and projected trends for assets (both market and smoothed actuarial) versus the Actuarial Liability, and also shows the progress of the funding ratios (based on the Market Value of Assets) since 2007. The historical Actuarial Liability is shown in dark gray while the projected Actuarial Liability is shown in a lighter gray. If all assumptions are met in the future and contributions are made in accordance with the “TriMet” funding policy, the funded status is expected to reach 98% by 2033 (87% under “Historical” funding policy).

Historical and Projected Assets and Actuarial Liability



More detail on the assets can be found in section IV of this report, and more detail on the measures of liability can be found in section V of this report.

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Changes

During FYE 2018, the UAL increased by \$1.6 million. Table I-3 below shows the breakdown of the changes in the UAL in the last year by source.

Table I-3

Changes in UAL or NPL	
	Amount
UAL/NPL, July 1, 2018	\$ 138,051,907
UAL/NPL, July 1, 2017	\$ 136,471,947
Change in UAL/NPL	\$ 1,579,960
<u>Sources of Changes</u>	
Plan Changes	\$ 3,286,046
Assumption Changes	0
Contributions vs. Tread Water Cost	(16,274,620)
Investment (gain) or loss	(6,367,130)
Liability (gain) or loss	
Benefit Rate experience	\$ 12,325,005
Retirement experience	(1,134,540)
Change in actuary	9,198,902
Other experience	546,297
Total Liability (gain) or loss	\$ 20,935,664
Total Changes	\$ 1,579,960

The largest increase to the UAL was \$12.3 million due to the improvements in the benefit rate as a result of the latest Working Wage Agreement. In addition, the change in the unused sick leave conversion factor increased the UAL by approximately \$3.3 million, and changes due to the change in actuary increased the UAL by approximately \$9.2 million. The most significant source of reduction in the UAL is that actual contributions exceeded the Tread Water Cost by approximately \$16.3 million. Investment returns on the Market Value of Assets exceeded assumed returns by about \$6.4 million.

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Table I-4 below provides a summary of the results of this valuation compared to the prior valuation.

Table I-4

Summary of Valuation Results			
	July 1, 2018	July 1, 2017	% Change
Membership			
Actives	1,378	1,518	-9.2%
Deferred	130	124	4.8%
In Pay Status	<u>1,859</u>	<u>1,780</u>	4.4%
Total	3,367	3,422	-1.6%
Active Member Payroll	\$ 92,577,667	\$ 106,596,389	-13.2%
Actuarial Liability/Total Pension Liability	\$ 698,934,006	\$ 657,398,760	6.3%
Market Value of Assets/Fiduciary Net Position	<u>560,882,099</u>	<u>520,926,813</u>	7.7%
Unfunded Actuarial Liability/Net Pension Liability	\$ 138,051,907	\$ 136,471,947	1.2%
Deferred Outflows of Resources	(26,856,608)	(27,497,452)	-2.3%
Deferred Inflows of Resources	<u>19,257,257</u>	<u>31,835,676</u>	-39.5%
Net Impact on Statement of Net Position	\$ 130,452,556	\$ 140,810,171	-7.4%
Funding Ratio - MVA Basis	80.2%	79.2%	1.0%
Actuarially Determined Contribution			
Historical Policy	\$ 22,326,384	\$ 21,950,801	1.7%
TriMet Policy	\$ 26,040,372	\$ 24,565,992	6.0%

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SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

Actuarial valuations are based on a set of assumptions about future economic and demographic experience. These assumptions represent a reasonable estimate of future experience, but actual future experience will undoubtedly be different and may be significantly different. This section of the report is intended to identify the primary risks to the plan, provide some background information about those risks, and provide an assessment of those risks.

Identification of Risks

The fundamental risk to a pension plan is that the contributions needed to pay the benefits become unaffordable. While we believe it is unlikely that the closed Plan by itself would become unaffordable, the contributions needed to support the Plan may differ significantly from expectations. While there are a number of factors that could lead to contribution amounts deviating from expectations, we believe the primary sources are:

- Investment risk,
- Inflation risk, and
- Contribution risk.

Other risks that we have not identified may also turn out to be important.

Investment Risk is the potential for investment returns to be different than expected. Lower investment returns than anticipated will increase the Unfunded Actuarial Liability necessitating higher contributions in the future unless there are other gains that offset these investment losses. In contrast, higher investment returns than anticipated may create a potentially significant surplus that could be difficult to use until all benefits have been paid. Expected future investment returns and their potential volatility are determined by the Plan's asset allocation.

Inflation risk is the potential for actual inflation to be different than expected. Retirement benefits under the plan are increased each year by 90% of inflation (CPI-W). Higher inflation than expected will result in the payment of greater benefits, and lower inflation than expected will result in the payment of lower benefits.

Contribution risk is the potential for actual future actuarially determined contributions to deviate from expected future contributions to an extent that they become unaffordable. TriMet's policy is to treat the Actuarially Determined Contribution (ADC) as a minimum, and the ADC is based on a short remaining amortization period. As a result, a significant loss or change in assumptions may cause a large increase in the ADC. While TriMet can change its Funding Policy when such a situation occurs, it may want to consider alternatives in advance.

The table on the next page shows a 7-year history of changes in the UAL by source.

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FYE	UAL Change by Source					
	Plan Changes	Assumption Changes	Contributions vs. Tread Water	Investments	Liability Experience	Total UAL Change
2012	\$(10,616,209)	\$ 0	\$ 9,269,242	\$ 22,499,513	\$ 7,780,692	28,933,238
2013	0	15,353,638	(40,663,591)	(18,892,593)	(8,583,422)	(52,785,968)
2014	0	29,476,059	(20,462,968)	(36,496,410)	(11,294,241)	(38,777,560)
2015	0	(16,558,463)	(12,601,239)	19,269,512	(541,183)	(10,431,373)
2016	0	18,776,392	(16,375,082)	30,755,311	(8,966,475)	24,190,146
2017	0	0	(12,798,667)	(14,722,298)	(19,614,961)	(47,135,926)
2018	3,286,046	0	(16,274,620)	(6,367,130)	20,935,664	1,579,960
Total	\$ (7,330,163)	\$ 47,047,626	\$(109,906,925)	\$ (3,954,095)	\$(20,283,926)	\$(94,427,483)

Over the last eight years, the UAL has been reduced by approximately \$94.4 million. Contributions reduced the UAL by \$109.9 million, liability experience reduced the UAL by \$20.3 million, and investment returns reduced the UAL by \$4.0 million while assumption changes increased the UAL by \$47.0 million. For FYE 2018, it should be noted that the liability experience is a combination of an increase in liability due to the change in actuary of approximately \$9.2 million and other liability experience losses of \$11.7 million.

Plan Maturity Measures

The future financial condition of a mature pension plan is more sensitive to each of the risks identified above than a less mature plan. Before assessing each of these risks, it is important to understand the maturity of the plan.

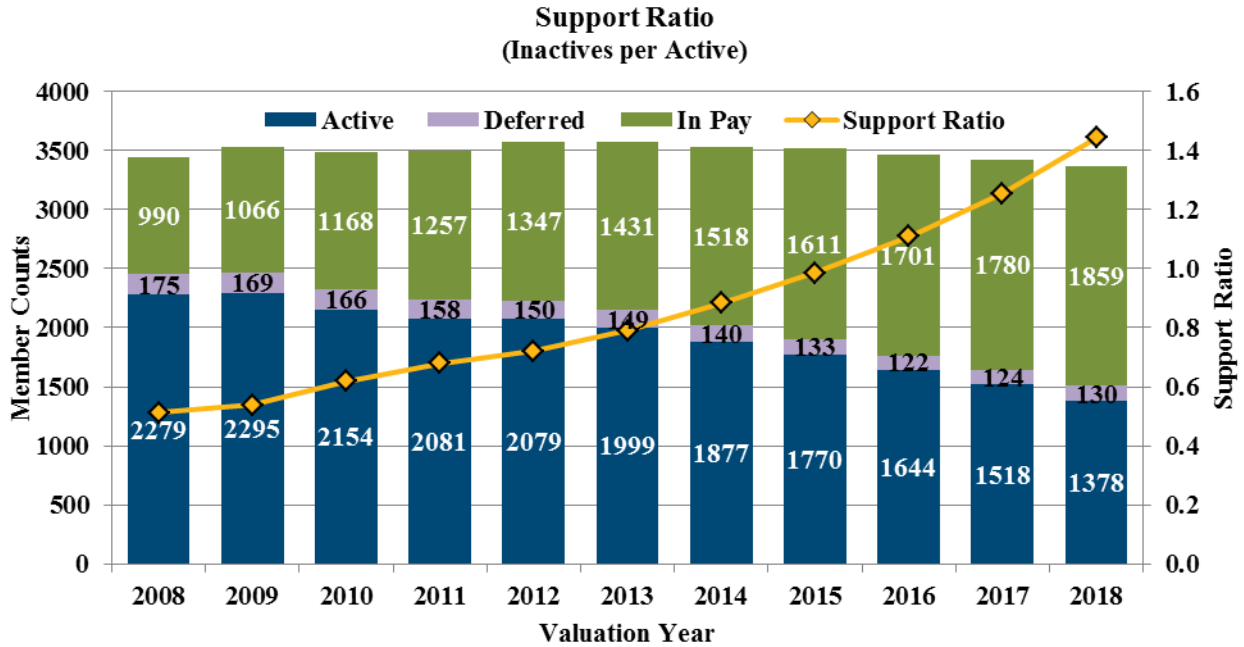
Plan maturity can be measured in a variety of ways, but they all get at one basic dynamic – the larger the plan is compared to the contribution or revenue base that supports it; the more sensitive the plan will be to risk. Given that the Plan has been closed to new entrants since 2012, maturity measures isolated on the Plan show significant increases in maturity while maturity measures setting the Plan in the context of TriMet as a whole show declining maturity.

Support Ratio (Inactives per Active)

One simple measure of plan maturity is the ratio of the number of inactive members (those receiving benefits or entitled to a deferred benefit) to the number of active members. For a closed plan, the Support Ratio is expected to increase significantly unless active employees who are not covered by the Plan are included. The chart on the following page shows the growth in the Support Ratio for the closed Plan for the current and prior 10 years.

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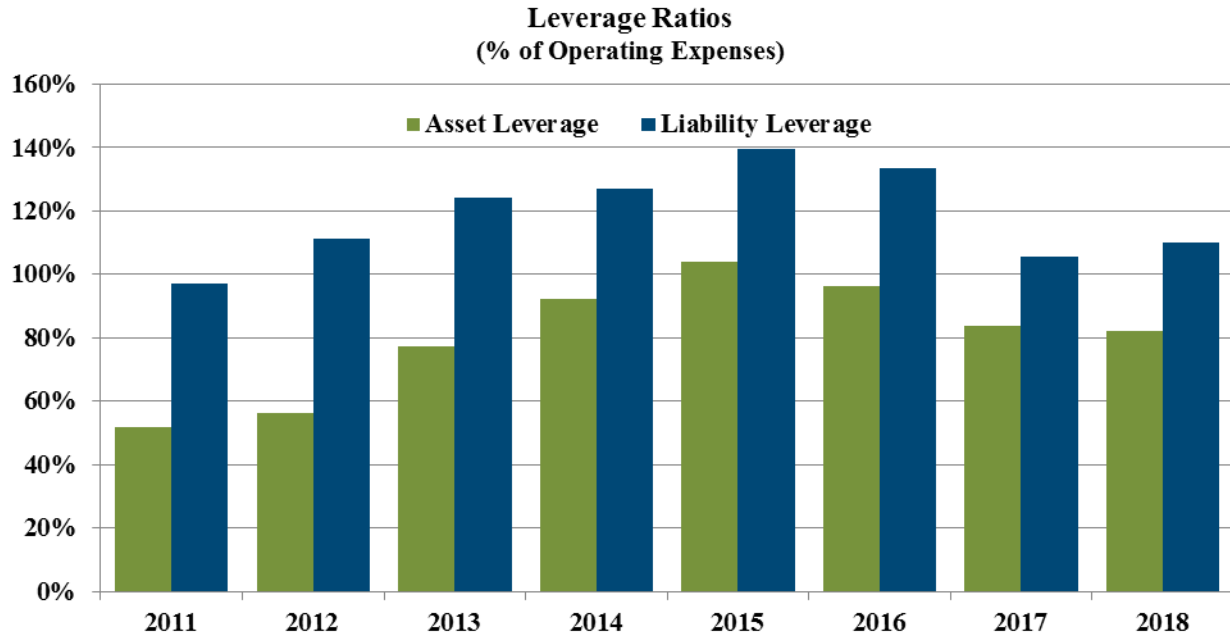
Leverage Ratios

Leverage or volatility ratios measure the size of the plan compared to its revenue base more directly. For TriMet, we have calculated the historical leverage ratios as a multiple of TriMet’s operating expenditures. An asset leverage ratio of 2.0, for example, means that if the Plan experiences a 10% loss on assets compared to the expected return, the loss would be equivalent to 20% of TriMet’s operating expenses. When the Plan becomes 100% funded, the asset leverage ratio would equal the Actuarial Liability (AL) leverage ratio. The AL leverage ratio also indicates how sensitive the Plan is to experience gains and losses or assumption changes. For example, an assumption change that increases the AL by 5% would add a liability equivalent to about 10% of TriMet’s operating expenses if the AL leverage ratio is 2.0.

The chart on the next page shows the historical leverage ratios of the Plan. The leverage ratios have been declining as the closed plan becomes smaller relative to the size of TriMet. As the closed Plan pays out benefits, it is expected to become even smaller compared to TriMet’s annual operating expenses.

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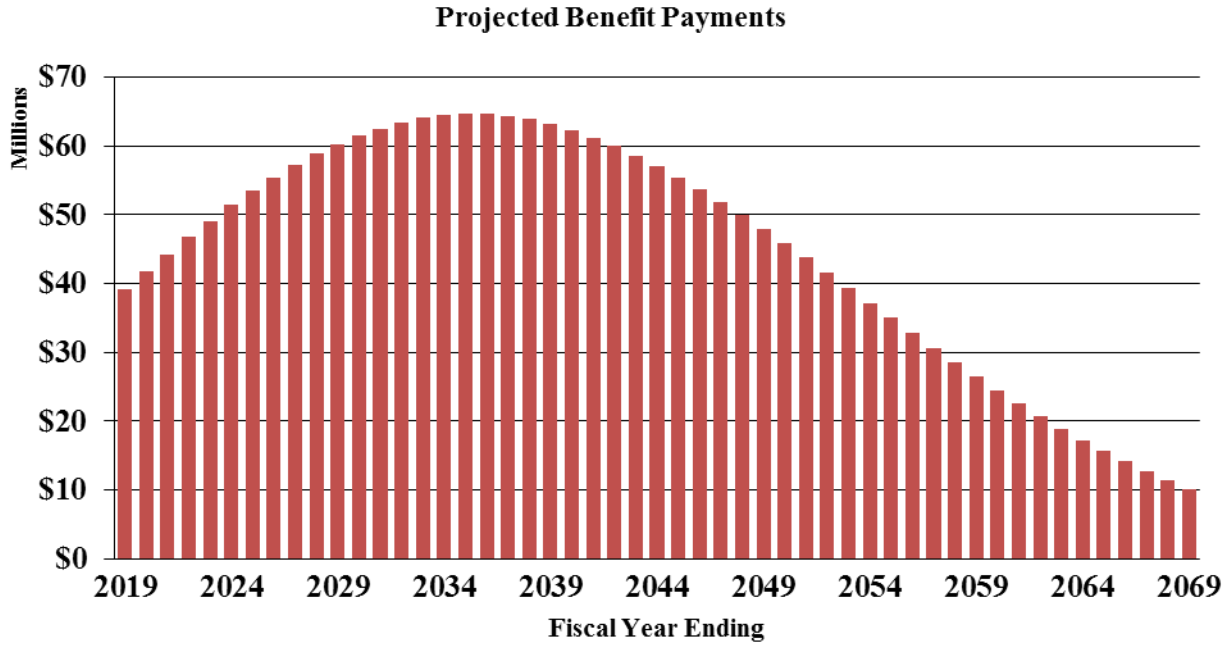
Assessing Costs and Risks

A closed pension plan will ultimately either end up with excess assets after all benefits have been paid or run out of assets before all benefits have been paid. If the Plan develops surplus assets, it may be able to reduce the risk in its investment portfolio, immunize investments, or purchase annuities to settle the remaining obligation. However, such an approach may not be the objective for TriMet, and if the surplus assets exceed the additional amounts needed to purchase annuities or immunize the portfolio, it is not clear how they could be used until all benefits have been paid.

If the Plan, on the other hand, were to run out of assets, TriMet would be forced to pay benefits directly on a pay-as-you-go basis. As long as TriMet can afford the pay-as-you-go costs, benefits would remain secure. The chart on the following page shows a projection of expected benefit payments for the closed plan.

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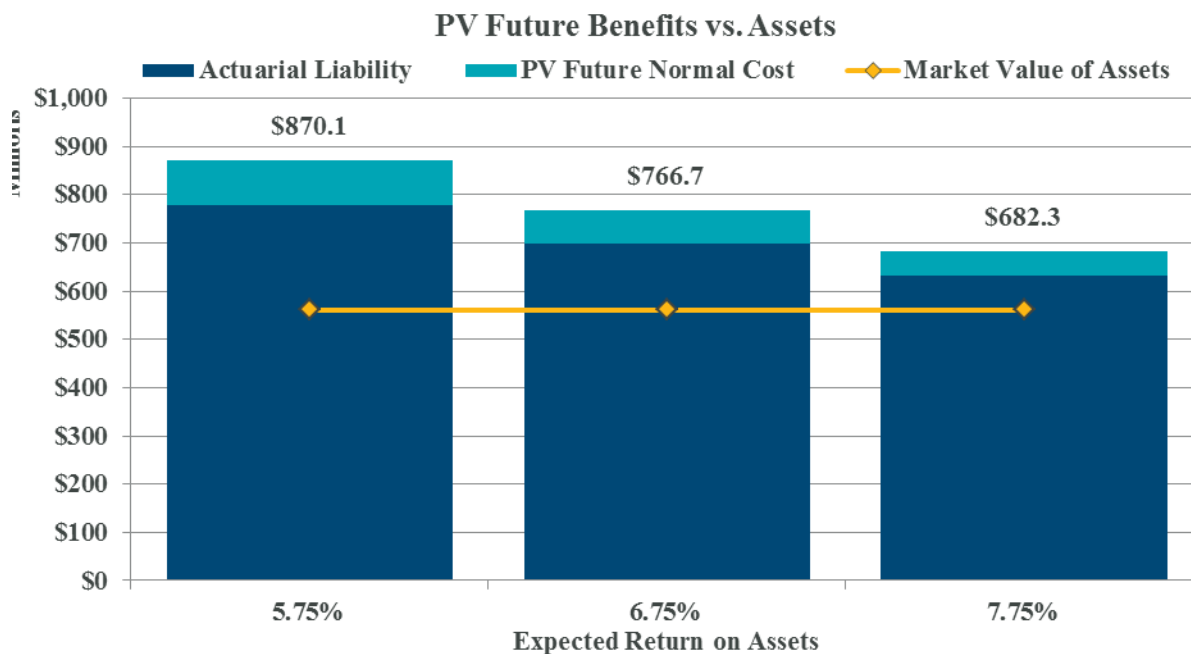


Sensitivity to Investment Returns

The chart on the next page compares assets to the present value of all projected future benefits discounted at the current expected rate of return and at investment returns 100 basis points above and below the expected rate of return. The present value of future benefits is shown as a bar with the portion attributable to past service in dark blue (Actuarial Liability) and the portion attributable to future service in teal (Present Value of Future Normal Costs). The Market Value of Assets is shown by the gold line.

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If investments return 6.75% annually, the Plan would need approximately \$767 million in assets today to pay all projected benefits compared to current assets of \$561 million. If investment returns are only 5.75%, the Plan would need approximately \$870 million in assets today, and if investment returns are 7.75%, the Plan would need approximately \$682 million in assets today.

The present value of future benefits shown above, however, assumes annual inflation of 2.5%. If annual inflation is higher; more assets would be needed to pay the benefits, and if inflation is lower; fewer assets would be needed to pay benefits. In this case, it is better to think of the sensitivity based on the investment return in excess of inflation. The assumption of 6.75% nominal investment returns and 2.5% inflation equates to a real investment return assumption of 4.25%. Similarly, expected nominal investment returns of 5.75% and 7.75% equate to 3.25% and 5.25% real investment returns, respectively.

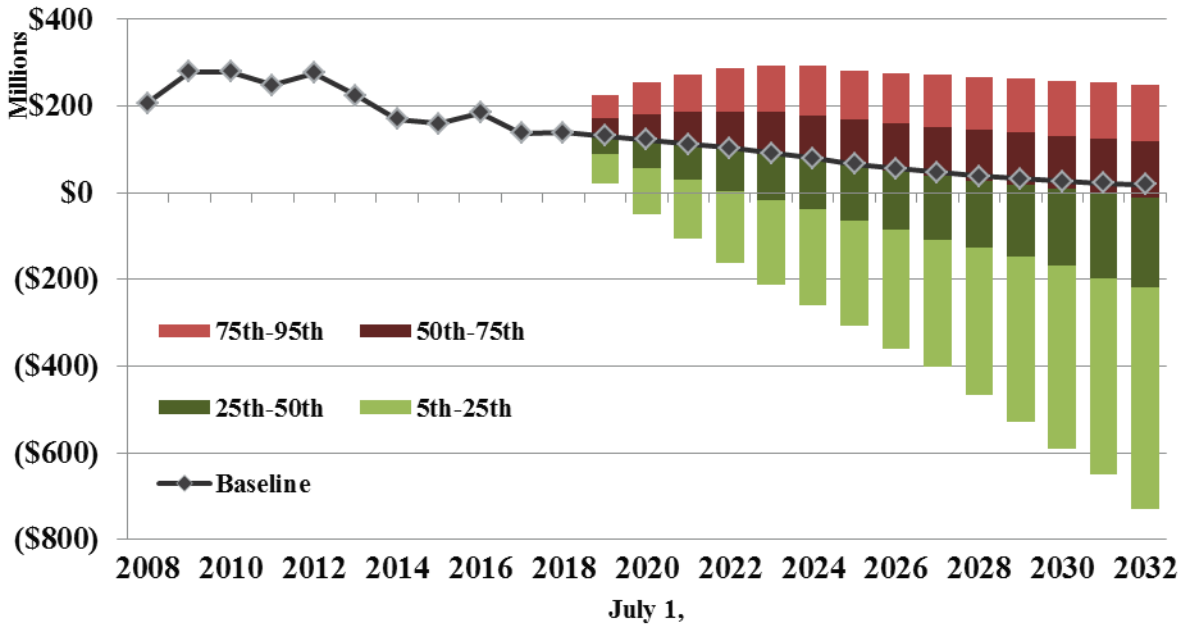
Stochastic Projections

The stochastic projections of contributions shown at the bottom of the dashboard show a very wide range in future ADC's. This range is driven both by the volatility of investment returns and by the short amortization period used to calculate the ADC. The chart on the following page shows the projected range of the UAL or surplus on the same basis. Surplus amounts are shown as negative numbers.

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Historical and Stochastic Projection of UAL/(Surplus)



While the UAL is projected in the baseline to be relatively small by 2032, there is a wide range of potential outcomes. The relatively short amortization period for the UAL prevents the UAL from becoming too large. Good investment returns, however, can grow the surplus unrestrained because the minimum contribution is \$0. These projected surpluses may be restrained by changes in investment policy as the surplus develops.

More Detailed Assessment

While a more detailed assessment of risk is always valuable to enhance the understanding of the risks identified above, given the closed plan, the advantages of a more detailed assessment may not justify its costs at this time. We understand TriMet will be conducting an asset-liability study soon, and we recommend that potential changes in the Funding Policy be studied at the same time to manage the risks going forward.

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SECTION III – CERTIFICATION

The purpose of this report is to present the July 1, 2018 Actuarial Valuation of the Pension Plan for Bargaining Unit Employees of TriMet (“Plan”). This report is for the use of the Plan and TriMet.

In preparing our report, we relied on information, some oral and some written, supplied by TriMet. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

The actuarial assumptions were recommended by the prior actuary based upon their 2013 experience study and additional analyses they performed and communicated in letters dated February 18, 2016 and May 31, 2017. We have not performed an independent analysis, but we reviewed the experience study and letters and believe the assumptions to be reasonable.

The liability measures and funding ratios in this report are for the purpose of establishing contribution rates. These measures are not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the Plan’s benefit obligations.

Future actuarial measurements may differ significantly from the current measurements 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; and, changes in plan provisions or applicable law.

To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

This report was prepared for the Plan and TriMet for the purposes described herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.



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SECTION IV – ASSETS

The Plan uses two different asset measurements: the Market Value and Actuarial Value of Assets. The market value represents the value of the assets if they were liquidated on the valuation date. The actuarial value smooths annual investment returns over five years to reduce the impact of short-term investment volatility on contributions. The Market Value of Assets is used primarily for reporting and disclosure, and the Actuarial Value of Assets is used primarily to calculate Actuarially Determined Contributions.

This section shows the changes in the Market Value of Assets, calculates the money-weighted investment return for GASB 67 and 68, and develops the Actuarial Value of Assets.

Statement of Change in Market Value of Assets

Table IV-1 shows the changes in the Market Value of Assets for the current and prior fiscal years.

Table IV-1

Change in Market Value of Assets		
	FYE 2018	FYE 2017
Market Value, Beginning of Year	\$ 520,926,813	\$ 472,829,115
Contributions	35,227,507	35,862,442
Net Investment Earnings	41,479,101	46,645,429
Benefit Payments	(36,394,436)	(34,162,919)
Administrative Expenses	(356,886)	(247,254)
Market Value, End of Year	\$ 560,882,099	\$ 520,926,813

The Market Value of Assets increased from approximately \$472.8 million as of June 30, 2017 to \$520.9 million as of June 30, 2018. Actual contributions and investment earnings increased the market value by approximately \$77 million while benefit payments and administrative expenses decreased the market value by approximately \$37 million.

The rate of return during the year is calculated on a money-weighted basis, which reflects the effect of external cash flows (contributions less benefit payments and administrative expenses) on a monthly basis. Table IV-2 shows the external cash flows by month, the number of months each cash flow was considered invested, and the external cash flows with interest at the money-weighted rate of return of 8.04% to the end of the year. The sum of the external cash flows with interest equals the Market Value of Assets at the end of the year.

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

SECTION IV – ASSETS

Table IV-2

Money-Weighted Rate of Return Fiscal Year Ending June 30, 2018			
	Net External Cash Flows	Months Invested	Net External Cash Flows With Interest
Beginning Value, July 1, 2017	\$ 520,926,813	12	\$ 562,805,108
<u>Monthly Net External Cash Flows</u>			
July	(134,135)	11	(143,988)
August	169,667	10	180,960
September	(134,586)	9	(142,622)
October	(109,257)	8	(115,037)
November	(110,421)	7	(115,516)
December	(152,141)	6	(158,139)
January	(87,760)	5	(90,633)
February	(92,451)	4	(94,864)
March	(529,411)	3	(539,745)
April	(120,330)	2	(121,891)
May	(256,561)	1	(258,219)
June	(323,314)	0	(323,314)
Ending Value, June 30, 2018			\$ 560,882,099
Money-Weighted Rate of Return	8.04%		

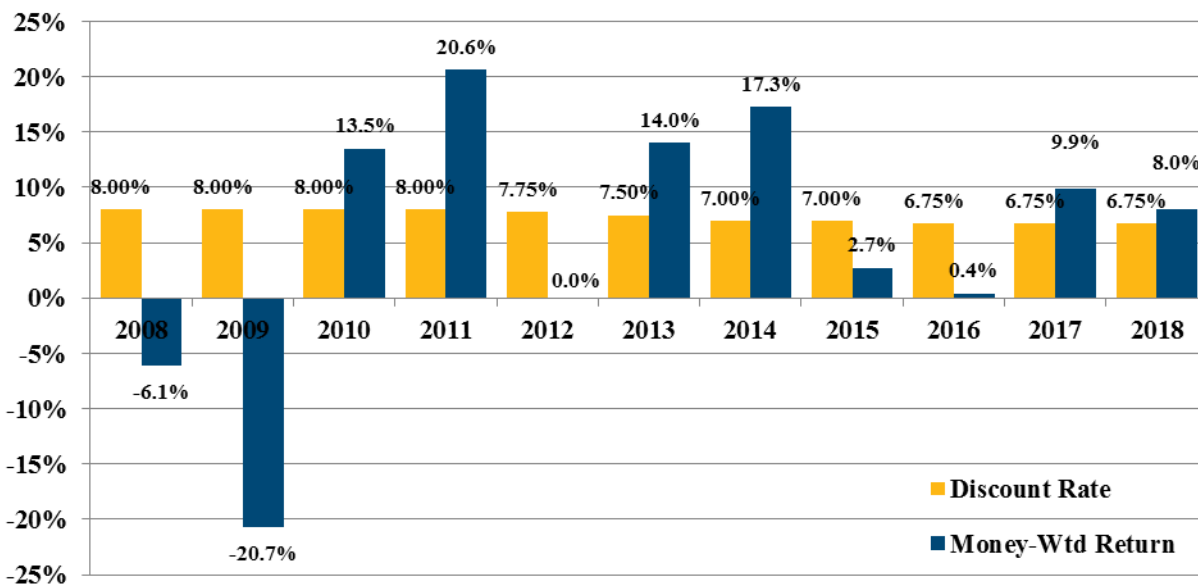
The money-weighted rate of return for the year ended June 30, 2018 was 8.04% compared to an expected return of 6.75%. As shown in the chart on the following page, over the last ten years the money-weighted rate of return¹ has varied significantly from negative 20.7% in 2009 to 20.6% in 2011.

¹ Money-weighted returns prior to FYE 2014 were not calculated based on actual monthly external cash flows, but estimated the timing of external cash flows throughout the year.

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
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SECTION IV – ASSETS

Historical Rates of Return



Actuarial Value of Assets

To determine on-going contributions, most pension plans utilize an Actuarial Value of Assets that smooths year-to-year market value returns in order to reduce the volatility of contributions.

The Actuarial Value of Assets is calculated by recognizing the deviation of actual investment returns compared to the expected return over a five-year period. The dollar amount of the expected return on the Market Value of Assets is determined using actual contributions, benefit payments, and administrative expenses during the year. Any difference between this amount and the actual net investment earnings is considered a gain or loss. For FYE 2018, the 8.04% return compared to the expected return of 6.75% produced an investment gain of approximately \$6.4 million.

Table IV-3 on the next page shows the calculation of the Actuarial Value of Assets. For each of the last four years, it shows the actual earnings, the expected earnings, the gain or loss, and the portion of the gain or loss that is not recognized in the current Actuarial Value of Assets. For FYE 2015, there are two calculations. Under the “Historical” policy, the expected return was 7.5%, and under the “TriMet” policy the expected return was 7.0%. The remaining total deferred amounts will be recognized in future years. As of FYE 2019, the “Historical” and “TriMet” policies will produce the same Actuarial Value of Assets.

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

SECTION IV – ASSETS

Table IV-3

Development of Actuarial Value of Assets					
	FYE 2015		FYE 2016	FYE 2017	FYE 2018
	<u>Historical</u>	<u>TriMet</u>			
Actual Earnings	\$ 12,275,500	\$ 12,275,500	\$ 1,948,822	\$ 46,645,429	\$ 41,479,101
Expected Earnings	<u>33,798,227</u>	<u>31,545,012</u>	<u>32,704,133</u>	<u>31,923,131</u>	<u>35,111,971</u>
Investment Gain or (Loss)	(21,522,727)	(19,269,512)	(30,755,311)	14,722,298	6,367,130
Percentage Deferred	20%	20%	40%	60%	80%
Deferred Gain or (Loss)	\$ (4,304,545)	\$ (3,853,902)	\$ (12,302,124)	\$ 8,833,379	\$ 5,093,704
<u>Policy</u>				<u>Historical</u>	<u>TriMet</u>
Market Value of Assets (MVA)				\$ 560,882,099	\$ 560,882,099
Deferred Gain or (Loss)					
FYE 2015				\$ (4,304,545)	\$ (3,853,902)
FYE 2016				(12,302,124)	(12,302,124)
FYE 2017				8,833,379	8,833,379
FYE 2018				<u>5,093,704</u>	<u>5,093,704</u>
Total Deferred Gain or (Loss)				\$ (2,679,586)	\$ (2,228,943)
Preliminary Actuarial Value of Assets (MVA less Deferred Gain or (Loss))				\$ 563,561,685	\$ 563,111,042
Minimum Actuarial Value of Assets (80% of Market Value)				448,705,679	448,705,679
Maximum Actuarial Value of Assets (120% of Market Value)				673,058,519	673,058,519
Actuarial Value of Assets (AVA)				\$ 563,561,685	\$ 563,111,042
Ratio of Actuarial to Market				100.5%	100.4%
Estimated Rate of Return				6.8%	6.9%

On an Actuarial Value of Assets basis, the aggregate return for the year ending June 30, 2018 was 6.8% for the “Historical” policy and 6.9% for the “TriMet” policy. Both returns are greater than the assumed return of 6.75%.

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

SECTION V – MEASURES OF LIABILITY

This section presents detailed information on liability measures for the Plan for funding purposes, including:

- Present value of future benefits,
- Actuarial Liability, and
- Normal cost.

Present Value of Future Benefits: The present value of future benefits represents the expected amount of money needed today if all assumptions are met to pay for all benefits both earned as of the valuation date and expected to be earned in the future by current plan members under the current plan provisions. Table V-1 below shows the present value of future benefits as of July 1, 2018 and July 1, 2017.

Table V-1

Present Value of Future Benefits			
	July 1, 2018	July 1, 2017	% Change
Actives	\$ 331,481,804	\$ 328,907,084	0.8%
Deferred	13,519,286	11,082,727	22.0%
In Pay Status	<u>421,675,445</u>	<u>388,578,420</u>	<u>8.5%</u>
Total	\$ 766,676,535	\$ 728,568,231	5.2%

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

SECTION V – MEASURES OF LIABILITY

Actuarial Liability

The Actuarial Liability represents the expected amount of money needed today if all assumptions are met to pay for benefits attributed to service prior to the valuation date under the Entry Age actuarial cost method. As such, it is the amount of assets targeted by the actuarial cost method for the Plan to hold as of the valuation date. It is not the amount necessary to settle the obligation. Under GASB 67 and 68, the Entry Age Actuarial Liability is referred to as the Total Pension Liability. Table V-2 below shows the Actuarial Liability as of July 1, 2018 and July 1, 2017.

Table V-2

Actuarial Liability			
	July 1, 2018	July 1, 2017	% Change
Actives			
Retirement	\$ 235,620,898	\$ 229,638,787	2.6%
Termination	1,885,514	1,934,316	-2.5%
Death	2,232,499	2,148,357	3.9%
Disability	18,697,929	19,163,864	-2.4%
Transfers to Management	<u>5,302,435</u>	<u>4,852,289</u>	<u>9.3%</u>
Total Actives	\$ 263,739,275	\$ 257,737,613	2.3%
Vested Terminated	\$ 13,519,286	\$ 11,082,727	22.0%
In Pay Status			
Retirees and Beneficiaries	\$ 362,527,104	\$ 334,340,176	8.4%
Disabled	<u>59,148,341</u>	<u>54,238,244</u>	<u>9.1%</u>
Total In Pay	\$ 421,675,445	\$ 388,578,420	8.5%
Total	\$ 698,934,006	\$ 657,398,760	6.3%

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

SECTION V – MEASURES OF LIABILITY

Normal Cost

Under the Entry Age (EA) actuarial cost method, the present value of future benefits for each individual is spread over the individual's expected working career under the Plan as a level percentage of the individual's expected pay. The normal cost rate is determined by taking the value, as of entry age into the Plan, of each member's projected future benefits divided by the present value, also at entry age, of the each member's expected future salary. The normal cost rate is multiplied by current salary to determine each member's normal cost. The normal cost of the Plan is the sum of the normal costs for each individual. The normal cost represents the expected amount of money needed to fund the benefits attributed to the next year of service under the Entry Age actuarial cost method. Under GASB 67 and 68, the EA normal cost is referred to as the service cost. Table V-3 below shows the Total normal cost as of July 1, 2018 and July 1, 2017.

Table V-3

Normal Cost			
	July 1, 2018	July 1, 2017	% Change
Retirement	\$ 7,788,067	\$ 7,898,348	-1.4%
Termination	252,968	249,796	1.3%
Death	109,245	90,798	20.3%
Disability	1,363,800	1,512,138	-9.8%
Transfers to Management	<u>128,660</u>	<u>124,154</u>	<u>3.6%</u>
Total Normal Cost	\$ 9,514,080	\$ 9,751,080	-2.4%

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

SECTION VI – CONTRIBUTIONS

This section of the report develops the Actuarially Determined Contribution in accordance with the Plan’s Pension Funding Policy and Objectives (Funding Policy).

Amortization of the Unfunded Actuarial Liability

There are two components to the contribution: the normal cost (including administrative expenses) and an amortization payment on the Unfunded Actuarial Liability (UAL). The normal cost was developed in Section V. This section develops the UAL contribution.

Under the “Historical” Funding Policy, the UAL is amortized as a level dollar amount over a rolling 20-year period. Because the period is reset each year to 20 years, this policy is not expected to fully pay off the UAL, but produces more stable contributions.

Under the “TriMet” Funding Policy, the UAL is amortized as a level percent of total union payroll over a period that started at 15 years (11 years remaining) and will transition to a rolling 5-year period. Because the period will be reset each year to 5 years, this policy also is not expected to fully pay off the UAL. However, 5 years is short enough that the UAL is expected to be nearly paid off and the Plan satisfies GASB’s crossover test.

Actuarially Determined Contribution

Table VI-1 shows the components of the Actuarially Determined Contribution (ADC) for FYE 2019 and 2018 under both the “Historical” policy and the “TriMet” policy. The ADC amounts are shown assuming contributions are made at the beginning of the fiscal year or at the beginning of each month.

Table VI-1

Actuarially Determined Contribution Amounts				
	FYE 2019		FYE 2018	
	Historical	TriMet	Historical	TriMet
Total Normal Cost	\$ 9,642,740	\$ 9,642,740	\$ 9,875,234	\$ 9,875,234
Administrative Expenses	290,360	290,360	290,360	290,360
UAL Payment	<u>11,738,612</u>	<u>15,343,686</u>	<u>11,141,543</u>	<u>13,680,050</u>
Total ADC (Beginning of Year)	\$ 21,671,712	\$ 25,276,786	\$ 21,307,137	\$ 23,845,644
Equivalent Monthly Contribution	\$ 1,860,532	\$ 2,170,031	\$ 1,829,233	\$ 2,047,166
Annual Amount (Equivalent Monthly Contribution x 12)	\$ 22,326,384	\$ 26,040,372	\$ 21,950,801	\$ 24,565,994

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

SECTION VII – GASB 67 AND 68 DISCLOSURES

This section of the report provides accounting and financial reporting information under Government Accounting Standards Board Statements 67 and 68 for the Plan and TriMet. This information includes:

- Determination of Discount Rate,
- Changes in the Net Pension Liability,
- Calculation of the Net Pension Liability at the discount rate as well as discount rates 1% higher and lower than the discount rate,
- Schedule of Employer Contributions,
- Disclosure of Deferred Inflows and Outflows, and
- Calculation of the Annual Pension Expense for TriMet.

Determination of Discount Rate

The discount rate used to measure the Total Pension Liability was 6.75%.

The projection of cash flows used to determine the discount rate assumed that contributions to the Plan will follow the “TriMet” Funding Policy, which requires contributions equal to normal cost (including assumed administrative expenses) and an amortization payment on the remaining UAL that will ultimately be over a rolling 5-year period. The UAL is based on an Actuarial Value of Assets that smooths investment gains and losses over five years.

Based on these assumptions, the Plan’s fiduciary net position was projected to be available to make projected future benefit payments for current members until FYE 2104, when only a portion of the projected benefit payments are expected to be made from the projected fiduciary net position. Projected benefit payments are discounted at the long-term expected return on assets of 6.75% to the extent the fiduciary net position is available to make the payments and at the municipal bond rate of 3.87% (Bond Buyer 20-Bond GO Index as of June 28, 2018) to the extent they are not available. The single equivalent rate used to determine the Total Pension Liability as of June 30, 2018 rounded to four decimals is 6.75%.

Appendix D shows the details of this calculation.

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
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SECTION VII – GASB 67 AND 68 DISCLOSURES

Note Disclosures

Table VII-1 below shows the changes in the Total Pension Liability, the Plan Fiduciary Net Position (i.e., fair value of Plan assets), and the Net Pension Liability during the Measurement Year.

Table VII-1

Change in Net Pension Liability			
	Increase (Decrease)		
	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
	(a)	(b)	(a) - (b)
Balances at 6/30/2017	\$ 657,398,760	\$ 520,926,813	\$ 136,471,947
Changes for the year:			
Service cost	9,875,234		9,875,234
Interest	43,832,738		43,832,738
Changes of benefits	3,286,046		3,286,046
Differences between expected and actual experience	20,935,664		20,935,664
Changes of assumptions	0		0
Contributions - employer		35,227,507	(35,227,507)
Contributions - member		-	0
Net investment income		41,479,101	(41,479,101)
Benefit payments	(36,394,436)	(36,394,436)	0
Administrative expense		(356,886)	356,886
Net changes	<u>41,535,246</u>	<u>39,955,286</u>	<u>1,579,960</u>
Balances at 6/30/2018	<u>\$ 698,934,006</u>	<u>\$ 560,882,099</u>	<u>\$ 138,051,907</u>

During the measurement year, the NPL increased by approximately \$1.6 million. The service cost and interest cost increased the NPL by approximately \$53.7 million while contributions and investment returns offset by administrative expenses decreased the NPL by approximately \$76.3 million.

There were no changes in benefits or assumptions during the year.

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

SECTION VII – GASB 67 AND 68 DISCLOSURES

Changes in the discount rate affect the measurement of the TPL. Lower discount rates produce a higher TPL and higher discount rates produce a lower TPL. Because the discount rate does not affect the measurement of assets, the percentage change in the NPL can be very significant for a relatively small change in the discount rate. The table below shows the sensitivity of the NPL to the discount rate.

Table VII-2

Sensitivity of Net Pension Liability to Changes in Discount Rate			
	1% Decrease 5.75%	Discount Rate 6.75%	1% Increase 7.75%
Total Pension Liability	\$ 777,996,760	\$ 698,934,006	\$ 631,894,551
Plan Fiduciary Net Position	<u>560,882,099</u>	<u>560,882,099</u>	<u>560,882,099</u>
Net Pension Liability	<u>\$ 217,114,661</u>	<u>\$ 138,051,907</u>	<u>\$ 71,012,452</u>
Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	72.1%	80.2%	88.8%

A one percent decrease in the discount rate increases the TPL by approximately 11.3% and increases the NPL by approximately 57%. A one percent increase in the discount rate decreases the TPL by approximately 9.6% and decreases the NPL by approximately 49%.

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
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SECTION VII – GASB 67 AND 68 DISCLOSURES

Required Supplementary Information

The schedules of Required Supplementary Information eventually will build up to 10 years of information. The schedule below shows the changes in NPL and related ratios required by GASB for the years since implementation.

Table VII-3

Schedule of Changes in Net Pension Liability and Related Ratios							
	FYE 2018	FYE 2017	FYE 2016	FYE 2015	FYE 2014	FYE 2013	FYE 2012
Total Pension Liability							
Service cost	\$ 9,875,234	\$ 10,850,730	\$ 10,702,574	\$ 11,756,232	\$ 11,406,016	\$ 11,122,166	\$ 11,030,625
Interest (includes interest on service cost)	43,832,738	43,888,922	43,371,673	43,025,200	42,869,939	41,827,133	40,065,267
Changes of benefit terms	3,286,046	0	0	0	0	0	(10,616,209)
Differences between expected and actual experience	20,935,664	(19,614,961)	(8,966,475)	(541,183)	(11,294,241)	(8,583,422)	7,780,692
Changes of assumptions	0	0	18,776,392	(16,558,463)	29,476,059	15,353,638	0
Benefit payments, including refunds of member contributions	(36,394,436)	(34,162,919)	(32,679,854)	(30,677,192)	(28,845,723)	(27,372,519)	(23,863,800)
Net change in total pension liability	\$ 41,535,246	\$ 961,772	\$ 31,204,310	\$ 7,004,594	\$ 43,612,050	\$ 32,346,996	\$ 24,396,575
Total pension liability - beginning	657,398,760	656,436,988	625,232,678	618,228,084	574,616,034	542,269,038	517,872,463
Total pension liability - ending	\$ 698,934,006	\$ 657,398,760	\$ 656,436,988	\$ 625,232,678	\$ 618,228,084	\$ 574,616,034	\$ 542,269,038
Plan fiduciary net position							
Contributions - employer	\$ 35,227,507	\$ 35,862,442	\$ 38,026,735	\$ 36,200,926	\$ 47,261,301	\$ 70,379,741	\$ 18,823,691
Contributions - member	0	0	0	0	0	0	0
Net investment income	41,479,101	46,645,429	1,948,822	12,275,500	64,460,966	42,348,566	792,478
Benefit payments, including refunds of member contributions	(36,394,436)	(34,162,919)	(32,679,854)	(30,677,192)	(28,845,723)	(27,372,519)	(23,863,800)
Administrative expense	(356,886)	(247,254)	(281,539)	(363,267)	(486,934)	(222,824)	(289,032)
Net change in plan fiduciary net position	\$ 39,955,286	\$ 48,097,698	\$ 7,014,164	\$ 17,435,967	\$ 82,389,610	\$ 85,132,964	\$ (4,536,663)
Plan fiduciary net position - beginning	520,926,813	472,829,115	465,814,951	448,378,984	365,989,374	280,856,410	285,393,073
Plan fiduciary net position - ending	\$ 560,882,099	\$ 520,926,813	\$ 472,829,115	\$ 465,814,951	\$ 448,378,984	\$ 365,989,374	\$ 280,856,410
Net pension liability - ending	\$ 138,051,907	\$ 136,471,947	\$ 183,607,873	\$ 159,417,727	\$ 169,849,100	\$ 208,626,660	\$ 261,412,628
Plan fiduciary net position as a percentage of the total pension liability	80.25%	79.24%	72.03%	74.50%	72.53%	63.69%	51.79%
Covered payroll	\$ 109,924,285	\$ 106,596,389	\$ 117,666,306	\$ 116,555,801	\$ 124,695,531	\$ 125,143,307	\$ 125,142,143
Net pension liability as a percentage of covered payroll	125.59%	128.03%	156.04%	136.77%	136.21%	166.71%	208.89%

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
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SECTION VII – GASB 67 AND 68 DISCLOSURES

The schedule below shows a comparison of the Actuarially Determined Contribution (ADC) to actual contributions.

Table VII-4

Schedule of Employer Contributions											
	FYE 2018	FYE 2017	FYE 2016	FYE 2015	FYE 2014	FYE 2013	FYE 2012	FYE 2011	FYE 2010	FYE 2009	
Actuarially Determined Contribution	\$ 24,566	\$ 28,498	\$ 28,030	\$ 31,926	\$ 35,553	\$ 34,638	\$ 32,224	\$ 34,028	\$ 28,051	\$ 26,154	
Contributions in Relation to the Actuarially Determined Contribution	35,228	35,862	38,027	36,201	47,261	70,380	18,824	47,428	28,051	26,154	
Contribution Deficiency/(Excess)	<u>\$ (10,662)</u>	<u>\$ (7,365)</u>	<u>\$ (9,996)</u>	<u>\$ (4,275)</u>	<u>\$ (11,708)</u>	<u>\$ (35,742)</u>	<u>\$ 13,400</u>	<u>\$ (13,400)</u>	<u>\$ 0</u>	<u>\$ 0</u>	
Covered Payroll	\$ 109,924	\$ 106,596	\$ 117,666	\$ 116,556	\$ 124,696	\$ 125,143	\$ 125,142	\$ 119,166	\$ 121,124	\$ 123,784	
Contributions as a Percentage of Covered Payroll	32.05%	33.64%	32.32%	31.06%	37.90%	56.24%	15.04%	39.80%	23.16%	21.13%	

Amounts in Thousands

Key methods and assumptions used to determine the ADC

Actuarial Cost Method	Individual Entry Age as a level percent of pay
Asset Valuation Method	Investment gains and losses are smoothed over 5 years with the resulting actuarial value restricted to be between 80% and 120% of the market value
Amortization Method	Closed 15-year amortization, level percent of pay until 5 years remains, then open(July 1, 2014)
Discount Rate	6.75% (July 1, 2016)
Salary Increases	2.75% (July 1, 2015)
Inflation	2.5% (July 1, 2016)
Healthy Mortality	RP-2014 Annuitant and Non-Annuitant Mortality with Blue Collar Adjustment set forward one year for males and two years for females(July 1, 2016)

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
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SECTION VII – GASB 67 AND 68 DISCLOSURES

Employer Accounting

The schedules in this section are to be used by TriMet for its employer accounting for FYE 2018. These schedules develop the annual pension expense, including the amounts of deferred inflows and outflows.

The impact of experience gains or losses and assumption changes on the TPL are recognized in expense over the average expected remaining service life of all active and inactive members of the Plan. As of the measurement date, this recognition period was 3.9 years.

During the year, there was a liability experience loss of approximately \$20.9 million. Approximately \$5.4 million of that loss was recognized as an increase in pension expense in the current year and the remainder will be recognized over the next 3 years, resulting in a deferred outflow of resources as of June 30, 2018 of approximately \$15.6 million. Approximately \$9.3 million was recognized as a reduction in pension expense in the current year due to experience gains and losses from prior periods. There is a deferred inflow as of June 30, 2018 of approximately \$16.5 million due to prior period gains.

There were no assumption changes since the last measurement date. Approximately \$8.3 million was recognized as an increase in pension expense in the current year due to assumption changes from prior periods. As of June 30, 2018, there is a deferred inflow of approximately \$4.3 million and a deferred outflow of approximately \$11.8 million due to prior assumption changes.

The impact of investment gains or losses is recognized over a period of five years. During the measurement year, there was an investment gain of approximately \$6.4 million. Approximately \$1.3 million of that gain was recognized in the current year and an identical amount will be recognized in each of the next four years. Unrecognized investment losses from prior periods were approximately \$7.1 million of which \$0.2 million was recognized as a reduction in pension expense in the current year. The combination of unrecognized investment gains and losses from this year and prior periods results in a deferred outflow of resources as of June 30, 2018 of approximately \$2.2 million.

The table on the next page summarizes the current balances of deferred outflows and deferred inflows of resources along with the net recognition over the next five years.

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
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SECTION VII – GASB 67 AND 68 DISCLOSURES

Table VII-5

Schedule of Deferred Inflows and Outflows of Resources		
	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ 15,567,545	\$ 16,512,154
Changes in assumptions	11,827,920	4,292,935
Net difference between projected and actual earnings on pension plan investments	2,228,947	0
Total	\$ 29,624,412	\$ 20,805,089
Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:		
Measurement year ended June 30:		
2019	8,305,281	
2020	3,732,518	
2021	(1,945,050)	
2022	(1,273,426)	
2023	0	
Thereafter	\$ 0	

The annual pension expense recognized by TriMet can be calculated two different ways. First, it is the change in the amounts reported on TriMet’s Statement of Net Position that relate to the Plan and are not attributable to employer contributions. That is, it is the change in NPL plus the changes in deferred outflows and inflows plus employer contributions.

Alternatively, annual pension expense can be calculated by its individual components. While GASB does not require or suggest the organization of the individual components shown in the table on the following page, we believe it helps to understand the level and volatility of pension expense.

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

SECTION VII – GASB 67 AND 68 DISCLOSURES

Table VII-6

Calculation of Pension Expense		
	Measurement Year Ending	
	2018	2017
Change in Net Pension Liability	\$ 1,579,960	\$ (47,135,926)
Change in Deferred Outflows	892,720	23,309,049
Change in Deferred Inflows	(12,578,419)	7,036,542
Employer Contributions	<u>35,227,507</u>	<u>35,862,442</u>
Pension Expense	\$ 25,121,768	\$ 19,072,107
Operating Expenses		
Service cost	\$ 9,875,234	\$ 10,850,730
Employee contributions	0	0
Administrative expenses	<u>356,886</u>	<u>247,254</u>
Total	\$ 10,232,120	\$ 11,097,984
Financing Expenses		
Interest cost	\$ 43,832,738	\$ 43,888,922
Expected return on assets	<u>(35,111,971)</u>	<u>(31,923,131)</u>
Total	\$ 8,720,767	\$ 11,965,791
Changes		
Benefit changes	\$ 3,286,046	\$ 0
Recognition of assumption changes	8,287,965	8,287,965
Recognition of liability gains and losses	(3,892,926)	(8,257,087)
Recognition of investment gains and losses	<u>(1,512,204)</u>	<u>(4,022,546)</u>
Total	\$ 6,168,881	\$ (3,991,668)
Pension Expense	\$ 25,121,768	\$ 19,072,107

First, there are components referred to as operating expenses. These are items directly attributable to the operation of the plan during the measurement year. Service cost less employee contributions represents the increase in employer-provided benefits attributable to the year, and administrative expenses are the cost of operating the Plan for the year.

Second, there are the financing expenses: the interest on the Total Pension Liability less the expected return on assets. Since the discount rate is equal to the long-term expected return on assets, the financing expense is just the interest on the Net Pension Liability.

The final category is changes. This category will drive most of the volatility in pension expense from year to year. It includes any changes in benefits made during the year and the recognized

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SECTION VII – GASB 67 AND 68 DISCLOSURES

amounts due to assumption changes, gains or losses on the TPL, and investment gains or losses. The total pension expense increased from the prior year by about \$6.0 million. The recognition of changes increased by approximately \$10.2 million, which is more than the total increase in pension expense.

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
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APPENDIX A – MEMBERSHIP INFORMATION

Data Assumptions and Methods

In preparing our data, we relied on information supplied by TriMet. This information includes, but is not limited to, plan provisions, employee data, and financial information. Our methodology for obtaining the data used for the valuation is based upon the following assumptions and practices:

- All active employees are assumed to accrue a full year of service in all future years.
- The most recent annual salary for actives is calculated to be “Hourly Rate” multiplied by 2,080 for members identified as Full-Time Operators.
- The most recent annual salary for actives is calculated to be “Hourly Rate” multiplied by 1,560 for members identified as Mini-Run Operators.

Table A-1

Active Member Data			
	July 1, 2018	July 1, 2017	% Change
Count	1,320	1,460	-9.6%
Average Current Age	53.0	52.7	0.6%
Average Eligibility Service	16.5	15.9	3.8%
Average Benefit Service	15.9	13.7	16.1%
Annual Expected Pensionable Earnings	\$ 88,791,004	\$ 91,928,590	-3.4%
Average Expected Pensionable Earnings	\$ 67,266	\$ 62,965	6.8%

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

APPENDIX A – MEMBERSHIP INFORMATION

Table A-2

In Pay Status Member Data			
	July 1, 2018	July 1, 2017	% Change
Retired & Disabled			
Count	1,651	1,580	4.5%
Average Age	69.3	69.0	0.4%
Total Annual Benefit*	\$ 34,577,484	\$ 32,010,210	8.0%
Average Annual Benefit	\$ 20,943	\$ 20,260	3.4%
Beneficiaries & Alternate Payees			
Count	228	220	3.6%
Average Age	71.4	70.8	0.8%
Total Annual Benefit*	\$ 3,004,316	\$ 2,845,617	5.6%
Average Annual Benefit	\$ 13,177	\$ 12,935	1.9%
Total			
Count	1,879	1,800	4.4%
Average Age	69.5	69.2	0.4%
Total Annual Benefit*	\$ 37,581,799	\$ 34,855,828	7.8%
Average Annual Benefit	\$ 20,001	\$ 19,364	3.3%

*Benefit amounts provided in July 1 valuation data

Table A-3

Deferred Member Data			
	Count		
	July 1, 2018	July 1, 2017	% Change
Vested Terminated Members			
Count	130	124	4.8%
Average Age	52.7	53.1	-0.7%
Total Annual Benefit	\$ 1,402,816	\$ 1,217,830	15.2%
Average Annual Benefit	\$ 10,791	\$ 9,821	9.9%
Transfers to Management			
Count	58	58	0.0%
Average Age	53.2	53.4	-0.5%

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

APPENDIX A – MEMBERSHIP INFORMATION

Table A-4

Change in Plan Membership									
	Active	Terminated Vested	Transfer to Mgmt	Deferred Beneficiary	Retiree	Beneficiary	Disabled	Alternate Payee	Totals
July 1, 2017	1,460	104	58	20	1,351	200	182	47	3,422
New Entrants	0	0	0	0	0	0	0	0	0
Rehires/Returned to Work	1	0	(3)	0	0	0	0	0	(2)
Vested Terminations	(15)	15	0	0	0	0	0	0	0
Nonvested Terminations	(7)	0	0	0	0	0	0	0	(7)
Disabilities	(12)	0	0	0	0	0	12	0	0
Retirements	(100)	(5)	(4)	0	109	0	0	0	0
Deaths	(3)	(3)	0	0	(44)	(4)	(3)	0	(57)
New Beneficiaries	0	0	0	0	0	15	0	2	17
Beneficiary Deaths	0	0	0	0	0	0	0	0	0
Benefit Ceased	0	0	0	0	0	0	0	0	0
Transfers to Mgmt ²	(7)	0	7	0	0	0	0	0	0
Transfers from Mgmt ²	3	0	0	0	0	0	0	0	3
Miscellaneous Adjustments	0	(1)	0	0	(2)	(3)	(2)	(1)	(9)
July 1, 2018	1,320	110	58	20	1,414	208	189	48	3,367

² Includes transfers who are not eligible for Management DB Plan.

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

APPENDIX A – MEMBERSHIP INFORMATION

Table A-5

Distribution of Active Members as of July 1, 2018												
Age	Years of Service										Total	
	Under 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 and up		
Under 25	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	4	0	0	0	0	0	0	0	0	4
30 to 34	0	0	37	7	0	0	0	0	0	0	0	44
35 to 39	0	1	39	27	4	0	0	0	0	0	0	71
40 to 44	0	4	42	44	19	9	0	0	0	0	0	118
45 to 49	0	1	53	56	48	37	2	0	0	0	0	197
50 to 54	0	0	46	73	56	48	22	2	2	2	0	249
55 to 59	0	2	57	60	50	68	35	22	6	0	0	300
60 to 64	0	2	40	41	51	44	18	14	15	2	2	227
65 to 69	0	1	16	25	14	15	6	6	4	4	4	91
70 and up	0	1	2	5	2	5	2	0	0	2	2	19
Total Count	0	12	336	338	244	226	85	44	27	8	8	1,320

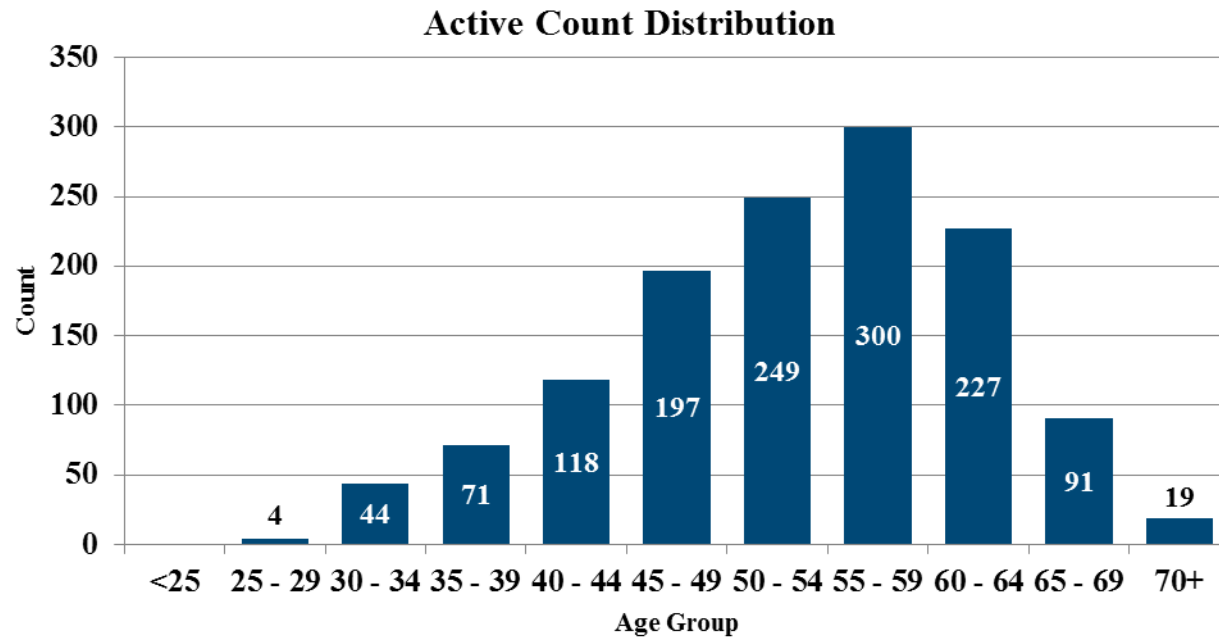
Table A-6

Distribution of Active Members Expected Salary as of July 1, 2018												
Age	Years of Service										Total	
	Under 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 and up		
Under 25	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
25 to 29	0	0	66,165	0	0	0	0	0	0	0	0	66,165
30 to 34	0	0	67,982	70,081	0	0	0	0	0	0	0	68,316
35 to 39	0	47,096	67,187	69,269	74,516	0	0	0	0	0	0	68,109
40 to 44	0	47,096	63,913	68,601	72,368	75,106	0	0	0	0	0	67,306
45 to 49	0	79,227	65,466	67,027	70,189	70,080	75,691	0	0	0	0	68,101
50 to 54	0	0	63,501	65,873	67,565	70,401	72,165	65,988	76,814	0	0	67,333
55 to 59	0	47,096	63,234	65,890	67,897	69,666	72,539	70,741	75,091	0	0	67,766
60 to 64	0	47,096	60,105	61,000	66,121	69,350	72,464	75,442	77,451	82,462	0	66,565
65 to 69	0	47,096	58,478	64,384	68,020	66,904	67,129	78,014	54,792	77,095	0	65,347
70 and up	0	47,096	47,096	63,240	63,783	62,632	65,499	0	0	72,498	0	61,801
Avg. Salary	\$ 0	\$ 49,774	\$ 64,029	\$ 66,041	\$ 68,330	\$ 69,706	\$ 71,953	\$ 73,012	\$ 73,523	\$ 77,288	\$ 77,288	\$ 67,266

PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018

APPENDIX A – MEMBERSHIP INFORMATION

Chart A-1



**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

APPENDIX A – MEMBERSHIP INFORMATION

Table A-7

Retirees, Disabled and Beneficiaries by Attained Age and Benefit Effective Date³ as of July 1, 2018											
Benefit Effective Fiscal Year End	Age										Total
	Under 50	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 and up	
Prior to 1995	0	0	0	0	0	0	3	5	21	12	41
1996	0	0	0	0	0	0	2	3	3	0	8
1997	0	0	0	0	0	0	5	9	3	0	17
1998	0	0	0	0	0	0	1	4	1	0	6
1999	0	0	0	0	0	0	4	17	1	0	22
2000	0	0	0	0	0	1	4	17	0	0	22
2001	0	0	0	0	0	0	17	11	0	0	28
2002	0	0	0	0	0	6	16	7	0	0	29
2003	0	0	0	0	0	8	23	5	0	0	36
2004	0	0	0	1	3	22	24	2	0	0	52
2005	0	0	1	1	9	23	25	3	0	0	62
2006	0	0	0	0	15	33	16	3	0	0	67
2007	0	0	0	1	12	50	16	3	0	0	82
2008	0	0	0	1	23	42	12	1	0	0	79
2009	0	0	2	5	29	41	7	0	0	0	84
2010	0	0	1	10	19	49	9	2	0	0	90
2011	0	0	1	5	40	37	9	1	0	0	93
2012	0	0	1	16	55	25	4	1	0	0	102
2013	0	0	0	24	45	20	1	1	0	0	91
2014	0	0	0	28	63	18	3	1	0	0	113
2015	0	0	5	19	54	12	2	0	0	0	92
2016	0	0	5	44	62	11	0	0	0	0	122
2017	0	1	18	52	36	6	0	0	0	0	113
2018	0	0	11	48	33	15	1	0	0	0	108
Missing	0	0	0	1	0	0	0	0	0	0	1
Total	0	1	45	256	498	419	204	96	29	12	1,560
Average Age at Retirement/Disability	62.0										
Average Current Age	69.3										
Average Annual Pension	\$ 20,943										

³ This table and subsequent retiree tables and charts do not include 91 members receiving temporary disability benefits until age 62.

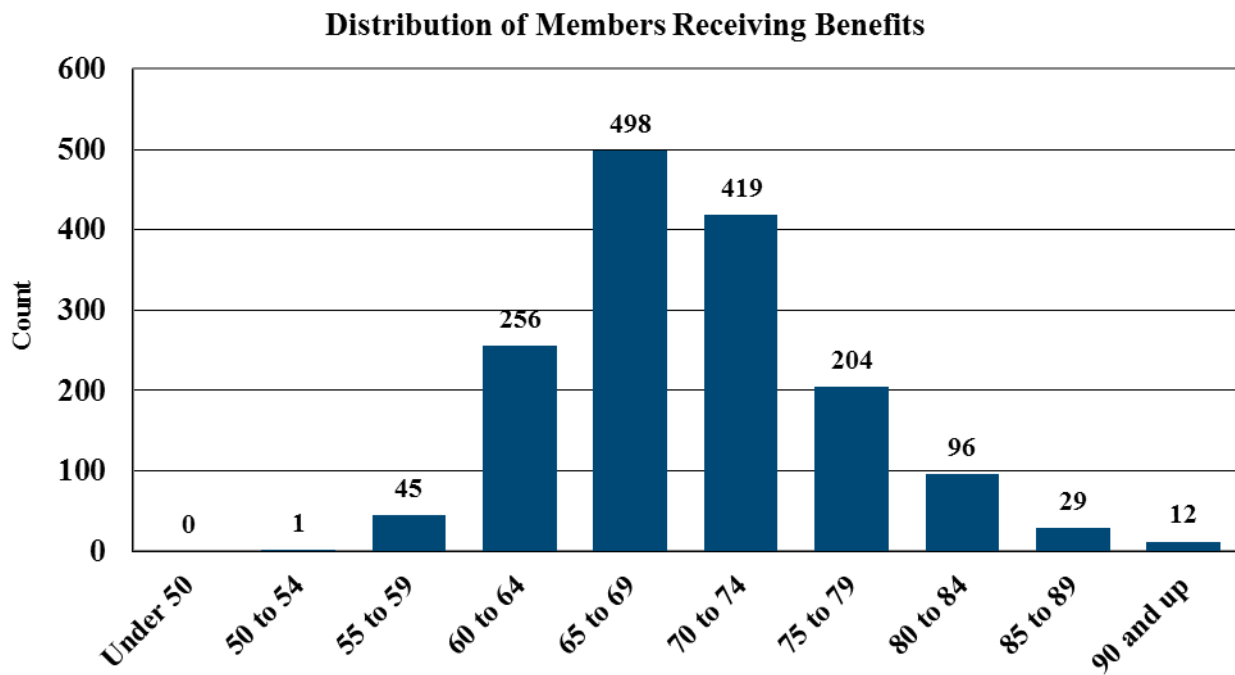
**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

APPENDIX A – MEMBERSHIP INFORMATION

Table A-8

Distribution of Retirees, Disabled Members, and Beneficiaries as of June 30, 2018		
Age	Count	Annual Benefit
Under 50	0	\$ 0
50 to 54	1	6,427
55 to 59	45	710,387
60 to 64	256	4,989,134
65 to 69	498	10,582,631
70 to 74	419	9,066,761
75 to 79	204	4,279,435
80 to 84	96	1,992,303
85 to 89	29	545,579
90 and up	12	358,846
Total	1,560	\$ 32,531,503

Chart A-2

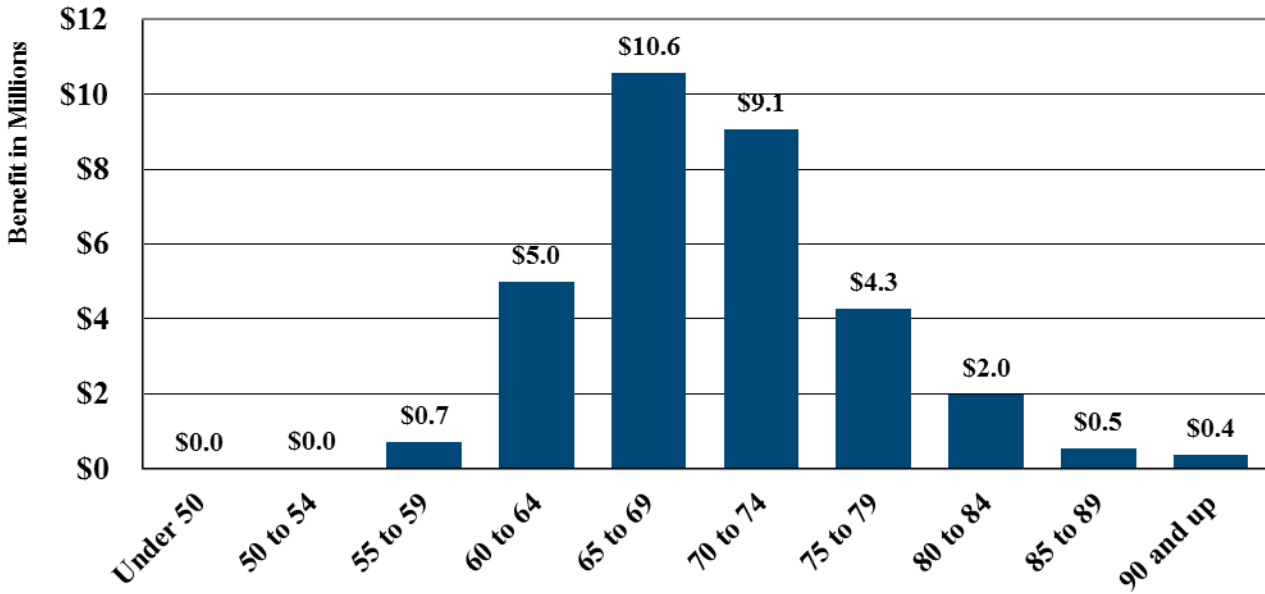


PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
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APPENDIX A – MEMBERSHIP INFORMATION

Chart A-3

Distribution of Annual Benefit Payments



**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Actuarial Assumptions

The actuarial assumptions were recommended by the prior actuary based upon an experience study in 2013 and subsequent analyses they performed and communicated in letters dated February 18, 2016 and May 31, 2017. We have not performed an independent analysis, but we reviewed these letters and believe the assumptions to be reasonable.

1. Long-Term Expected Return on Assets (effective July 1, 2016)

6.75% compounded annually net of investment management and custodial fees.

2. Salary Increases (effective July 1, 2015)

2.75%, compounded annually.

Amortization Payment Growth

2.00%, compounded annually per the “TriMet” funding policy.

3. Price Inflation (effective July 1, 2016)

2.50%, compounded annually.

4. Pre- and Post-Retirement Benefit Increases

The benefit rate is assumed to increase with salary increases (2.75%). Temporary disability benefits for active members who become disabled after the valuation date are assumed to increase with price inflation (2.50%).

Benefits for members who retired prior to August 1, 2012 are assumed to increase 2.50% per year into the future.

Benefits for members who retire on or after August 1, 2012 are assumed to increase 2.25% (90% of 2.50%) per year into the future.

5. Administrative Expenses (effective July 1, 2015)

\$300,000 per year payable midyear.

6. Mortality (effective July 1, 2016)

Healthy Lives: RP-2014 Annuitant and Non-Annuitant Mortality Tables with Blue Collar Adjustment set forward 1 year for males and 2 years for females. This assumption includes a margin for future mortality improvement based on recent plan experience.

Disabled Lives: RP-2014 Disability Mortality Table for males and females.

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

7. Rates of Retirement (effective July 1, 2014)

All active members and management transfers are assumed to retire by age 70. A certain percentage of active members are assumed to elect retirement beginning at age 55. The rates of retirement are as follows:

Active Rates of Retirement			
Age	Rate	Age	Rate
55 – 56	4.0%	63	20.0%
57	7.5	64	25.0
58 – 60	11.0	65	30.0
61	20.0	66 – 69	40.0
62	35.0	70	100.0

Terminated vested members are assumed to retire at their earliest unreduced retirement age. Disabled members are assumed to retire at age 62.

8. Form of Benefit (effective July 1, 2014)

Upon retirement, members are assumed to elect the following form of payment:

Form of Payment	Election Rate
Single Life Annuity	33 1/3%
66 2/3% Joint & Survivor Annuity	66 2/3%

9. Rates of Disability (effective July 1, 2014)

70% of the 1985 Pension Disability Table – Class 3 – Unisex (for nonhazardous light manual workers). Sample rates of disability used in this valuation are illustrated below.

Age	Rate of Disability
30	0.002
35	0.003
40	0.004
45	0.006
50	0.009
55	0.015
60	0.022

10. Rates of Termination (effective July 1, 2014)

Assumed termination rates are shown on the following page:

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Years of Vesting Service	Rates of Termination	
	Males	Females
Less than 1	0.050	0.140
1-6	0.025	0.030
7-9	0.015	0.030
10 and more	0.005	0.010

11. Unused Sick Leave Benefits (effective July 1, 2014)

Active members are assumed to accumulate a percentage of the maximum accumulated sick leave hours in effect at retirement, based on the following schedule:

Years of Vesting Service	Sick Bank Percentage
Less than 10	0%
10	20%
11 – 15	25%
16 – 18	35%
19 – 20	40%
21 – 23	50%
24 and more	55%

Active Management Transfers are not assumed to return to the Union Plan following their transfer date and are not assumed to receive the unused sick leave benefit. (effective July 1, 2012)

The schedule of maximum accumulated sick leave hours is shown in Appendix C.

12. Probability of Marriage/Domestic Partner (effective July 1, 2014)

66 2/3% of members are assumed to be married or have a domestic partner.

13. Age of Spouse/Domestic Partner (effective July 1, 2014)

Females are assumed to be two years younger than their spouses or domestic partners.

14. Future Service Credits

Active and disabled members are assumed to earn one year of vesting service and one year of benefit service each future year. Transfers to Management are assumed to earn one year of vesting service and no benefit service each future year.

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

15. Mini-Run to Full Time (effective July 1, 2014)

Active mini-run members are assumed to transfer to full time at the following rates:

Years of Credited Service	Annual Probability
Less than 4	40%
4 or more	5%

16. Changes Since the Last Valuation

None.

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

Contribution Allocation Procedure

The contribution allocation procedure primarily consists of an actuarial cost method, an asset smoothing method, and an amortization method as described below. All components of the contribution allocation procedure were adopted as part of the Plan’s Pension Funding Policy and Objectives on February 26, 2014.

1. Actuarial Cost Method (Effective July 1, 2014)

The Entry Age actuarial cost method was used for active employees, whereby the normal cost is computed as the level annual percentage of pay required to fund all benefits between each member’s date of hire and last assumed date of employment. The Actuarial Liability is the difference between the present value of future benefits and the present value of future normal costs. Or, equivalently, it is the accumulation of normal costs for all periods prior to the valuation date. The normal cost and actuarial liability are calculated on an individual basis. The sum of the individual amounts is the normal cost and Actuarial Liability for the Plan. The Actuarial Liability for the Plan represents the target amount of assets the Plan should have as of the valuation date according to the actuarial cost method.

2. Asset Valuation Method

For the purpose of determining contribution amounts, an Actuarial Value of Assets is used that dampens the volatility in the Market Value of Assets, resulting in a smoother pattern of contributions.

The Actuarial Value of Assets is calculated by recognizing 20% of the difference in each of the prior four years of actual investment returns compared to the expected return on the Market Value of Assets. The Actuarial Value of Assets is further limited to be not less than 80% nor greater than 120% of the Market Value of Assets.

3. Amortization Method

The Unfunded Actuarial Liability is the difference between the Actuarial Liability and the Actuarial Value of Assets. Under the “Historical” funding policy, the Unfunded Actuarial Liability is amortized as a level dollar amount over a rolling 20-year period. Under the “TriMet” funding policy, the Unfunded Actuarial Liability is amortized as a level percentage of total union payroll over a closed period of 15 years commencing July 1, 2014. When the remaining period is 5 years, the closed period will become a rolling 5-year period.

4. Changes Since the Last Valuation

None.

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

APPENDIX C – SUMMARY OF PLAN PROVISIONS

1. Eligibility

All ATU 757 bargaining unit employees of TriMet (TriMet Union employees) hired before August 1, 2012. TriMet Union employees who transfer to a management position continue to earn service for vesting purposes and retirement eligibility. However, no additional benefits are earned for continuous service as a management employee.

TriMet Union employees hired on or after August 1, 2012 are not eligible to participate in this Plan.

Members who are re-employed as an eligible employee on or after August 1, 2012 may recommence participation if the rehire date is before the earlier of (1) 36 months following termination or (2) the date their break in service exceeds their continuous service before the break in service.

Members who transfer from an eligible employee to an ineligible employee may recommence participation if they transfer back to an eligible employee on or after August 1, 2012 and they did not have a termination date between transfers.

2. Credited Service

All periods of service during which the employee is a member of the bargaining unit represented by ATU 757, working either as a full-time employee or mini-run operator, is entitled to payment for services rendered to TriMet and is eligible to participate in this Plan. Continuous service includes periods of layoff due to reduction in force of less than five years, authorized leave of absences if certain requirements are met, and time while serving as an officer of the ATU 757.

Continuous service is measured using elapsed time. Each twelve month period of continuous service equals one year of continuous service and partial years are based on the number of days worked divided by 365.25.

3. Vesting Service

All continuous service plus any period of service (not already counted as continuous service) when an employee is entitled to payment for services rendered to TriMet, excluding service preceding a permanent break in service.

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

APPENDIX C – SUMMARY OF PLAN PROVISIONS

4. Normal Retirement

Eligibility

For participants who earn at least 10 years of vesting service, the Normal Retirement Age is determined from the following schedule:

Severance from Service Date	Normal Retirement Age
December 1, 1994 to November 30, 1998	62
December 1, 1998 to November 30, 2000	61
December 1, 2000 to November 30, 2002	60
December 1, 2002 to November 30, 2004	59
On or after December 1, 2004	58

Benefit

The normal retirement benefit for participants retiring or terminating after February 1, 1992 is determined by multiplying continuous service times the benefit rate in effect on the date of retirement or termination of employment, whichever is earlier. Mini-run operators receive 75% of the benefit rate shown below.

Effective Beginning	Benefit Rate	Effective Beginning	Benefit Rate
February 1, 1992	\$42.00	September 1, 2005	\$64.33
September 1, 1992	43.26	September 1, 2006	66.26
September 1, 1993	44.13	September 1, 2007	68.25
September 1, 1994	44.57	September 1, 2008	70.84
September 1, 1995	47.02	September 1, 2009	72.96
September 1, 1996	48.43	February 1, 2010	72.96
September 1, 1997	50.27	February 1, 2011	75.52
September 1, 1998	51.93	February 1, 2012	78.97
September 1, 1999	53.49	February 1, 2013	78.97
September 1, 2000	55.49	February 1, 2014	78.97
September 1, 2001	57.15	February 1, 2015	81.34
September 1, 2002	58.87	February 1, 2016	83.78
September 1, 2003	60.64	February 1, 2017	83.78
September 1, 2004	62.45	February 1, 2018	89.10

Beginning December 1, 2009, benefit rates are adjusted on February 1 each year by the amount of any specified general wage adjustment under the Working and Wage Agreement during the preceding twelve months.

A benefit derived from unused sick leave is added to the above benefit as described on the next page.

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

APPENDIX C – SUMMARY OF PLAN PROVISIONS

Unused Sick Leave

Vested participants who terminate after becoming eligible for early retirement will have unused accumulated sick leave up to the maximum accumulated sick leave converted to a monthly benefit at a rate of \$.30 per hour for each hour of unused accrued sick leave.

Severance from Service Date	Maximum Accumulated Sick Leave
December 1, 1998	1,400 hours
December 1, 2003	1,450 hours
December 1, 2004	1,500 hours
December 1, 2005	1,550 hours
December 1, 2006	1,600 hours
December 1, 2007	1,650 hours
December 1, 2008	1,700 hours

5. Early Retirement

Eligibility

A participant may retire prior to his normal retirement date if he has 10 years of vesting service and is at least 55 years of age.

30 & Out: From December 1, 2003 to December 1, 2009, an active participant may retire with unreduced benefits after he has earned 30 years of continuous service, regardless of age.

Benefit

The normal retirement benefit will be reduced according to the following table:

Age at Retirement / Effective	Percent Reduction from Normal Retirement Age				
	62	61	60	59	58
	12/01/1994 through 11/30/1998	12/01/1998 through 11/30/2000	12/01/2000 through 11/30/2002	12/01/2002 through 11/30/2004	12/01/2004 to Current
62	0.00%	0.00%	0.00%	0.00%	0.00%
61	10.12	0.00	0.00	0.00	0.00
60	19.06	9.95	0.00	0.00	0.00
59	26.98	18.76	9.78	0.00	0.00
58	34.01	26.59	18.48	9.63	0.00
57	40.28	33.56	26.22	18.21	9.49
56	45.87	39.78	33.13	25.87	17.97
55	50.87	45.34	39.31	32.72	25.55

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

APPENDIX C – SUMMARY OF PLAN PROVISIONS

6. Forms of Payment

The following forms of payment are available:

- Single Life Annuity
- 66 2/3% Joint and Survivor Annuity

7. Disability Retirement

Eligibility

An active participant who becomes disabled after 10 years of continuous service may receive a disability benefit if he becomes permanently disabled from performing the participant's occupation while employed with TriMet prior to reaching Social Security retirement age (62). Disability benefits are paid from the Plan until the participant reaches age 62.

Benefit

A benefit payable during the period of disability is determined from the table below. If the participant is entitled to disability benefits under Social Security, the benefits shown below are doubled. Participants who are mini-run operators on the date they become permanently disabled will receive 75% of the amounts below.

Effective	10 Years of Continuous Service	15 Years of Continuous Service	20 Years of Continuous Service
February 1, 1992	\$388.60	\$468.38	\$544.07
February 1, 1993	400.26	482.43	560.39
February 1, 1994	408.27	492.08	571.60
February 1, 1995	434.80	524.06	608.75
February 1, 1996	441.76	532.45	618.49
February 1, 1997	457.22	551.08	640.14
February 1, 1998	472.31	569.27	661.26
February 1, 1999	481.76	580.66	674.49
February 1, 2000	502.72	605.92	703.83
February 1, 2001	519.71	626.40	727.62
February 1, 2002	533.90	643.50	747.48
February 1, 2003	545.01	656.88	763.03
February 1, 2004	569.92	686.90	797.90
February 1, 2005	586.50	706.89	821.12
February 1, 2006	602.28	725.91	843.21
February 1, 2007	620.47	747.83	868.67
February 1, 2008	643.37	775.42	900.72
February 1, 2009	669.62	807.06	937.47

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
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APPENDIX C – SUMMARY OF PLAN PROVISIONS

Effective	10 Years of Continuous Service	15 Years of Continuous Service	20 Years of Continuous Service
February 1, 2010	674.51	812.95	944.31
February 1, 2011	698.19	841.49	977.46
February 1, 2012	730.10	879.95	1,022.13
May 1, 2013	745.43	898.43	1,043.59
May 1, 2014	755.64	910.74	1,057.89
May 1, 2015	766.98	924.40	1,073.76
May 1, 2016	766.98	924.40	1,073.76
May 1, 2017	766.98	924.40	1,073.76
May 1, 2018	793.32	956.14	1,110.63

Disability benefits increase at the same time and percentage as post-retirement benefit increases for participants who retired before August 1, 2012.

The disabled participant’s retirement benefit at age 62 is calculated using service that includes continuous service during disability as if the participant remained in active employment from the date of disability to age 62, and the benefit rate in effect at age 62.

8. Vesting

A participant who terminates employment with at least ten years of vesting service as of the date of termination will be 100% vested.

9. Contributions

Contributions are made to the Trust Fund by TriMet. There are no member contributions. The Working and Wage Agreement between the ATU and TriMet establishes a minimum amortization period of 40 years. The necessary amount will be determined in accordance with accepted actuarial principles.

10. Pre-Retirement Death Benefit

Married Employee or Domestic Partner

If a vested participant, the participant’s spouse or domestic partner will receive 50% of the accrued benefit. The benefit is paid to the spouse when the spouse attains age 62 (or, if later, the date of the participant’s death). The payment to the domestic partner must commence no later than the December 31 of the calendar year following the participant’s death. If the domestic partner is younger than age 62, the benefit is actuarially reduced to reflect the age of the domestic partner on the date of benefit commencement.

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

APPENDIX C – SUMMARY OF PLAN PROVISIONS

Disability

If a participant receiving disability benefits dies on or after age 55 but prior to age 62, the surviving spouse or domestic partner may elect to receive either the benefits in (a) above or the survivor portion of the 66 2/3% joint and survivor annuity.

11. Post-retirement Cost-of-Living Benefit

Prior to August 1, 2012, post-retirement benefits were increased each February 1 by the aggregate amount of any specified general wage adjustment under the Working and Wage Agreement during the preceding twelve months.

Effective August 1, 2012, post-retirement benefits are increased each May 1 during the period of the agreement as follows:

- For participants who retired before August 1, 2012, the post-retirement benefit increase is 100% of the percentage increase in the U.S. Urban Wage Earners and Clerical Workers Consumer Price Index (CPI-W) (annual average) for the previous calendar year. Annual increases will not be more than 7% per year.
- For participants who retire on or after August 1, 2012, the post-retirement benefit increase is 90% of the percentage increase in the U.S. Urban Wage Earners and Clerical Workers Consumer Price Index (CPI-W) (annual average) for the previous calendar year. Annual increases will not be more than 7% per year.

12. Changes Since the Last Valuation

The Benefit Rate was increased from \$83.78 to \$89.10, and the temporary disability benefits were increased from \$766.98, \$924.40, and \$1,073.76 to \$793.32, \$956.14, and \$1,110.63 for members with 10, 15, and 20 years of service respectively.

The rate at which unused sick leave is converted to a monthly benefit was increased from \$0.25 per hour to \$0.30 per hour.

Note: The summary of major plan provisions is designed to outline principal plan benefits. If TriMet should find the plan summary not in accordance with the actual provisions, the actuary should immediately be alerted so the proper provisions are valued.

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2018**

APPENDIX D – DETERMINATION OF GASB 67/68 DISCOUNT RATE

Fiscal Year Ending	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings	Projected Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments
2019	\$ 560,882,099	\$ 26,147,821	\$ 39,124,877	\$ 300,000	\$ 37,418,758	\$ 585,023,801	\$ 39,124,877	\$ 0
2020	585,023,801	26,460,063	41,725,303	309,000	38,972,059	608,421,619	41,725,303	0
2021	608,421,619	26,314,632	44,299,663	318,270	40,460,810	630,579,128	44,299,663	0
2022	630,579,128	25,353,209	46,726,226	327,818	41,843,647	650,721,940	46,726,226	0
2023	650,721,940	24,837,475	49,100,169	337,653	43,107,026	669,228,620	49,100,169	0
2024	669,228,620	24,597,418	51,436,915	347,782	44,270,344	686,311,683	51,436,915	0
2025	686,311,683	24,414,188	53,539,571	358,216	45,347,215	702,175,300	53,539,571	0
2026	702,175,300	20,937,169	55,448,173	368,962	46,238,856	713,534,189	55,448,173	0
2027	713,534,189	18,006,905	57,299,250	380,031	46,846,478	720,708,291	57,299,250	0
2028	720,708,291	15,504,424	58,857,555	391,432	47,195,538	724,159,266	58,857,555	0
2029	724,159,266	13,389,389	60,260,323	403,175	47,311,301	724,196,458	60,260,323	0
2030	724,196,458	11,580,767	61,487,830	415,270	47,212,614	721,086,739	61,487,830	0
2031	721,086,739	10,039,560	62,492,880	427,728	46,917,761	715,123,452	62,492,880	0
2032	715,123,452	8,707,743	63,477,917	440,560	46,437,896	706,350,614	63,477,917	0
2033	706,350,614	7,561,172	64,143,509	453,777	45,785,129	695,099,629	64,143,509	0
2034	695,099,629	6,591,349	64,569,082	467,390	44,978,910	681,633,417	64,569,082	0
2035	681,633,417	5,755,229	64,752,879	481,412	44,035,615	666,189,970	64,752,879	0
2036	666,189,970	5,009,790	64,701,515	471,784	42,970,460	648,996,920	64,701,515	0
2037	648,996,920	4,356,267	64,430,413	462,348	41,797,546	630,257,972	64,430,413	0
2038	630,257,972	3,800,879	63,909,919	453,101	40,531,816	610,227,647	63,909,919	0
2039	610,227,647	3,310,489	63,218,607	444,039	39,186,740	589,062,230	63,218,607	0
2040	589,062,230	2,880,468	62,339,891	435,158	37,773,265	566,940,914	62,339,891	0
2041	566,940,914	2,510,095	61,256,044	426,455	36,304,052	544,072,562	61,256,044	0
2042	544,072,562	2,187,919	60,016,602	417,926	34,791,174	520,617,126	60,016,602	0
2043	520,617,126	1,905,022	58,600,056	409,567	33,245,845	496,758,371	58,600,056	0

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
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APPENDIX D – DETERMINATION OF GASB 67/68 DISCOUNT RATE

Fiscal Year Ending	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings	Projected Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments
2044	496,758,371	1,655,821	57,098,695	401,376	31,677,221	472,591,342	57,098,695	0
2045	472,591,342	1,438,552	55,477,589	393,349	30,092,819	448,251,776	55,477,589	0
2046	448,251,776	1,247,259	53,724,266	385,482	28,502,018	423,891,304	53,724,266	0
2047	423,891,304	1,082,036	51,892,469	377,772	26,913,270	399,616,370	51,892,469	0
2048	399,616,370	938,080	49,996,889	370,217	25,333,115	375,520,460	49,996,889	0
2049	375,520,460	814,451	48,005,281	362,812	23,768,902	351,735,719	48,005,281	0
2050	351,735,719	712,528	45,924,218	355,556	22,229,378	328,397,851	45,924,218	0
2051	328,397,851	629,353	43,786,918	348,445	20,722,503	305,614,343	43,786,918	0
2052	305,614,343	559,717	41,616,017	341,476	19,254,607	283,471,174	41,616,017	0
2053	283,471,174	502,153	39,416,934	334,646	17,831,266	262,053,013	39,416,934	0
2054	262,053,013	457,321	37,195,937	327,954	16,458,008	241,444,451	37,195,937	0
2055	241,444,451	421,489	34,982,662	321,394	15,139,437	221,701,322	34,982,662	0
2056	221,701,322	392,068	32,795,097	314,967	13,878,637	202,861,963	32,795,097	0
2057	202,861,963	369,008	30,637,346	308,667	12,678,059	184,963,017	30,637,346	0
2058	184,963,017	350,644	28,522,465	302,494	11,539,687	168,028,389	28,522,465	0
2059	168,028,389	335,312	26,464,836	296,444	10,464,603	152,067,024	26,464,836	0
2060	152,067,024	322,190	24,471,759	290,515	9,453,140	137,080,081	24,471,759	0
2061	137,080,081	310,912	22,548,494	284,705	8,505,190	123,062,983	22,548,494	0
2062	123,062,983	300,871	20,701,541	279,011	7,620,208	110,003,511	20,701,541	0
2063	110,003,511	291,665	18,935,823	273,431	6,797,194	97,883,116	18,935,823	0
2064	97,883,116	283,172	17,253,813	267,962	6,034,807	86,679,320	17,253,813	0
2065	86,679,320	275,290	15,657,272	262,603	5,331,471	76,366,206	15,657,272	0
2066	76,366,206	267,933	14,147,284	257,351	4,685,396	66,914,900	14,147,284	0
2067	66,914,900	261,031	12,724,418	252,204	4,094,612	58,293,922	12,724,418	0
2068	58,293,922	254,523	11,388,758	247,160	3,556,990	50,469,517	11,388,758	0

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
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APPENDIX D – DETERMINATION OF GASB 67/68 DISCOUNT RATE

Fiscal Year Ending	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings	Projected Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments
2069	50,469,517	248,358	10,139,961	242,216	3,070,261	43,405,959	10,139,961	0
2070	43,405,959	242,495	8,977,263	237,372	2,632,037	37,065,856	8,977,263	0
2071	37,065,856	236,898	7,899,580	232,625	2,239,830	31,410,379	7,899,580	0
2072	31,410,379	231,537	6,905,496	227,972	1,891,064	26,399,512	6,905,496	0
2073	26,399,512	226,386	5,993,198	223,413	1,583,098	21,992,385	5,993,198	0
2074	21,992,385	221,425	5,160,590	218,944	1,313,242	18,147,518	5,160,590	0
2075	18,147,518	216,634	4,405,447	214,565	1,078,770	14,822,911	4,405,447	0
2076	14,822,911	212,000	3,725,477	210,274	876,922	11,976,082	3,725,477	0
2077	11,976,082	207,508	3,118,278	206,069	704,910	9,564,152	3,118,278	0
2078	9,564,152	203,148	2,581,184	201,947	559,928	7,544,097	2,581,184	0
2079	7,544,097	198,910	2,111,122	197,908	439,173	5,873,150	2,111,122	0
2080	5,873,150	194,786	1,704,591	193,950	339,875	4,509,269	1,704,591	0
2081	4,509,269	190,768	1,357,602	190,071	259,328	3,411,692	1,357,602	0
2082	3,411,692	186,851	1,065,616	186,270	194,931	2,541,588	1,065,616	0
2083	2,541,588	183,029	823,590	182,544	144,231	1,862,714	823,590	0
2084	1,862,714	179,298	626,165	178,893	104,959	1,341,912	626,165	0
2085	1,341,912	175,653	467,856	175,316	75,058	949,451	467,856	0
2086	949,451	172,091	343,216	171,809	52,703	659,220	343,216	0
2087	659,220	168,608	246,974	168,373	36,306	448,786	246,974	0
2088	448,786	165,201	174,171	165,006	24,517	299,328	174,171	0
2089	299,328	161,869	120,266	161,706	16,217	195,443	120,266	0
2090	195,443	158,608	81,237	158,471	10,500	124,842	81,237	0
2091	124,842	155,416	53,639	155,302	6,650	77,967	53,639	0
2092	77,967	152,291	34,598	152,196	4,117	47,581	34,598	0
2093	47,581	149,231	21,791	149,152	2,491	28,360	21,791	0

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
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APPENDIX D – DETERMINATION OF GASB 67/68 DISCOUNT RATE

Fiscal Year Ending	Projected Beginning Fiduciary Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings	Projected Ending Fiduciary Net Position	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments
2094	28,360	146,235	13,398	146,169	1,472	16,500	13,398	0
2095	16,500	143,301	8,040	143,246	849	9,364	8,040	0
2096	9,364	140,427	4,708	140,381	477	5,179	4,708	0
2097	5,179	137,611	2,692	137,573	261	2,786	2,692	0
2098	2,786	134,854	1,504	134,822	139	1,453	1,504	0
2099	1,453	132,152	822	132,125	72	730	822	0
2100	730	129,505	440	129,483	35	347	440	0
2101	347	126,912	231	126,893	16	151	231	0
2102	151	124,371	120	124,355	7	53	120	0
2103	53	121,881	61	121,868	2	6	61	0
2104	6	119,441	31	119,431	(0)	(14)	17	14
2105	(14)	117,052	15	117,042	(1)	(20)	0	15
2106	(20)	114,710	7	114,701	(1)	(21)	0	7
2107	(21)	112,414	3	112,407	(1)	(19)	0	3
2108	(19)	110,165	2	110,159	(1)	(16)	0	2
2109	(16)	107,960	1	107,956	(1)	(13)	0	1
2110	(13)	105,800	0	105,797	(1)	(10)	0	0

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
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APPENDIX E – GLOSSARY OF TERMS

1. Actuarial Liability

The Actuarial Liability is the difference between the present value of future benefits and the present value of total future normal costs. This is also referred to as the “accrued liability” or “actuarial accrued liability.” The Actuarial Liability represents the targeted amount of assets a plan should have as of a valuation date according to the actuarial cost method.

2. Actuarial Assumptions

Estimates of future experience with respect to rates of mortality, disability, turnover, retirement rate or rates of investment income, and salary increases. Demographic actuarial assumptions (rates of mortality, disability, turnover, and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (price inflation, wage inflation, and investment income) are generally based on expectations for the future that may differ from the Plan’s past experience.

3. Actuarial Cost Method

A mathematical budgeting procedure for allocating the dollar amount of the present value of future benefits between future normal cost and Actuarial Liability.

4. Actuarial Gain (Loss)

The difference between actual experience and the anticipated experience based on the actuarial assumptions during the period between two actuarial valuation dates.

5. Actuarial Present Value

The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at the discount rate and by probabilities of payment.

6. Actuarial Valuation Date

The date as of which an actuarial valuation is performed. For GASB purposes, this date may be up to 24 months prior to the GASB 67/68 measurement date and up to 30 months prior to the employer’s financial reporting date.

7. Actuarially Determined Contribution

The payment to the Plan as determined by the actuary using a contribution allocation procedure. It may or may not be the actual amount contributed to the Plan.

APPENDIX E – GLOSSARY OF TERMS

8. Amortization Method

A method for determining the amount, timing, and pattern of payments on the Unfunded Actuarial Liability.

9. Asset Valuation Method

The method used to develop the Actuarial Value of Assets from the Market Value of Assets typically by smoothing investment returns above or below the assumed rate of return over a period of time.

10. Contribution Allocation Procedure

A procedure typically using an actuarial cost method, an asset valuation method, and an amortization method to develop the Actuarially Determined Contribution.

11. Deferred Inflow of Resources

An acquisition of net assets by a government employer that is applicable to a future reporting period. In the context of GASB 68, these are experience gains on the Total Pension Liability, assumption changes reducing the Total Pension Liability, or investment gains that are recognized in future reporting periods.

12. Discount Rate

The rate of interest used to discount future benefit payments to determine the actuarial present value. For purposes of determining an Actuarially Determined Contribution, the discount rate is typically based on the long-term expected return on assets.

13. Entry Age Actuarial Cost Method

The actuarial cost method required for GASB 67 and 68 calculations. Under this method, the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages. The portion of this actuarial present value allocated to a valuation year is called the Service Cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future service costs is called the Total Pension Liability.

14. Funded Status or Funding Ratio

The Market or Actuarial Value of assets divided by the Actuarial Liability. For purposes of this report, the Funded Status represents the proportion of the actual assets compared to the target established by the actuarial cost method as of the valuation date. These measures are

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
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APPENDIX E – GLOSSARY OF TERMS

for contribution budgeting purposes and are not appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations.

15. Measurement Date

The date as of which the Total Pension Liability and Plan Fiduciary Net Position are measured. The Total Pension Liability may be projected from the Actuarial Valuation Date to the Measurement Date. The Measurement Date must be the same as the Reporting Date for the plan.

16. Net Pension Liability

The liability of employers and nonemployer contributing entities to employees for benefits provided through a defined benefit pension plan. It is calculated as the Total Pension Liability less the Plan Fiduciary Net Position.

17. Normal Cost

The portion of the present value of future benefits allocated to the current year by the actuarial cost method.

18. Plan Fiduciary Net Position

The fair or Market Value of Assets.

19. Present Value of Future Benefits

The actuarial present value of all benefits both earned as of the valuation date and expected to be earned in the future by current plan members based on current plan provisions and actuarial assumptions.

20. Reporting Date

The last day of the plan or employer's fiscal year.

21. Service Cost

The portion of the actuarial present value of projected benefit payments that is attributed to the current period of employee service in conformity with the requirements of GASB 67 and 68. The Service Cost is the normal cost calculated under the entry age actuarial cost method.

22. Total Pension Liability

The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of GASB 67 and 68.

**PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET
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APPENDIX E – GLOSSARY OF TERMS

The Total Pension Liability is the Actuarial Liability calculated under the entry age actuarial cost method.

23. Unfunded Actuarial Liability (UAL)

The Unfunded Actuarial Liability is the difference between Actuarial Liability and either the Market or the Actuarial Value of Assets. This value is sometimes referred to as “unfunded actuarial accrued liability.” It represents the difference between the actual assets and the amount of assets expected by the actuarial cost method as of the valuation date.



Classic Values, Innovative Advice