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# Pension Plan for Bargaining Unit Employees of TriMet

## Actuarial Valuation Report as of June 30, 2022

**Produced by Cheiron**

**October 2022**

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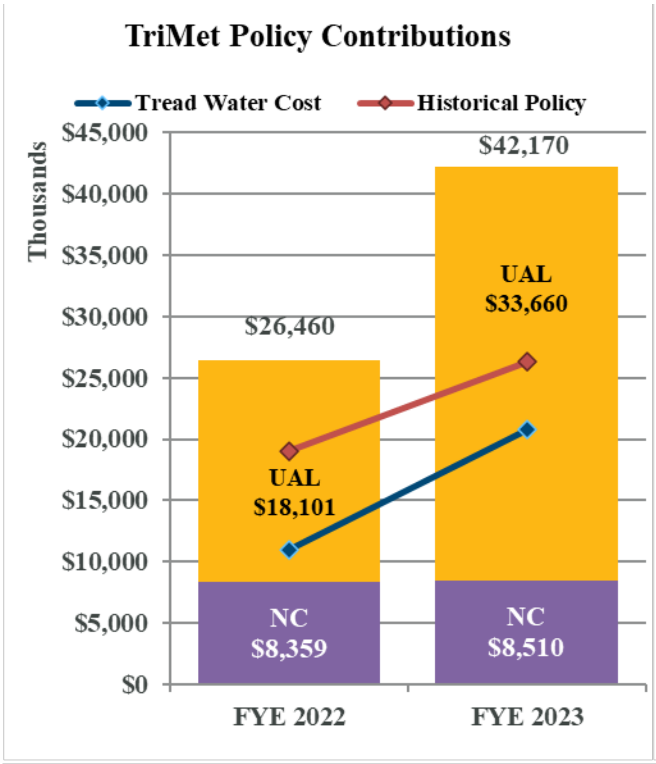
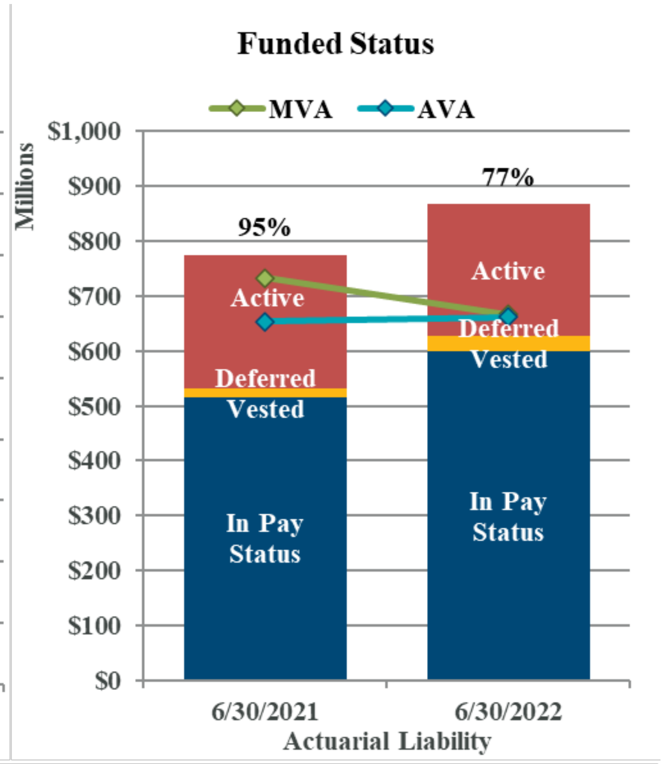
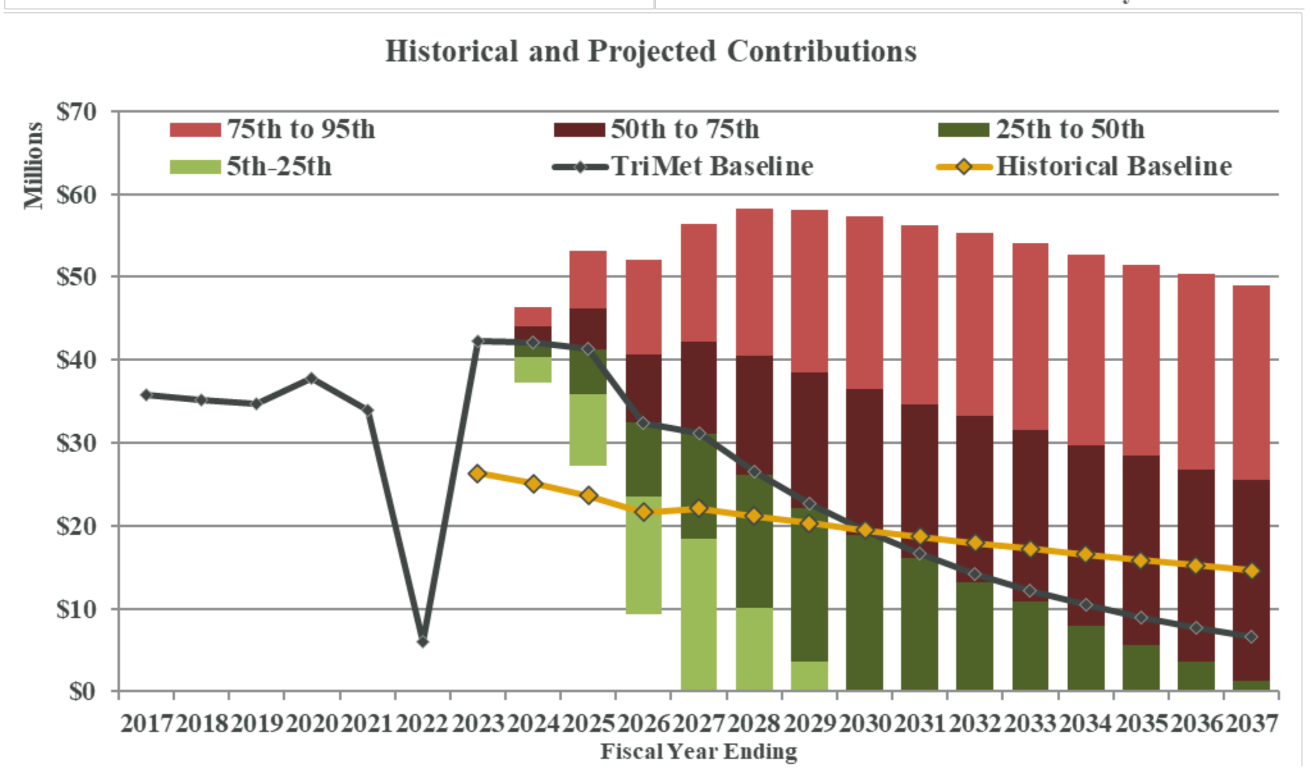
## SECTION I – BOARD SUMMARY



## Contributions and Pension Expense

The chart in the upper left corner of the dashboard on the prior page shows the Actuarially Determined Contribution (ADC) under the TriMet Funding Policy assuming it is paid monthly throughout the year compared to the Historical Policy (red line) and the Tread Water Cost (blue line) for the fiscal years ending June 30, 2022, and 2023, respectively. The ADC is composed of the normal cost plus an amortization payment on the Unfunded Actuarial Liability (UAL) or an amortization credit on the surplus based on the Actuarial Value of Assets.

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 level dollar amortization of the UAL. The "TriMet" policy was established by TriMet and is based on a closed 15-year period commencing July 1, 2014 until the remaining period reaches five years at which time it becomes a rolling 5-year amortization period. Amortization payments under the TriMet policy increase 2.0% each year. However, under the TriMet policy, contributions cease if the plan is at least 93% funded based on the Market Value of Assets. The different policies are described in more detail in Appendix B. We understand that the TriMet policy is currently under review and will likely be changed before the ADC in this report becomes effective.

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 2022, actual contributions were approximately $6.0 million as it became clear when the valuation report was issued that the plan had exceeded the 93% funded level based on the Market Value of Assets. However, since the 2021 valuation, the normal cost increased slightly, and the UAL increased substantially due to low investment returns, high COLAs, and assumption changes. The amortization period also became a year shorter. As a result, the ADC under the current TriMet policy for FYE 2023 is approximately $42.2 million if paid monthly throughout the year, about $36.2 million higher than the $6.0 million actually contributed for FYE 2022.

Under GASB 68, the annual pension expense equals the Tread Water Cost plus the cost of any benefit changes 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 2021 and 2022. The pension expense increased from $14.4 million for FYE 2021 to $51.9 million for FYE 2022, while the ADC decreased under both the "Historical" and "TriMet" funding policies.

**Table I-1**

| Annual Contributions and Pension Expense | | | | | |
|---|---|---|---|---|---|
| | | FYE 2022 | | FYE 2021 | % Change |
| Pension Expense ($ Amount) | $ | 51,859,006 | $ | 14,431,654 | 259.3% |
| Actuarially Determined Contribution | | | | | |
| Historical Policy | $ | 19,020,552 | $ | 21,750,888 | -12.6% |
| TriMet Policy | $ | 26,460,096 | $ | 28,789,812 | -8.1% |
| Actual Contribution | $ | 6,041,222 | $ | 33,929,446 | -82.2% |

Actual contributions fell short of the ADC by $20.4 million in FYE 2022 due to the cutoff for exceeding 93% funding. However, for the prior nine years, actual contributions exceeded the ADC each year by an average of $11.8 million. For FYE 2022 and in the future, the projections in the chart at the bottom of the dashboard (page 1) 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 and ignoring the 93% funding threshold. Both baseline projections show declining contributions in the future. The "TriMet" baseline contributions start higher than the "Historical," but decline more quickly and settle at a lower amount through the remainder of the projection. The crossover in 2030 is the result of the accumulated difference in assumed contributions prior to 2030. As long as the Plan is less than 93% 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 rolling amortization period in the funding policy. For these projections, we used an expected return of 6.25% and a standard deviation of 11.11%[1].

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 under both policies.

## Funded Status

The chart in the upper right corner of the dashboard (page 1) shows the measures of assets, Actuarial Liability, and funded status for the current and prior valuations. These measures are for

[1] Standard deviation calculated based on Meketa's 2022 capital market assumptions and the Plan's long-term asset class targets.

## SECTION I – BOARD SUMMARY

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 liability measures for financial reporting under GASB 67 and 68 are different, but for TriMet, they are the same.

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 69% 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 decreased from 94.6% to 76.7%.

Table I-2 below summarizes the Actuarial Liability, assets, and funded status as of June 30, 2021 and 2022.

**Table I-2**

| Summary of Funded Status | June 30, 2022 | June 30, 2021 | % Change |
|---|---|---|---|
| Actuarial Liability | | | |
| Actives | $ 241,337,628 | $ 244,272,729 | -1.2% |
| Deferred Vested | 28,536,943 | 15,969,776 | 78.7% |
| In Pay Status | 598,379,860 | 515,143,952 | 16.2% |
| Total | $ 868,254,431 | $ 775,386,457 | 12.0% |
| | | | |
| Market Value of Assets (MVA) | $ 666,316,362 | $ 733,612,194 | -9.2% |
| Unfunded Actuarial Liability - MVA Basis | $ 201,938,069 | $ 41,774,263 | 383.4% |
| Funding Ratio - MVA Basis | 76.7% | 94.6% | -18.9% |
| | | | |
| Actuarial Value of Assets (AVA) | $ 661,947,355 | $ 653,814,541 | 1.2% |
| Unfunded Actuarial Liability - AVA Basis | $ 206,307,076 | $ 121,571,916 | 69.7% |
| Funding Ratio - AVA Basis | 76.2% | 84.3% | -9.6% |

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 12.0%, primarily reflecting larger-than-expected COLA increases and assumption changes. The Market Value of Assets decreased 9.2% due to investment losses, benefit payments and expenses offset by contributions. As a result, the Unfunded Actuarial Liability (UAL)

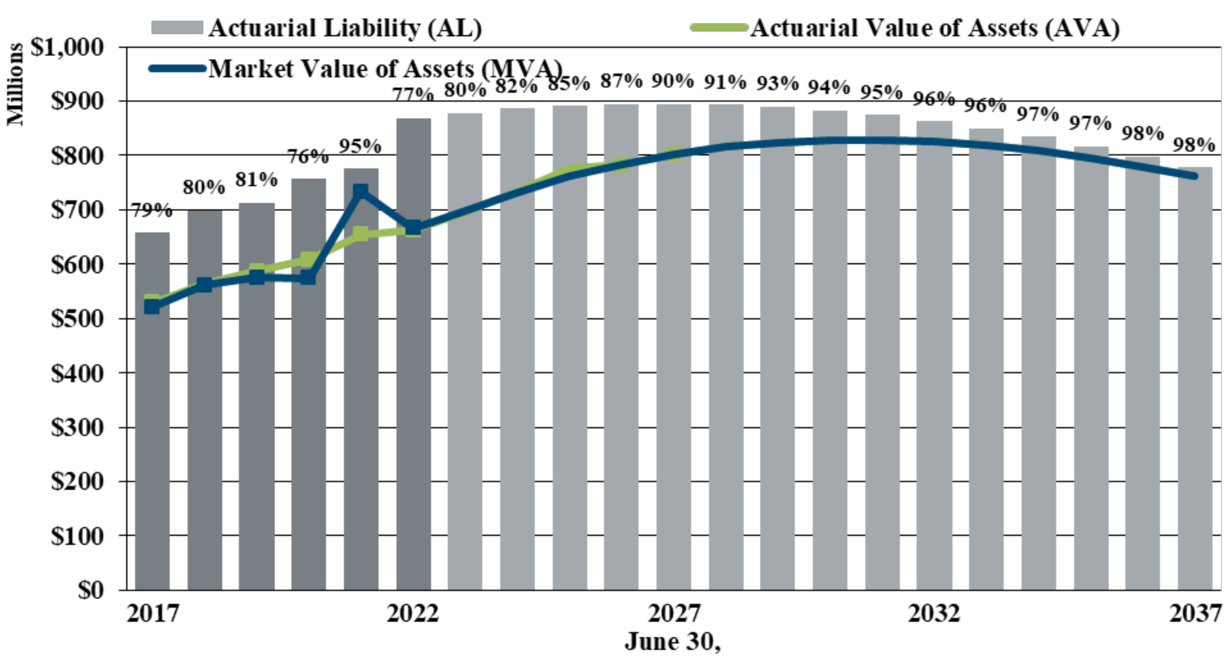
## SECTION I – BOARD SUMMARY

measured on the Market Value of Assets increased from approximately $41.8 million to $201.9 million.

The asset smoothing method deferred 80% of the current year's investment loss while recognizing 20% of the prior four years' gains and losses, resulting in an increase in the Actuarial Value of Assets of 1.2%. The UAL measured on the Actuarial Value of Assets increased to $206.3 million from $121.6 million. The Market Value of Assets is larger than the actuarial value, so if assumptions are met in the future, we expect a reduction in the ADC as the deferred asset gains are recognized in the Actuarial Value of Assets.

The chart below shows the historical and projected assets (both market and smoothed actuarial) compared to the Actuarial Liability, and shows the progress of the funding ratios (based on the Market Value of Assets). 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 current "TriMet" funding policy, the funded status is expected to reach 98% in 2036. (The funded status is expected to reach 83% by 2036 under "Historical" funding policy.)

**<u>Historical and Projected Assets and Actuarial Liability</u>**




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.

## Changes

During FYE 2022, the UAL based on the market value of assets increased by $160.2 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,June 30, 2022 | $ 201,938,069 |
| UAL/NPL, June 30, 2021 | 41,774,263 |
| **Change in UAL/NPL** | **$ 160,163,806** |
| **Sources of Changes** | |
| Plan Changes | $ 900,168 |
| Assumption Changes | 68,816,625 |
| Contributions vs. Tread Water Cost | 4,992,803 |
| Investment (gain) or loss | 72,726,867 |
| Liability (gain) or loss | |
| Benefit Rates | $ (1,098,661) |
| Retirement experience | 1,499,574 |
| Termination | 23,704 |
| Mortality experience | (2,428,408) |
| Disability | (64,789) |
| Retiree COLA experience | 15,930,316 |
| Other experience | (1,134,392) |
| Total Liability (gain) or loss | $ 12,727,343 |
| **Total Changes** | **$ 160,163,806** |

The largest increase in the UAL was $72.7 million due to investment losses followed by the $68.8 million increase due to assumption changes. In particular, the price inflation and salary increase assumptions were increased 0.5% resulting in projections of higher benefits for new retirees and higher COLAs for current retirees. In addition, the expected return on assets was reduced from 6.50% to 6.25%, which also increased the funding target. Liability experience increased the UAL by approximately $12.7 million due primarily to losses attributable to higher than expected increases in retiree COLAs. The lower level of actual contributions due to reaching the 93% funding status threshold increased the UAL by approximately $5.0 million. Finally, the update to the definition of actuarial equivalence increased the UAL by approximately $0.9 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 | June 30, 2022 | June 30, 2021 | % Change |
|---|---|---|---|
| Membership | | | |
| Actives | 883 | 1,003 | -12.0% |
| Deferred | 133 | 132 | 0.8% |
| In Pay Status | 2,187 | 2,124 | 3.0% |
| Total | 3,203 | 3,259 | -1.7% |
| Active Member Payroll | $ 66,789,401 | $ 73,756,941 | -9.4% |
| Actuarial Liability or Total Pension Liability | $ 868,254,431 | $ 775,386,457 | 12.0% |
| Market Value of Assets or Plan Fiduciary Net Position | 666,316,362 | 733,612,194 | -9.2% |
| Unfunded Actuarial Liability or Net Pension Liability | $ 201,938,069 | $ 41,774,263 | 383.4% |
| Deferred Outflows of Resources | (50,821,604) | (13,450,938) | 277.8% |
| Deferred Inflows of Resources | 4,369,007 | 81,344,363 | -94.6% |
| Net Impact on Statement of Net Position | $ 155,485,472 | $ 109,667,688 | 41.8% |
| Funding Ratio - MVA Basis | 76.7% | 94.6% | -17.9% |
| Actuarially Determined Contribution | | | |
| Historical Policy | $ 26,267,880 | $ 19,020,552 | 38.1% |
| TriMet Policy | $ 42,169,776 | $ 26,460,096 | 59.4% |

# 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 several 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% or 100% of inflation (CPI-W) depending upon retirement date. 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 current policy is to treat the Actuarially Determined Contribution (ADC) as a minimum, and the ADC under the current TriMet funding policy 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 10-year history of changes in the UAL based on the market value of assets by source.

## SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

**Table II-1**

| UAL Change by Source | | | | | | |
|---|---|---|---|---|---|---|
| FYE | Plan Changes | Assumption Changes | Contributions vs. Tread Water | Investments | Liability Experience | Total UAL Change |
| **2013** | $ 0 | $ 15,354 | $ (40,664) | $ (18,893) | $ (8,583) | $ (52,786) |
| **2014** | 0 | 29,476 | (20,463) | (36,496) | (11,294) | (38,778) |
| **2015** | 0 | (16,558) | (12,601) | 19,270 | (541) | (10,431) |
| **2016** | 0 | 18,776 | (16,375) | 30,755 | (8,966) | 24,190 |
| **2017** | 0 | 0 | (12,799) | (14,722) | (19,615) | (47,136) |
| **2018** | 3,286 | 0 | (16,275) | (6,367) | 20,936 | 1,580 |
| **2019** | 0 | 0 | (15,849) | 19,087 | (2,453) | 784 |
| **2020** | 0 | 34,129 | (20,001) | 34,973 | (5,374) | 43,726 |
| **2021** | 0 | 3,945 | (14,170) | (133,928) | 3,365 | (140,788) |
| **2022** | 900 | 68,817 | 4,993 | 72,727 | 12,727 | 160,164 |
| **Total** | **$ 4,186** | **$ 153,938** | **$ (164,204)** | **$ (33,595)** | **$ (19,800)** | **$ (59,475)** |

*Amounts in Thousands*

Over the last 10 years, the UAL has been reduced by approximately $59.5 million. Contributions reduced the UAL by $164.2 million; investment returns reduced the UAL by $33.6 million; and liability experience reduced the UAL by $19.8 million; while plan changes increased the UAL by $4.2 million, and assumption changes increased the UAL by $153.9 million.

## Plan Maturity Measures

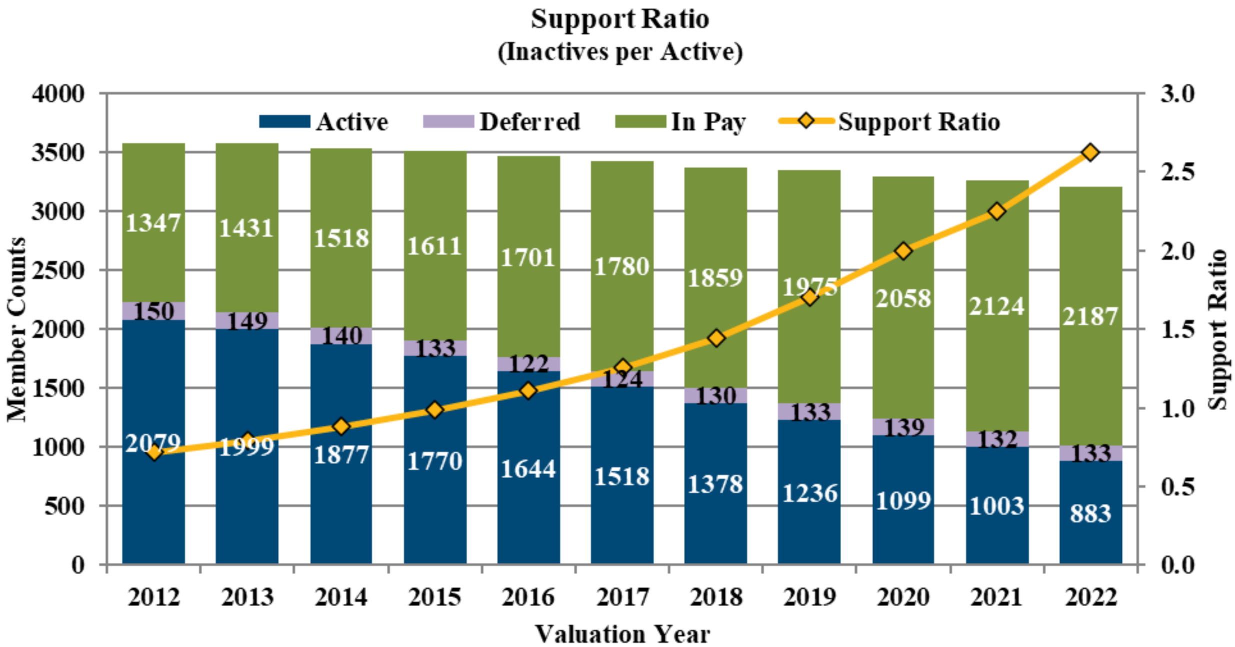
The future financial condition of a mature pension plan is more sensitive to each of the risks identified above than a less mature plan. Before assessing each of these risks, it is important to understand the maturity of the plan.

Plan maturity can be measured in a variety of ways, but there is one very important 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.

### 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.

## SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

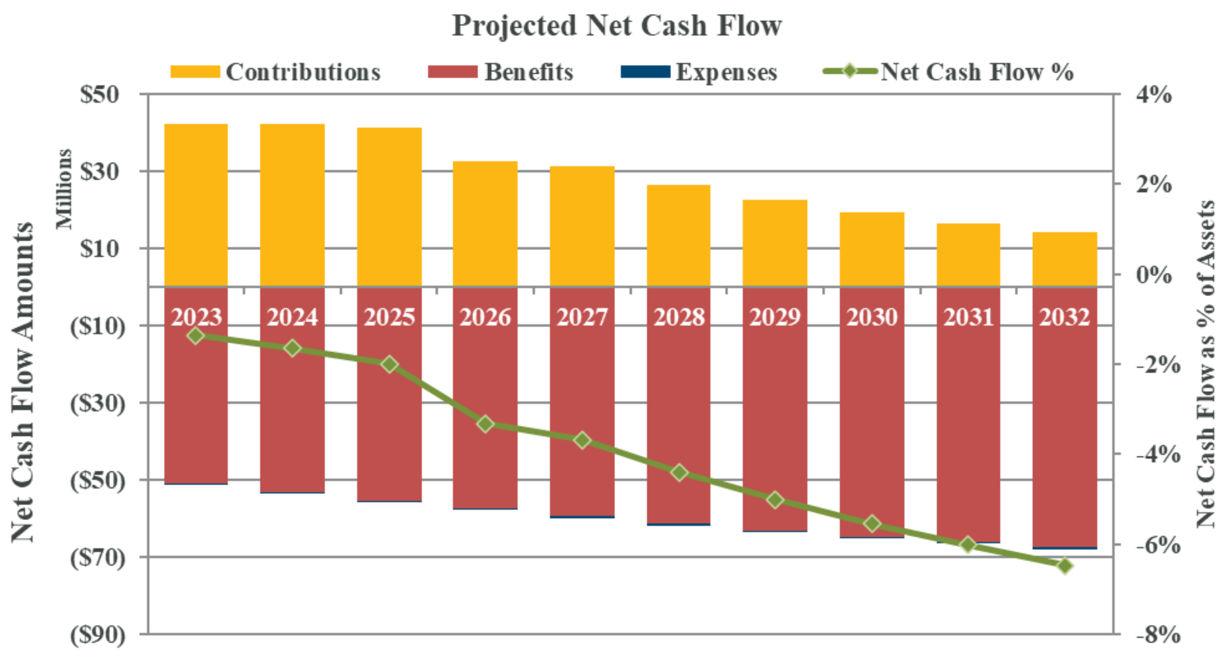



### Net Cash Flow

The net cash flow of the plan as a percentage of the beginning of year assets indicates the sensitivity of the plan to short-term investment returns. Net cash flow is equal to contributions less benefit payments and administrative expenses. Mature plans can have large amounts of benefit payments compared to contributions, particularly if they are well funded.

The chart on the following page shows the projected net cash flow for the next 10 fiscal years assuming contributions are equal to the ADC based on TriMet's current funding policy. The bars represent the dollar amounts of the different components of the projected net cash flow, and the line represents the net cash flow as a percentage of the assets as of the beginning of the fiscal year.

**SECTION II – ASSESSMENT AND DISCLOSURE OF RISK**




With TriMet contributing amounts significantly greater than the ADC to improve the funded status of the Plan, the net cash flow has been only slightly negative until last year when contributions were reduced, and the net cash flow reached negative $40.9 million for FYE 2022. If the ADC based on TriMet's current funding policy is contributed for FYE 2023, the negative cash flow would decrease to $9.1 million. As benefit payments grow, the Plan becomes well-funded, and contributions are reduced, the net cash flow is expected to become increasingly negative reaching negative $53.7 million for FYE 2032.

The first issue this change presents to the Plan is an increased need for liquidity in the investments so that benefits can be paid. When the cash flow was positive or close to neutral, benefits could be paid out of contributions without liquidating investments. As net cash flow becomes increasingly negative, the benefit payments will require liquidation of some investments to the extent the investment portfolio doesn't generate sufficient cash income.

The other change of note is the sensitivity to short-term investment returns. Investment losses in the short term are compounded by the net withdrawal from the plan leaving a smaller asset base to try to recover from the investment losses. On the other hand, large investment gains in the short term also tend to have a longer beneficial effect as any future losses are relative to a smaller liability base due to the negative cash flow.

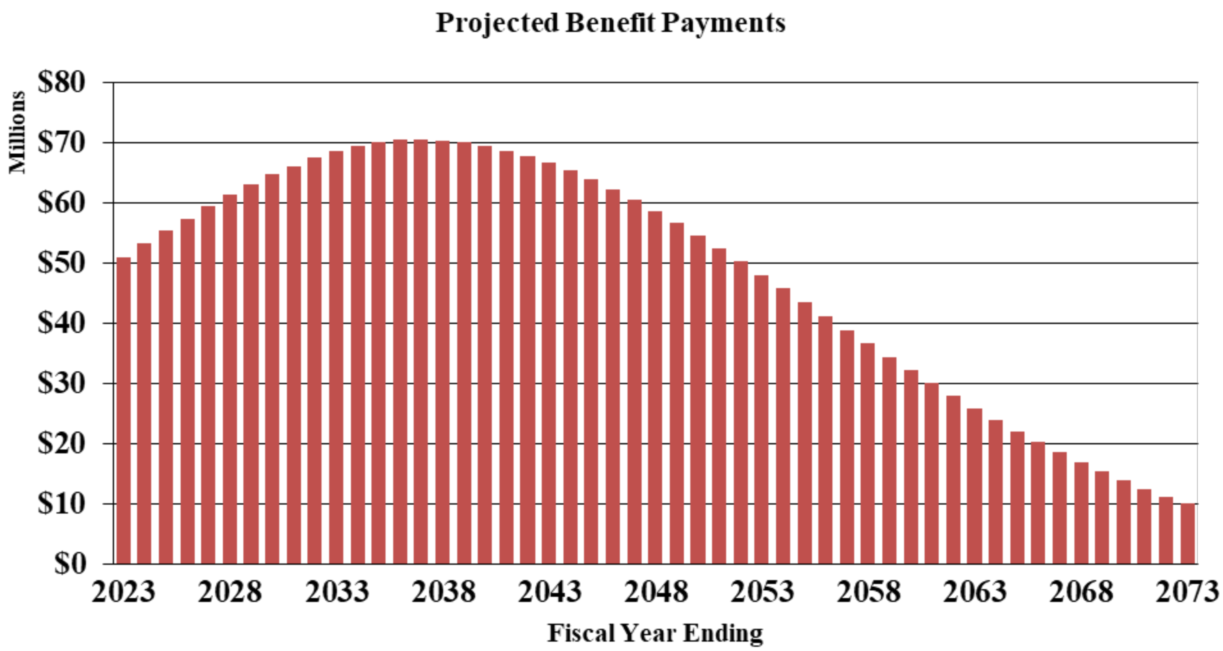
## Assessing Costs and Risks

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

## SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

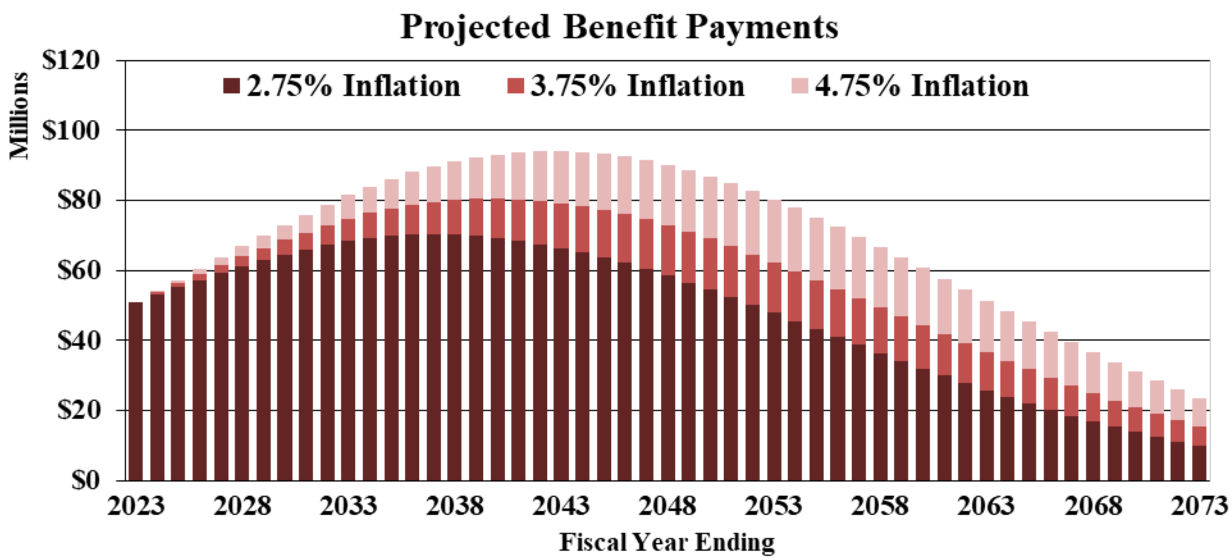
annuities to settle the remaining obligation. If the surplus assets exceed the additional amounts needed to purchase annuities or immunize the portfolio, it is not clear how they could be used until all benefits have been paid.

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 unchanged. However, if TriMet cannot afford the pay-as-you-go costs when the plan has run out of assets, benefits may be impaired. The chart below shows a projection of expected benefit payments for the closed plan. The peak level of benefit payments is not expected to be reached until 2036.



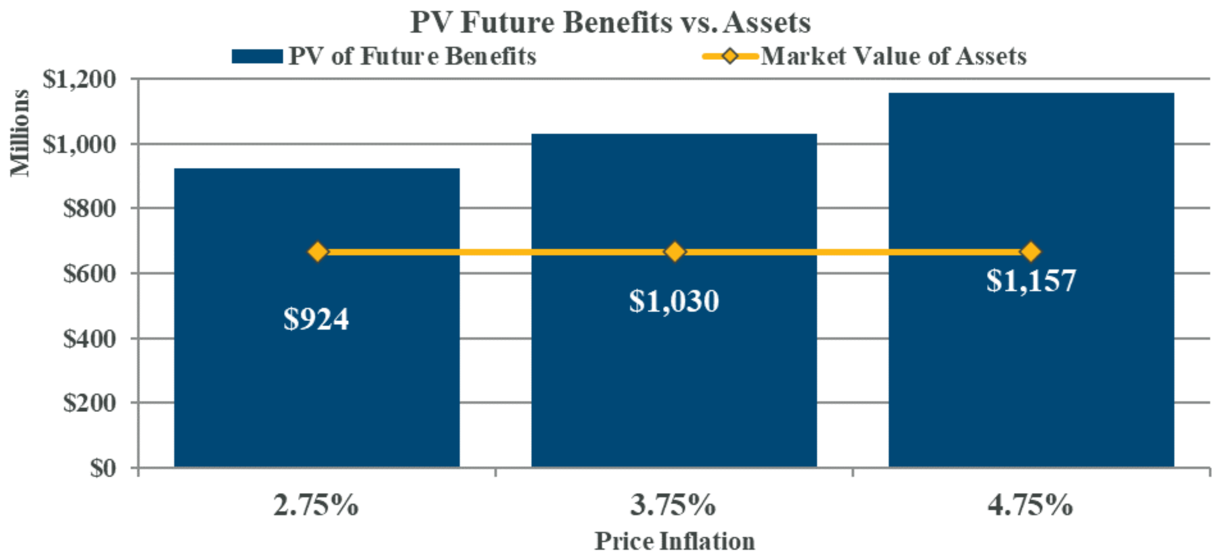
## Sensitivity to Inflation

The chart below illustrates the sensitivity of projected benefit payments to inflation. The darkest bars show the projected benefit payments with the assumed inflation of 2.75%; the medium bars show the additional benefit payments if inflation is 3.75% each year; and the lightest bars show the additional benefit payments if inflation is 4.75% each year.




Higher inflation could result in materially higher benefit payments that would require a greater amount of assets in the plan. The chart on the following page compares assets to the present value of all projected future benefit payments assuming inflation of 2.75%, 3.75%, and 4.75%. The present value of future benefits is shown as a dark blue bar. The Market Value of Assets is shown by the gold line.

## SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

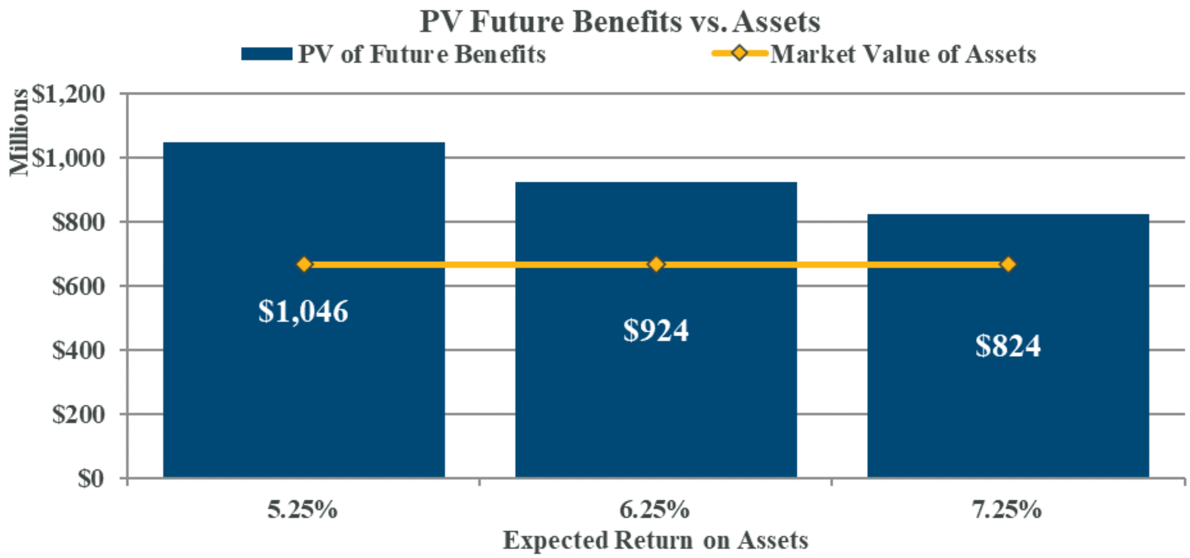



The COLA granted to retirees and beneficiaries receiving benefits is equal to either 100 percent or 90 percent of the rate of inflation depending on the date of retirement. If inflation is 2.75%, annual COLAs would be 2.75% (2.475% if 90 percent applies) and the Plan would need approximately $924 million in assets today to pay all projected benefits compared to current assets of $666 million. If inflation is 3.75%, annual COLAs would be 3.75% (3.375% if 90 percent applies) and the Plan would need approximately $1,030 million in assets today. Finally, if inflation is 4.75%, annual COLAs would be 4.75% (4.275% if 90 percent applies) and the Plan would need $1,157 million in assets to pay all projected benefits. These estimates assume that all other assumptions are met.

**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 dark blue bar. The Market Value of Assets is shown by the gold line.

## SECTION II – ASSESSMENT AND DISCLOSURE OF RISK




If investments return 6.25% annually, the Plan will need approximately $924 million in assets today to pay all projected benefits compared to current assets of $666 million. If investment returns are only 5.25%, the Plan would need approximately $1,046 million in assets today, and if investment returns are 7.25%, the Plan would need approximately $824 million in assets today.

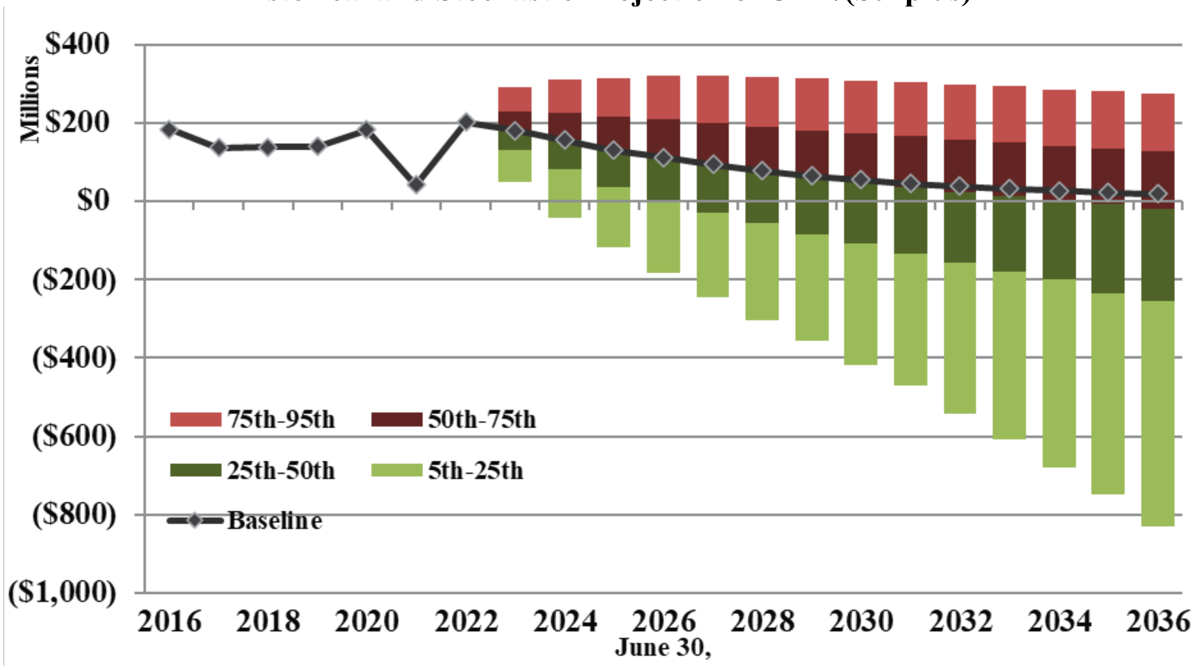
The present value of future benefits shown above, however, assumes annual inflation of 2.75%. If annual inflation is higher; more assets would be needed to pay the benefits, and if inflation is lower; fewer assets would be needed to pay benefits. In this case, it is better to think of the sensitivity based on the investment return in excess of inflation. The assumption of 6.25% nominal investment returns and 2.75% inflation equates to a real investment return assumption of 3.50%. Similarly, expected nominal investment returns of 5.25% and 7.25% equate to 2.50% and 4.50% real investment returns, respectively.

**Stochastic Projections**

The stochastic projections of contributions shown at the bottom of the dashboard (page 1) show a 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 under TriMet's funding policy. 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.

## SECTION II – ASSESSMENT AND DISCLOSURE OF RISK

**Historical and Stochastic Projection of UAL/(Surplus)**




While the UAL is projected in the baseline to decline to near $0 by 2036, 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. In 2036, 90% of the projections range from a UAL of $274 million in the worst case to a surplus of $829 million in the best case. The range of projected outcomes may be managed by changes in funding policy and by changes in investment policy.

**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 and the recently completed asset-liability study, the advantages of a more detailed assessment may not justify its costs at this time.

## SECTION III – CERTIFICATION

The purpose of this report is to present the June 30, 2022 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.

Most actuarial assumptions were adopted by the trustees at their May 6, 2020 meeting based on the results of an experience study and our recommendations. Please refer to the experience study report for the rationale for the assumptions. Based on our recommendations, mortality assumptions were updated by the trustees at their September 23, 2021 meeting, and the economic assumptions were updated by the trustees at their June 13, 2022 meeting. Please refer to the presentations of the analysis at those meetings for the rationale for the assumptions.

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.

Cheiron utilizes ProVal actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate liabilities and project benefit payments. We have relied on WinTech as the developer of ProVal. We have a basic understanding of ProVal and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this valuation.

Deterministic projections in this report were developed using P-scan, a proprietary tool used to illustrate the impact of changes in assumptions, methods, plan provisions, or actual experience (particularly investment experience) on the future financial status of the Plan. P-scan uses standard roll-forward techniques that implicitly assume a stable active population.

Stochastic projections in this report were developed using R-scan, our proprietary tool for assessing the probability of different outcomes based on the range of potential investment returns.

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices and our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations. Furthermore, as credentialed actuaries, we meet the

## SECTION III – CERTIFICATION

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.

| | |
|---|---|
| William R. Hallmark, ASA, EA, FCA, MAAA<br>Consulting Actuary | Steven M. Hastings, FSA, EA, FCA, MAAA<br>Consulting Actuary |

# 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 2022 | | FYE 2021 |
|---|---|---|---|---|
| Market Value, Beginning of Year | $ | 733,612,194 | $ | 574,055,380 |
| Contributions | | 6,041,222 | | 33,929,446 |
| Net Investment Earnings | | (26,351,807) | | 170,879,705 |
| Benefit Payments | | (46,781,948) | | (44,963,247) |
| Administrative Expenses | | (203,299) | | (289,090) |
| Market Value, End of Year | **$** | **666,316,362** | **$** | **733,612,194** |

The Market Value of Assets decreased from approximately $733.6 million as of June 30, 2021 to $666.3 million as of June 30, 2022. Actual contributions increased the market value by approximately $6.0 million while investment losses, benefit payments, and administrative expenses decreased the market value by approximately $73.3 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 -3.64% 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.

## SECTION IV – ASSETS

### Table IV-2

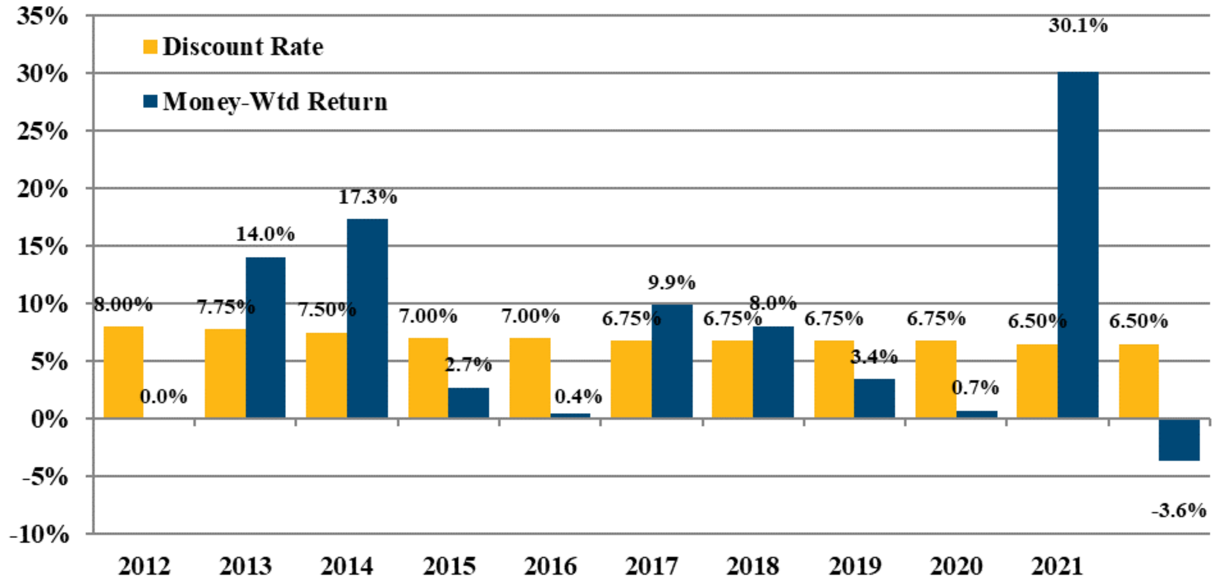
| Money-Weighted Rate of Return Fiscal Year Ending June 30, 2022 | Net External Cash Flows | Months Invested | Net External Cash Flows With Interest |
|---|---|---|---|
| Beginning Value, June 30, 2021 | $ 733,612,194 | 12 | $ 706,873,016 |
| Monthly Net External Cash Flows | | | |
| July | (1,107,664) | 11 | (1,070,598) |
| August | (588,095) | 10 | (570,177) |
| September | (3,851,195) | 9 | (3,745,430) |
| October | (3,854,028) | 8 | (3,759,801) |
| November | (3,929,818) | 7 | (3,845,618) |
| December | (3,895,510) | 6 | (3,823,858) |
| January | (3,852,901) | 5 | (3,793,753) |
| February | (3,877,890) | 4 | (3,830,191) |
| March | (3,940,384) | 3 | (3,903,977) |
| April | (3,861,661) | 2 | (3,837,838) |
| May | (4,131,757) | 1 | (4,118,992) |
| June | (4,256,421) | 0 | (4,256,421) |
| Ending Value, June 30, 2022 | | | $ 666,316,362 |
| Money-Weighted Rate of Return | -3.64% | | |

The money-weighted rate of return for the year ended June 30, 2022 was -3.64% compared to an expected return of 6.50%. As shown in the chart on the following page, over the last 10 years, the money-weighted rate of return[2] has varied significantly from 30.1% in 2021 to -3.6% in 2022.

[2] 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.

## 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 2022, the -3.64% actual return compared to the expected return of 6.50% produced an investment loss of approximately $72.7 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. The remaining total deferred gain or loss will be recognized in future years.

## SECTION IV – ASSETS

### Table IV-3

| Development of Actuarial Value of Assets | FYE 2019 | FYE 2020 | FYE 2021 | FYE 2022 |
|---|---|---|---|---|
| Actual Earnings | $ 18,620,471 | $ 3,683,365 | $170,879,705 | $(26,351,807) |
| Expected Earnings | 37,707,402 | 38,656,108 | 36,951,399 | 46,375,060 |
| Investment Gain or (Loss) | (19,086,931) | (34,972,743) | 133,928,306 | (72,726,867) |
| Percentage Deferred | 20% | 40% | 60% | 80% |
| Deferred Gain or (Loss) | $ (3,817,386) | $(13,989,097) | $ 80,356,984 | $(58,181,494) |

| | |
|---|---|
| Market Value of Assets (MVA) | $666,316,362 |
| Deferred Gain or (Loss) | |
| FYE 2019 | $ (3,817,386) |
| FYE 2020 | (13,989,097) |
| FYE 2021 | 80,356,984 |
| FYE 2022 | (58,181,494) |
| Total Deferred Gain or (Loss) | $ 4,369,007 |
| Preliminary Actuarial Value of Assets (MVA less Deferred Gain or (Loss)) | $661,947,355 |
| Minimum Actuarial Value of Assets (80% of Market Value) | 533,053,090 |
| Maximum Actuarial Value of Assets (120% of Market Value) | 799,579,634 |
| **Actuarial Value of Assets (AVA)** | **$661,947,355** |
| Ratio of Actuarial to Market | 99.3% |
| Estimated Rate of Return | 7.7% |

On an Actuarial Value of Assets basis, the aggregate return for the year ending June 30, 2022 was 7.7%. This return is greater than the assumed return of 6.50% resulting in a gain of $7.9 million.

## 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 June 30, 2022 and June 30, 2021.

**Table V-1**

| Present Value of Future Benefits | | | |
|---|---|---|---|
| | June 30, 2022 | June 30, 2021 | % Change |
| Actives | $ 296,781,046 | $ 296,353,673 | 0.1% |
| Deferred | 28,536,943 | 15,969,776 | 78.7% |
| In Pay Status | 598,379,860 | 515,143,952 | 16.2% |
| **Total** | **$ 923,697,849** | **$ 827,467,401** | **11.6%** |

**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 June 30, 2022 and June 30, 2021.

**Table V-2**

| Actuarial Liability | June 30, 2022 | June 30, 2021 | % Change |
|---|---|---|---|
| Actives | | | |
| Retirement | $ 218,890,273 | $ 221,303,498 | -1.1% |
| Termination | 3,674,793 | 4,161,763 | -11.7% |
| Death | 961,462 | 944,544 | 1.8% |
| Disability | 12,082,112 | 12,570,815 | -3.9% |
| Transfers to Management | 5,728,988 | 5,292,109 | 8.3% |
| Total Actives | $ 241,337,628 | $ 244,272,729 | -1.2% |
| Vested Terminated | $ 28,536,943 | $ 15,969,776 | 78.7% |
| In Pay Status | | | |
| Retirees and Beneficiaries | $ 525,389,725 | $ 456,130,526 | 15.2% |
| Disabled | 72,990,135 | 59,013,426 | 23.7% |
| Total In Pay | $ 598,379,860 | $ 515,143,952 | 16.2% |
| **Total** | **$ 868,254,431** | **$ 775,386,457** | **12.0%** |

## SECTION V – MEASURES OF LIABILITY

The Actuarial Liability is expected to increase each year due to interest and the accrual of an additional year of service for active members. It is expected to decrease each year due to benefits that have been paid. Differences between the actual experience and assumed experience also contribute to the change in Actuarial Liability. Table V-3 below provides a history of the experience gains and losses attributable to each of the primary demographic assumptions. Consistent patterns of gains or of losses provide an indication that an assumption may need to be updated.

**Table V-3**

| History of Demographic (Gains) and Losses | | | | | |
|---|---|---|---|---|---|
| | Fiscal Year Ending | | | | |
| | 2018 | 2019 | 2020 | 2021 | 2022 |
| Benefit Rates | $ 12,325,005 | $ (6,351,189) | $ (6,199,897) | $ 6,526,272 | $ (1,098,661) |
| Retirement | (1,134,540) | (1,148,456) | 2,173,599 | (592,238) | 1,499,574 |
| Termination | (385,944) | (138,109) | (980,389) | 35,606 | 23,704 |
| Mortality | (487,247) | 3,604,574 | (135,833) | 1,566,931 | (2,428,408) |
| Disability | 701,530 | 110,605 | 46,435 | 367,408 | (64,789) |
| Retiree COLAs | | 1,469,242 | (488,858) | (2,250,235) | 15,930,316 |
| Other | 717,957 | 0 | 210,485 | (2,288,787) | (1,134,392) |
| Total | $ 11,736,761 | $ (2,453,333) | $ (5,374,458) | $ 3,364,957 | $ 12,727,344 |

**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 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-4 below shows the total normal cost as of June 30, 2022 and June 30, 2021.

**Table V-4**

| Normal Cost | June 30, 2022 | June 30, 2021 | % Change |
|---|---|---|---|
| Retirement | $ 6,080,289 | $ 6,001,732 | 1.3% |
| Termination | 779,555 | 754,263 | 3.4% |
| Death | 42,582 | 41,287 | 3.1% |
| Disability | 893,702 | 885,902 | 0.9% |
| Transfers to Management | 147,160 | 112,257 | 31.1% |
| **Total Normal Cost** | **$ 7,943,288** | **$ 7,795,441** | **1.9%** |

# SECTION VI – CONTRIBUTIONS

This section of the report develops the Actuarially Determined Contribution in accordance with both the Historical Funding Policy and the TriMet 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) or an amortization credit on the surplus. The normal cost was developed in Section V. This section develops the UAL payment or credit.

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 over a period that started at 15 years (7 years remaining) with payment increases of 2.5% each year and will transition to a rolling 5-year period. Because the period will be reset each year to 5 years, this policy also would not be expected to fully pay off the UAL. However, the Actuarial Value of Assets is lower than the Market Value of Assets and the remaining amortization period is short enough that the UAL is expected to be paid off. Consequently, the Plan satisfies GASB's crossover test.

## Actuarially Determined Contribution

Table VI-1 shows the components of the Actuarially Determined Contribution (ADC) for FYE 2023 and 2022 under both the "Historical" policy and the current "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. We understand that TriMet is reviewing its funding policy, so the ADC amounts shown in this report are not likely to be contributed to the plan.

## SECTION VI – CONTRIBUTIONS

### Table VI-1

| Actuarially Determined Contribution Amounts | FYE 2023 | | FYE 2022 | |
|---|---|---|---|---|
| | Historical | TriMet | Historical | TriMet |
| Total Normal Cost | $ 7,943,288 | $ 7,943,288 | $ 7,795,441 | $ 7,795,441 |
| Administrative Expenses | 334,716 | 334,716 | 326,966 | 326,966 |
| UAL Payment | 17,273,925 | 32,742,396 | 10,360,027 | 17,589,100 |
| **Total ADC (Beginning of Year)** | **$25,551,929** | **$41,020,400** | **$18,482,434** | **$25,711,507** |
| **Equivalent Monthly Contribution** | **$ 2,188,990** | **$ 3,514,148** | **$ 1,585,046** | **$ 2,205,008** |
| **Annual Amount** | **$26,267,880** | **$42,169,776** | **$19,020,552** | **$26,460,096** |
| **(Equivalent Monthly Contribution x 12)** | | | | |

Based on the TriMet Board's Funding Policy, we understand that the Actuarially Determined Contribution under the TriMet Method is treated as a minimum contribution unless the plan is at least 93% funded based on the Market Value of Assets. When the plan is more than 93% funded as it was as of June 30, 2021, we understand that there is no minimum contribution under the TriMet Board's Funding Policy.

# SECTION VII – GASB 67 AND 68 DISCLOSURES

This section of the report provides accounting and financial reporting information under Governmental 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 6.25%.

We understand that TriMet's funding policy is in the process of being revised and that the new funding policy will be designed to satisfy the crossover test.

## 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 (a) | Plan Fiduciary Net Position (b) | Net Pension Liability (a) - (b) |
| **Balances at 6/30/2021** | $ 775,386,457 | $ 733,612,194 | $ 41,774,263 |
| **Changes for the year:** | | | |
| Service cost | 7,795,441 | | 7,795,441 |
| Interest | 49,410,345 | | 49,410,345 |
| Changes of benefits | 900,168 | | 900,168 |
| Differences between expected and actual experience | 12,727,343 | | 12,727,343 |
| Changes of assumptions | 68,816,625 | | 68,816,625 |
| Contributions - employer | | 6,041,222 | (6,041,222) |
| Contributions - member | | 0 | 0 |
| Net investment income | | (26,351,807) | 26,351,807 |
| Benefit payments | (46,781,948) | (46,781,948) | 0 |
| Administrative expense | | (203,299) | 203,299 |
| **Net changes** | $ 92,867,974 | $ (67,295,832) | $ 160,163,806 |
| **Balances at 6/30/2022** | $ 868,254,431 | $ 666,316,362 | $ 201,938,069 |

During the measurement year, the NPL increased by approximately $160.2 million. The service cost and interest cost increased the NPL by approximately $57.2 million. Investment losses and administrative expenses offset by contributions further increased the NPL by approximately $20.5 million. In addition, assumption changes increased the NPL by approximately $68.8 million, while losses due to liability experience increased the NPL by approximately $12.7 million. Finally, the change to the definition of actuarial equivalence increased the NPL by $0.9 million.

## 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 5.25% | Discount Rate 6.25% | 1% Increase 7.25% |
|---|---|---|---|
| Total Pension Liability | $ 969,261,511 | $ 868,254,431 | $ 783,300,195 |
| Plan Fiduciary Net Position | 666,316,362 | 666,316,362 | 666,316,362 |
| Net Pension Liability | $ 302,945,149 | $ 201,938,069 | $ 116,983,833 |
| Plan Fiduciary Net Position as a Percentage of the Total Pension Liability | 68.7% | 76.7% | 85.1% |

A one percent decrease in the discount rate increases the TPL by approximately 12% and increases the NPL by approximately 50%. A one percent increase in the discount rate decreases the TPL by approximately 10% and decreases the NPL by approximately 42%.

## Required Supplementary Information

The schedules below and on the following page show the changes in NPL and related ratios required by GASB for the last 10 years.

**Table VII-3a**

| Schedule of Changes in Net Pension Liability and Related Ratios | FYE 2022 | FYE 2021 | FYE 2020 | FYE 2019 | FYE 2018 |
|---|---|---|---|---|---|
| **Total Pension Liability (TPL)** | | | | | |
| Service cost (MOY) | $ 7,795,441 | $ 8,150,506 | $ 8,675,232 | $ 9,642,740 | $ 9,875,234 |
| Interest | 49,410,345 | 48,271,615 | 47,371,742 | 46,537,334 | 43,832,738 |
| Changes of benefit terms | 900,168 | 0 | 0 | 0 | 3,286,046 |
| Differences between expected and actual experience | 12,727,343 | 3,364,957 | (5,374,458) | (2,453,333) | 20,935,664 |
| Changes of assumptions | 68,816,625 | 3,945,186 | 34,128,985 | 0 | 0 |
| Benefit payments, including refunds | (46,781,948) | (44,963,247) | (41,940,023) | (38,904,785) | (36,394,436) |
| **Net change in TPL** | **$ 92,867,974** | **$ 18,769,017** | **$ 42,861,478** | **$ 14,821,956** | **$ 41,535,246** |
| **TPL - beginning** | **775,386,457** | **756,617,440** | **713,755,962** | **698,934,006** | **657,398,760** |
| **TPL - ending** | **$868,254,431** | **$775,386,457** | **$756,617,440** | **$713,755,962** | **$698,934,006** |
| **Plan fiduciary net position** | | | | | |
| Contributions - employer | $ 6,041,222 | $ 33,929,446 | $ 37,755,077 | $ 34,717,720 | $ 35,227,507 |
| Contributions - member | 0 | 0 | 0 | 0 | 0 |
| Net investment income | (26,351,807) | 170,879,705 | 3,683,365 | 18,620,471 | 41,479,101 |
| Benefit payments, including refunds | (46,781,948) | (44,963,247) | (41,940,023) | (38,904,785) | (36,394,436) |
| Administrative expense | (203,299) | (289,090) | (362,932) | (395,612) | (356,886) |
| **Net change in plan fiduciary net position** | **$ (67,295,832)** | **$159,556,814** | **$ (864,513)** | **$ 14,037,794** | **$ 39,955,286** |
| **Plan fiduciary net position - beginning** | **733,612,194** | **574,055,380** | **574,919,893** | **560,882,099** | **520,926,813** |
| **Plan fiduciary net position - ending** | **$666,316,362** | **$733,612,194** | **$574,055,380** | **$574,919,893** | **$560,882,099** |
| **Net pension liability - ending** | **$201,938,069** | **$ 41,774,263** | **$182,562,060** | **$138,836,069** | **$138,051,907** |
| **Plan fiduciary net position as a percentage of the TPL** | 76.7% | 94.6% | 75.9% | 80.5% | 80.2% |
| **Covered payroll** | $ 78,431,367 | $ 83,541,536 | $ 90,088,824 | $ 97,405,506 | $ 109,924,285 |
| **Net pension liability as a percentage of covered payroll** | 257.5% | 50.0% | 202.6% | 142.5% | 125.6% |

## SECTION VII – GASB 67 AND 68 DISCLOSURES

### Table VII-3b

| Schedule of Changes in Net Pension Liability and Related Ratios | FYE 2017 | FYE 2016 | FYE 2015 | FYE 2014 | FYE 2013 |
|---|---|---|---|---|---|
| **Total Pension Liability (TPL)** | | | | | |
| Service cost (MOY) | $ 10,850,730 | $ 10,702,574 | $ 11,756,232 | $ 11,406,016 | $ 11,122,166 |
| Interest | 43,888,922 | 43,371,673 | 43,025,200 | 42,869,939 | 41,827,133 |
| Changes of benefit terms | 0 | 0 | 0 | 0 | 0 |
| Differences between expected and actual experience | (19,614,961) | (8,966,475) | (541,183) | (11,294,241) | (8,583,422) |
| Changes of assumptions | 0 | 18,776,392 | (16,558,463) | 29,476,059 | 15,353,638 |
| Benefit payments, including refunds | (34,162,919) | (32,679,854) | (30,677,192) | (28,845,723) | (27,372,519) |
| **Net change in TPL** | **$ 961,772** | **$ 31,204,310** | **$ 7,004,594** | **$ 43,612,050** | **$ 32,346,996** |
| **TPL - beginning** | **656,436,988** | **625,232,678** | **618,228,084** | **574,616,034** | **542,269,038** |
| **TPL - ending** | **$657,398,760** | **$656,436,988** | **$625,232,678** | **$618,228,084** | **$574,616,034** |
| **Plan fiduciary net position** | | | | | |
| Contributions - employer | $ 35,862,442 | $ 38,026,735 | $ 36,200,926 | $ 47,261,301 | $ 70,379,741 |
| Contributions - member | 0 | 0 | 0 | 0 | 0 |
| Net investment income | 46,645,429 | 1,948,822 | 12,275,500 | 64,460,966 | 42,348,566 |
| Benefit payments, including refunds | (34,162,919) | (32,679,854) | (30,677,192) | (28,845,723) | (27,372,519) |
| Administrative expense | (247,254) | (281,539) | (363,267) | (486,934) | (222,824) |
| **Net change in plan fiduciary net position** | **$ 48,097,698** | **$ 7,014,164** | **$ 17,435,967** | **$ 82,389,610** | **$ 85,132,964** |
| **Plan fiduciary net position - beginning** | **472,829,115** | **465,814,951** | **448,378,984** | **365,989,374** | **280,856,410** |
| **Plan fiduciary net position - ending** | **$520,926,813** | **$472,829,115** | **$465,814,951** | **$448,378,984** | **$365,989,374** |
| **Net pension liability - ending** | **$136,471,947** | **$183,607,873** | **$159,417,727** | **$169,849,100** | **$208,626,660** |
| **Plan fiduciary net position as a percentage of the TPL** | 79.2% | 72.0% | 74.5% | 72.5% | 63.7% |
| **Covered payroll** | $ 106,596,389 | $ 117,666,306 | $ 116,555,801 | $ 124,695,531 | $ 125,143,307 |
| **Net pension liability as a percentage of covered payroll** | 128.0% | 156.0% | 136.8% | 136.2% | 166.7% |

## 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 2022 | FYE 2021 | FYE 2020 | FYE 2019 | FYE 2018 |
|---|---|---|---|---|---|
| Actuarially Determined Contribution | $ 26,460,096 | $ 28,789,812 | $ 25,173,360 | $ 26,040,372 | $ 24,565,994 |
| Contributions in Relation to the Actuarially Determined Contribution | 6,041,222 | 33,929,446 | 37,755,077 | 34,717,720 | 35,227,507 |
| Contribution Deficiency/(Excess) | $ 20,418,874 | $ (5,139,634) | $ (12,581,717) | $ (8,677,348) | $ (10,661,513) |
| Covered Payroll | $ 78,431,367 | $ 83,541,536 | $ 90,088,824 | $ 97,405,506 | $ 109,924,285 |
| Contributions as a Percentage of Covered Payroll | 7.70% | 40.61% | 41.91% | 35.64% | 32.05% |
| | **FYE 2017** | **FYE 2016** | **FYE 2015** | **FYE 2014** | **FYE 2013** |
| Actuarially Determined Contribution | $ 28,497,521 | $ 28,030,416 | $ 31,926,000 | $ 35,553,000 | $ 34,638,000 |
| Contributions in Relation to the Actuarially Determined Contribution | 35,862,442 | 38,026,735 | 36,200,926 | 47,261,301 | 70,379,741 |
| Contribution Deficiency/(Excess) | $ (7,364,921) | $ (9,996,319) | $ (4,274,926) | $ (11,708,301) | $ (35,741,741) |
| Covered Payroll | $ 106,596,389 | $ 117,666,306 | $ 116,555,801 | $ 124,695,531 | $ 125,143,307 |
| Contributions as a Percentage of Covered Payroll | 33.64% | 32.32% | 31.06% | 37.90% | 56.24% |

Key methods and assumptions used to determine the ADC under TriMet's funding policy for FYE 2022. A complete description can be found in the 2021 actuarial valuation report.

| | |
|---|---|
| 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 period until 5 years remains, then open. Payments are scheduled to increase 2.0% each year. |
| Discount Rate | 6.50% |
| Benefit Rate Increases | 2.75% |
| Inflation | 2.25% |
| Healthy Mortality | 2016 Cheiron ATU mortality tables with generational mortality projection using MP-2020 |

## 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 2022. These schedules develop the annual pension expense, including the amounts of deferred inflows and outflows. Experience gains and losses and assumption changes are recognized over the average future working life of active and inactive members, which is 2.5 years. Investment gains and losses are recognized over five years.

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

**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 | $ 8,508,803 | $ 0 |
| Changes in assumptions | 42,312,801 | 0 |
| Net difference between projected and actual earnings on pension plan investments | 0 | 4,369,007 |
| **Total** | **$ 50,821,604** | **$ 4,369,007** |

Amounts reported as deferred outflows and deferred inflows of resources will be recognized in pension expense as follows:

| **Measurement year ended June 30:** | |
|---|---|
| 2023 | $ 33,084,458 |
| 2024 | 11,063,053 |
| 2025 | (12,240,289) |
| 2026 | 14,545,375 |
| 2027 | 0 |
| Thereafter | $ 0 |

The tables on the following pages provide details on the current balances of deferred inflows and outflows of resources along with the recognition of each base for each of the current and following five years , as well as the total for any years thereafter.

## SECTION VII – GASB 67 AND 68 DISCLOSURES

### Table VII-6

| Recognition of Experience (Gains) and Losses | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Experience Year | Recognition Period | Total Amount | Beginning Remaining Amount | Ending Remaining Amount | Recognition Year 2022 | 2023 | 2024 | 2025 | 2026 | Thereafter |
| 2022 | 2.5 | $ 12,727,343 | $ 12,727,343 | $ 7,636,406 | $ 5,090,937 | $ 5,090,937 | $ 2,545,469 | $ 0 | $ 0 | $ 0 |
| 2021 | 2.7 | 3,364,957 | 2,118,677 | 872,397 | 1,246,280 | 872,397 | 0 | 0 | 0 | 0 |
| 2020 | 2.7 | (5,374,458) | (1,393,378) | 0 | (1,393,378) | 0 | 0 | 0 | 0 | 0 |
| 2019 | 3.2 | (2,453,333) | (153,332) | 0 | (153,332) | 0 | 0 | 0 | 0 | 0 |
| Deferred Outflows | | | 14,846,020 | 8,508,803 | 6,337,217 | 5,963,334 | 2,545,469 | 0 | 0 | 0 |
| Deferred (Inflows) | | | (1,546,710) | 0 | (1,546,710) | 0 | 0 | 0 | 0 | 0 |
| Net Change in Pension Expense | | | $ 13,299,310 | $ 8,508,803 | $ 4,790,507 | $ 5,963,334 | $ 2,545,469 | $ 0 | $ 0 | $ 0 |

### Table VII-7

| Recognition of Assumption Changes | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Change Year | Recognition Period | Total Amount | Beginning Remaining Amount | Ending Remaining Amount | Recognition Year 2022 | 2023 | 2024 | 2025 | 2026 | Thereafter |
| 2022 | 2.5 | $ 68,816,625 | $ 68,816,625 | $ 41,289,975 | $ 27,526,650 | $ 27,526,650 | $ 13,763,325 | $ 0 | $ 0 | $ 0 |
| 2021 | 2.7 | 3,945,186 | 2,484,006 | 1,022,826 | 1,461,180 | 1,022,826 | 0 | 0 | 0 | 0 |
| 2020 | 2.7 | 34,128,985 | 8,848,255 | 0 | 8,848,255 | 0 | 0 | 0 | 0 | 0 |
| Deferred Outflows | | | 80,148,886 | 42,312,801 | 37,836,085 | 28,549,476 | 13,763,325 | 0 | 0 | 0 |
| Deferred (Inflows) | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Net Change in Pension Expense | | | $ 80,148,886 | $ 42,312,801 | $ 37,836,085 | $ 28,549,476 | $ 13,763,325 | $ 0 | $ 0 | $ 0 |

## SECTION VII – GASB 67 AND 68 DISCLOSURES

### Table VII-8

| Recognition of Investment (Gains) and Losses | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Experience Year | Recognition Period | Total Amount | Beginning Remaining Amount | Ending Remaining Amount | Recognition Year 2022 | 2023 | 2024 | 2025 | 2026 | Thereafter |
| 2022 | 5.0 | $ 72,726,867 | $ 72,726,867 | $ 58,181,494 | $ 14,545,373 | $ 14,545,373 | $ 14,545,373 | $ 14,545,373 | $ 14,545,375 | $ 0 |
| 2021 | 5.0 | (133,928,306) | (107,142,645) | (80,356,984) | (26,785,661) | (26,785,661) | (26,785,661) | (26,785,662) | 0 | 0 |
| 2020 | 5.0 | 34,972,743 | 20,983,645 | 13,989,096 | 6,994,549 | 6,994,549 | 6,994,547 | 0 | 0 | 0 |
| 2019 | 5.0 | 19,086,931 | 7,634,773 | 3,817,387 | 3,817,386 | 3,817,387 | 0 | 0 | 0 | 0 |
| 2018 | 5.0 | (6,367,130) | (1,273,426) | 0 | (1,273,426) | 0 | 0 | 0 | 0 | 0 |
| Net Change in Pension Expense | | | $ (7,070,786) | $ (4,369,007) | $ (2,701,779) | $ (1,428,352) | $ (5,245,741) | $(12,240,289) | $ 14,545,375 | $ 0 |

## SECTION VII – GASB 67 AND 68 DISCLOSURES

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 below, we believe it helps to understand the level and volatility of pension expense.

**Table VII-9**

| Calculation of Pension Expense | | | |
|---|---|---|---|
| | Measurement Year Ending | | |
| | *2023* | 2022 | 2021 |
| Change in Net Pension Liability | *$ 21,416,509* | $ 160,163,806 | $ (140,787,797) |
| Change in Deferred Outflows | *34,512,810* | (37,370,666) | 46,808,032 |
| Change in Deferred Inflows | *(1,428,352)* | (76,975,356) | 74,481,973 |
| Employer Contributions | *0* | 6,041,222 | 33,929,446 |
| **Pension Expense** | ***$ 54,500,967*** | **$ 51,859,006** | **$ 14,431,654** |
| **Operating Expenses** | | | |
| Service cost | *$ 7,943,288* | $ 7,795,441 | $ 8,150,506 |
| Employee contributions | *0* | 0 | 0 |
| Administrative expenses | *345,017* | 203,299 | 289,090 |
| Total | *$ 8,288,305* | $ 7,998,740 | $ 8,439,596 |
| **Financing Expenses** | | | |
| Interest cost | *$ 53,197,554* | $ 49,410,345 | $ 48,271,615 |
| Expected return on assets | *(40,069,350)* | (46,375,060) | (36,951,399) |
| Total | *$ 13,128,204* | $ 3,035,285 | $ 11,320,216 |
| **Changes** | | | |
| Benefit changes | *$ 0* | $ 900,168 | $ 0 |
| Recognition of assumption changes | *28,549,476* | 37,836,085 | 14,101,545 |
| Recognition of liability gains and losses | *5,963,334* | 4,790,507 | 761,907 |
| Recognition of investment gains and losses | *(1,428,352)* | (2,701,779) | (20,191,610) |
| Total | *$ 33,084,458* | $ 40,824,981 | $ (5,328,158) |
| **Pension Expense** | ***$ 54,500,967*** | **$ 51,859,006** | **$ 14,431,654** |

*Figures for the 2023 measurement year are projected*

## SECTION VII – GASB 67 AND 68 DISCLOSURES

Operating expenses 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.

Financing expenses equal 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 primarily the interest on the Net Pension Liability with an adjustment for the difference between the interest on the service cost and contributions.

The recognition of changes drives most of the volatility in pension expense from year to year. Changes include any changes in benefits made during the year and the recognized 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 $37.4 million. While operating expenses and financing expenses decreased, the recognition of changes increased $46.2 million due to an increase in the recognition of assumption changes and a decrease in the recognition of investment gains.

The projected expense for FYE 2023 reflects an increase in operating expenses due to assumption changes, an increase in financing expenses due to both assumption changes and the 2022 investment losses, and a decrease to the recognition of assumption changes as the 2020 assumption changes are fully recognized this year. Actual experience during FYE 2023 may have a significant impact on this projection.

**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 | | | |
|---|---|---|---|
| | June 30, 2022 | June 30, 2021 | % Change |
| **Active Union Members** | | | |
| Count | 834 | 954 | -12.6% |
| Average Current Age | 53.9 | 53.7 | 0.4% |
| Average Eligibility Service | 19.1 | 18.4 | 3.8% |
| Average Benefit Service | 18.5 | 17.8 | 3.9% |
| **Transfers to Management** | | | |
| Count | 49 | 49 | 0.0% |
| Average Age | 52.6 | 53.2 | -1.1% |

## APPENDIX A – MEMBERSHIP INFORMATION

### Table A-2

| In Pay Status Member Data | June 30, 2022 | June 30, 2021 | %Change |
|---|---|---|---|
| **Retirees** | | | |
| Count | 1,681 | 1,631 | 3.1% |
| Average Age | 71.4 | 71.2 | 0.3% |
| Total Annualized Benefits | $ 40,066,500 | $ 36,822,085 | 8.8% |
| Average Annual Benefit | $ 23,835 | $ 22,576 | 5.6% |
| **Beneficiaries & Alternate Payees** | | | |
| Count | 325 | 307 | 5.9% |
| Average Age | 72.5 | 72.1 | 0.6% |
| Total Annualized Benefits | $ 4,567,514 | $ 4,073,791 | 12.1% |
| Average Annual Benefit | $ 14,054 | $ 13,270 | 5.9% |
| **Disabled** | | | |
| Count | 181 | 186 | - 2.7% |
| Average Age | 65.2 | 64.4 | 1.2% |
| Total Annualized Benefits | $ 4,966,978 | $ 4,796,913 | 3.5% |
| Average Annual Benefit | $ 27,442 | $ 25,790 | 6.4% |
| **Total** | | | |
| Count | 2,187 | 2,124 | 3.0% |
| Average Age | 71.1 | 70.7 | 0.6% |
| Total Annualized Benefits | $ 49,600,992 | $ 45,692,789 | 8.6% |
| Average Annual Benefit | $ 22,680 | $ 21,513 | 5.4% |

## APPENDIX A – MEMBERSHIP INFORMATION

### Table A-3

| Deferred Member Data | | | |
|---|---|---|---|
| | Count | | |
| | June 30, 2022 | June 30, 2021 | % Change |
| **Vested Terminated Members** | | | |
| Count | 118 | 113 | 4.4% |
| Average Age | 51.8 | 52.1 | -0.7% |
| Total Annualized Benefits | $ 1,645,247 | $ 1,420,708 | 15.8% |
| Average Annual Benefit | $ 13,943 | $ 12,573 | 10.9% |
| **Deferred Beneficiaries** | | | |
| Count | 15 | 19 | -21.1% |
| Average Age | 56.1 | 56.6 | -0.9% |

## APPENDIX A – MEMBERSHIP INFORMATION

### Table A-4

| Change in Plan Membership | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Active | Terminated Vested | Transfer to Mgmt | Deferred Beneficiary | Retiree | Beneficiary | Disabled | Alternate Payee | Deferred Alternate Payee | Totals |
| **June 30, 2021** | **954** | **113** | **49** | **19** | **1,631** | **250** | **186** | **57** | **0** | **3,259** |
| New Entrants | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rehires/Returned to Work | 1 | (1) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vested Terminations | (18) | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nonvested Terminations | (1) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (1) |
| Disabilities | (5) | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 |
| Retirements | (89) | (12) | (5) | 0 | 106 | 0 | 0 | 0 | 0 | 0 |
| Deaths | (2) | 0 | 0 | 0 | (56) | 0 | (10) | 0 | 0 | (68) |
| New Beneficiaries | 0 | 0 | 0 | (4) | 0 | 31 | 0 | 3 | 0 | 30 |
| Beneficiary Deaths | 0 | 0 | 0 | 0 | 0 | (14) | 0 | (2) | 0 | (16) |
| Benefit Ceased | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Transfers to Mgmt* | (5) | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Transfers from Mgmt* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Miscellaneous Adjustments | (1) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (1) |
| **June 30, 2022** | **834** | **118** | **49** | **15** | **1,681** | **267** | **181** | **58** | **0** | **3,203** |

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

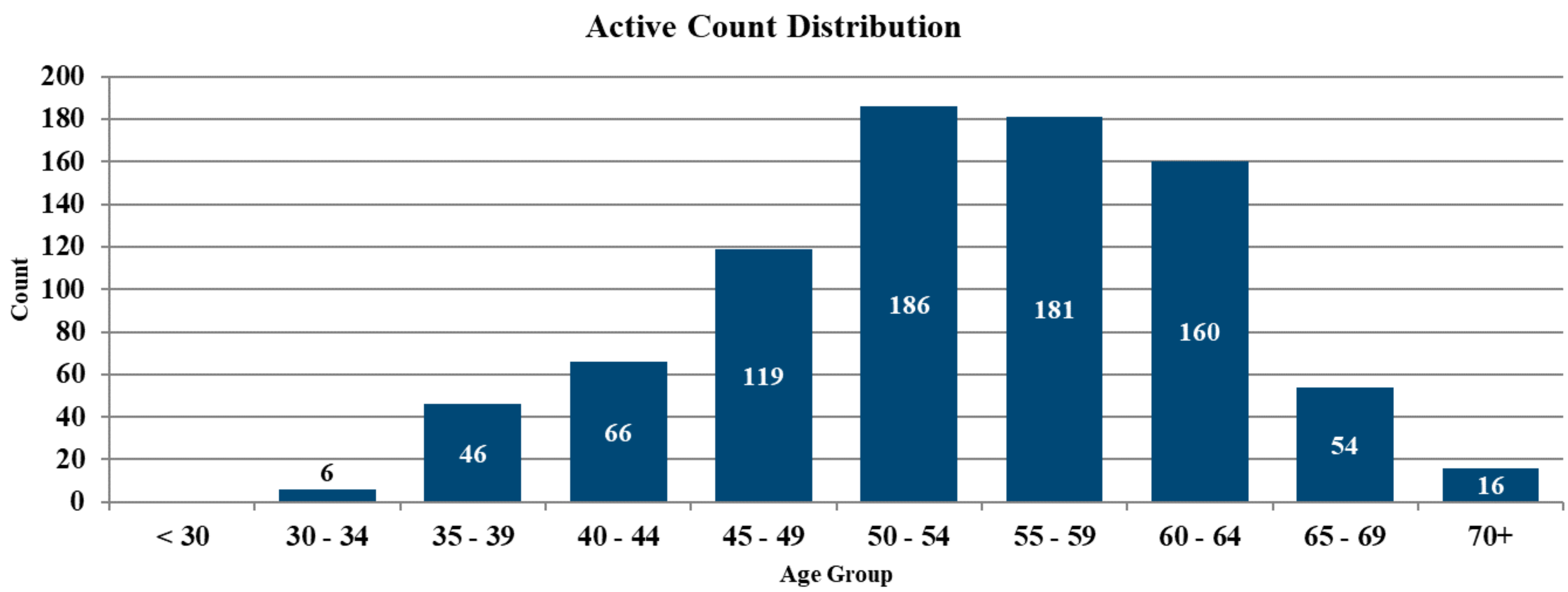
## APPENDIX A – MEMBERSHIP INFORMATION

### Table A-5

| Distribution of Active Union Members as of June 30, 2022 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Years of Service | | | | | | | | | |
| Age | Under 5 | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 to 34 | 35 to 39 | 40 and up | Total |
| Under 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 to 34 | 0 | 1 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| 35 to 39 | 0 | 9 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 46 |
| 40 to 44 | 0 | 4 | 45 | 14 | 3 | 0 | 0 | 0 | 0 | 66 |
| 45 to 49 | 0 | 6 | 50 | 28 | 28 | 7 | 0 | 0 | 0 | 119 |
| 50 to 54 | 0 | 6 | 59 | 32 | 51 | 35 | 3 | 0 | 0 | 186 |
| 55 to 59 | 0 | 3 | 48 | 44 | 47 | 25 | 11 | 2 | 1 | 181 |
| 60 to 64 | 0 | 8 | 47 | 27 | 30 | 30 | 11 | 5 | 2 | 160 |
| 65 to 69 | 0 | 4 | 9 | 12 | 14 | 7 | 2 | 4 | 2 | 54 |
| 70 and up | 0 | 2 | 3 | 2 | 6 | 2 | 0 | 1 | 0 | 16 |
| Total Count | 0 | 43 | 303 | 159 | 179 | 106 | 27 | 12 | 5 | 834 |

## APPENDIX A – MEMBERSHIP INFORMATION

**Chart A-1**



## APPENDIX A – MEMBERSHIP INFORMATION

### Table A-6

**Retirees, Disabled, Beneficiaries and Alternate Payees by Attained Age and Benefit Effective Date as of June 30, 2022**

| FYE Benefit Effective | Under 55 | 55 to 59 | 60 to 64 | 65 to 69 | 70 to 74 | 75 to 79 | 80 to 84 | 85 to 89 | 90 and up | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| **Prior to 1995** | 0 | 1 | 1 | 2 | 2 | 2 | 5 | 7 | 27 | **47** |
| **1996** | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 4 | 1 | **10** |
| **1997** | 0 | 0 | 0 | 0 | 1 | 0 | 6 | 11 | 0 | **18** |
| **1998** | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 5 | 1 | **11** |
| **1999** | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 12 | 0 | **17** |
| **2000** | 0 | 0 | 0 | 1 | 2 | 1 | 9 | 9 | 0 | **22** |
| **2001** | 0 | 0 | 0 | 0 | 1 | 3 | 16 | 1 | 0 | **21** |
| **2002** | 0 | 0 | 1 | 1 | 0 | 7 | 14 | 5 | 0 | **28** |
| **2003** | 0 | 0 | 2 | 2 | 1 | 11 | 18 | 1 | 0 | **35** |
| **2004** | 0 | 0 | 0 | 3 | 4 | 22 | 16 | 3 | 0 | **48** |
| **2005** | 0 | 0 | 2 | 2 | 10 | 22 | 19 | 1 | 0 | **56** |
| **2006** | 0 | 1 | 2 | 1 | 21 | 36 | 11 | 0 | 0 | **72** |
| **2007** | 0 | 1 | 1 | 0 | 19 | 46 | 12 | 1 | 0 | **80** |
| **2008** | 0 | 0 | 1 | 4 | 30 | 40 | 8 | 2 | 0 | **85** |
| **2009** | 0 | 1 | 3 | 8 | 36 | 37 | 6 | 1 | 0 | **92** |
| **2010** | 0 | 0 | 4 | 10 | 33 | 36 | 6 | 1 | 1 | **91** |
| **2011** | 0 | 3 | 2 | 10 | 47 | 24 | 7 | 0 | 0 | **93** |
| **2012** | 0 | 0 | 2 | 27 | 54 | 26 | 5 | 2 | 0 | **116** |
| **2013** | 0 | 0 | 3 | 29 | 43 | 13 | 1 | 1 | 0 | **90** |
| **2014** | 0 | 2 | 5 | 32 | 56 | 13 | 1 | 1 | 0 | **110** |
| **2015** | 0 | 3 | 7 | 27 | 45 | 8 | 1 | 0 | 0 | **91** |
| **2016** | 0 | 2 | 10 | 62 | 44 | 8 | 2 | 1 | 1 | **130** |
| **2017** | 1 | 2 | 27 | 47 | 32 | 5 | 1 | 1 | 1 | **117** |
| **2018** | 1 | 2 | 23 | 65 | 33 | 12 | 1 | 0 | 0 | **137** |
| **2019** | 1 | 9 | 34 | 56 | 29 | 7 | 1 | 0 | 0 | **137** |
| **2020** | 1 | 14 | 45 | 56 | 15 | 7 | 1 | 0 | 1 | **140** |
| **2021** | 0 | 13 | 48 | 32 | 12 | 4 | 2 | 0 | 1 | **112** |
| **2022** | 1 | 24 | 48 | 29 | 3 | 0 | 0 | 0 | 0 | **105** |
| **Missing** | 14 | 27 | 26 | 5 | 2 | 1 | 0 | 0 | 1 | **76** |
| **Total** | **19** | **105** | **298** | **511** | **576** | **395** | **178** | **70** | **35** | **2,187** |

| | |
|---|---|
| **Average Age at Retirement/Disability** | 61.6 |
| **Average Current Age** | 71.1 |
| **Average Annual Pension** | $22,680 |

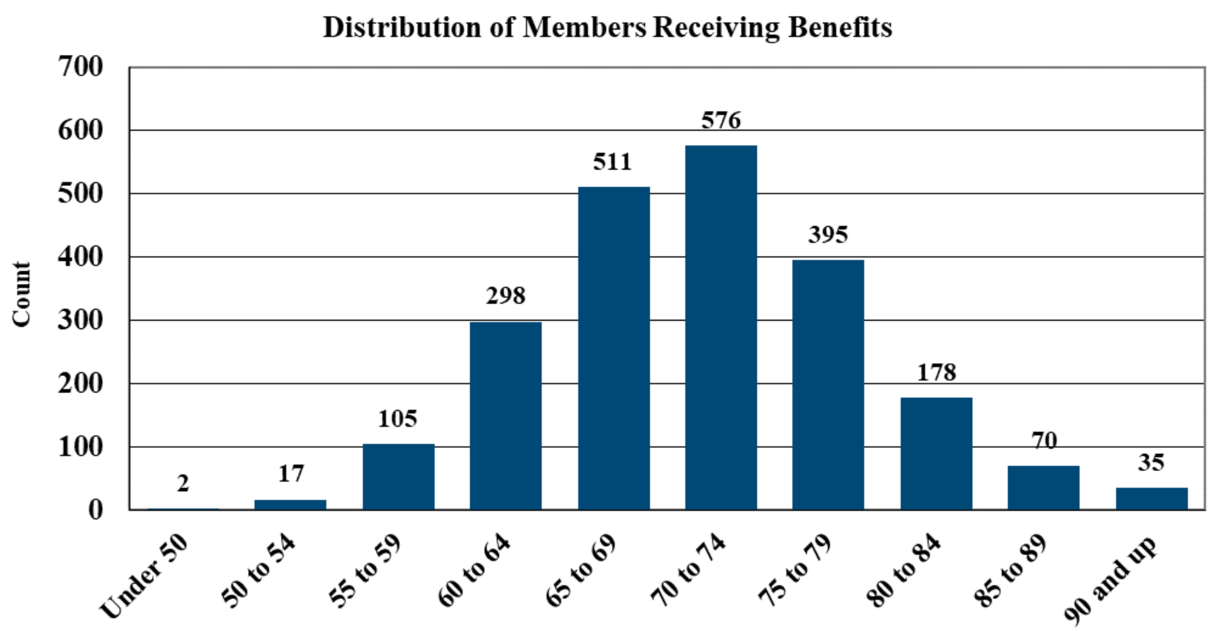
## APPENDIX A – MEMBERSHIP INFORMATION

### Table A-7

**Distribution of Retirees, Disabled Members, Beneficiaries and Alternate Payees as of June 30, 2022**

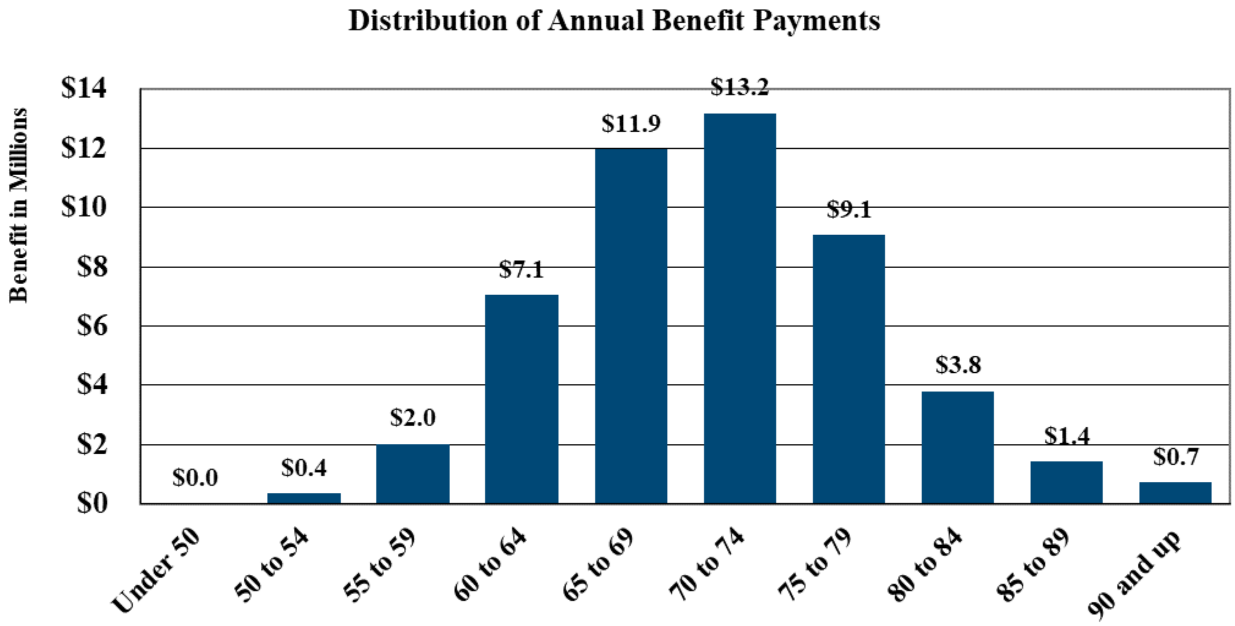
| Age | Count | Annual Benefit |
|---|---|---|
| Under 50 | 2 | $ 38,299 |
| 50 to 54 | 17 | 351,080 |
| 55 to 59 | 105 | 2,027,727 |
| 60 to 64 | 298 | 7,058,351 |
| 65 to 69 | 511 | 11,947,985 |
| 70 to 74 | 576 | 13,168,128 |
| 75 to 79 | 395 | 9,055,425 |
| 80 to 84 | 178 | 3,809,292 |
| 85 to 89 | 70 | 1,425,437 |
| 90 and up | 35 | 719,269 |
| **Total** | 2,187 | **$ 49,600,992** |

### Chart A-2



## APPENDIX A – MEMBERSHIP INFORMATION

### Chart A-3



# APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

## Actuarial Assumptions

The inflation, salary increase, and return on assets assumptions were adopted by the trustees at their June 13, 2022 meeting based on our recommendations. The mortality assumptions were adopted by the trustees at their September 23, 2021 meeting based upon Cheiron's ATU mortality experience study and our recommendations. Other actuarial assumptions were adopted by the trustees at their May 6, 2020 meeting based upon an experience study and our recommendations. Please refer to the experience study report and the presentations at the September 23, 2021 and June 13, 2022 trustee meetings for the rationale for each assumption.

1. **Long-Term Expected Return on Assets (effective June 30, 2022)**

   6.25% compounded annually net of investment management and custodial fees.

2. **Salary Increases (effective June 30, 2022)**

   3.25%, compounded annually.

3. **Pre-Retirement Benefit Rate Increases**

   The benefit rates used to calculate retirement and temporary disability benefits are assumed to increase with salary increases (3.25%) until benefit commencement.

4. **Amortization Payment Growth (effective June 30, 2022)**

   2.50%, compounded annually per the "TriMet" funding policy.

5. **Price Inflation (effective June 30, 2022)**

   2.75%, compounded annually.

6. **Post-Retirement Benefit Increases**

   Benefit payments for members who retired prior to August 1, 2012 are assumed to increase with price inflation (2.75%), and benefit payments for members who retire on or after August 1, 2012 are assumed to increase with 90% of price inflation (2.475%).

   After commencement, temporary disability benefit payments are assumed to increase with price inflation (2.75%).

7. **Administrative Expenses (effective July 1, 2020)**

   $330,000 per year beginning FYE 2021 and increasing with price inflation thereafter. Expenses are assumed to be paid midyear.

## APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

**8. Base Mortality Rates (effective July 1, 2021)**

2016 Cheiron ATU mortality tables. Separate tables by sex for employees, healthy retirees, and disabled retirees. Sample Rates are shown in the table below.

| 2016 Cheiron ATU Mortality Tables | | | | | | |
|---|---|---|---|---|---|---|
| | Active Employees | | Service Retirees | | Disabled Retirees | |
| Age | Male | Female | Male | Female | Male | Female |
| 30 | 0.0485% | 0.0380% | | | 0.9632% | 0.3098% |
| 35 | 0.0562% | 0.0513% | | | 1.1224% | 0.4766% |
| 40 | 0.0640% | 0.0723% | | | 1.2844% | 0.6769% |
| 45 | 0.0793% | 0.1008% | | | 1.8315% | 0.9686% |
| 50 | 0.1134% | 0.1514% | 0.6846% | 0.3411% | 2.1187% | 1.4759% |
| 55 | 0.1735% | 0.2387% | 0.8977% | 0.5195% | 2.4130% | 1.8518% |
| 60 | 0.2724% | 0.3645% | 1.1230% | 0.7617% | 2.7997% | 2.0617% |
| 65 | 0.4082% | 0.5243% | 1.3088% | 1.1026% | 3.3476% | 2.2110% |
| 70 | 0.7245% | 0.8362% | 1.9829% | 1.6328% | 4.1983% | 2.7203% |
| 75 | 1.3403% | 1.3785% | 3.2716% | 2.6310% | 5.7023% | 3.8567% |
| 80 | 2.5212% | 2.2850% | 5.5953% | 4.4327% | 8.1570% | 5.9047% |
| 85 | | | 9.6469% | 7.6908% | 12.1627% | 9.2619% |
| 90 | | | 15.7074% | 13.4105% | 18.6161% | 13.5816% |

**9. Mortality Improvement Scale (effective July 1, 2021)**

Mortality rates are applied on a generational basis using the MP-2020 mortality improvement scale to adjust base mortality rates beginning in 2016.

## APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

### 10. Rates of Retirement (effective July 1, 2020)

All active members and management transfers are assumed to retire by age 70. For those eligible to retire, the assumed rates of retirement prior to age 70 vary by sex and years of service as follows:

| Active Rates of Retirement | | | | |
|---|---|---|---|---|
| | Males | | Females | |
| Age | Under 20 Years | 20+ Years | Under 20 Years | 20+ Years |
| 55 | 3.0% | 4.0% | 4.0% | 6.0% |
| 56 | 3.0 | 4.0 | 6.0 | 6.0 |
| 57 | 3.0 | 7.5 | 8.0 | 8.0 |
| 58 | 4.0 | 15.0 | 15.0 | 20.0 |
| 59 | 6.0 | 7.0 | 15.0 | 15.0 |
| 60 | 8.0 | 11.0 | 15.0 | 15.0 |
| 61 | 10.0 | 15.0 | 25.0 | 25.0 |
| 62 | 20.0 | 35.0 | 35.0 | 35.0 |
| 63 | 17.5 | 20.0 | 25.0 | 25.0 |
| 64 | 22.5 | 25.0 | 20.0 | 25.0 |
| 65 | 27.5 | 30.0 | 35.0 | 35.0 |
| 66 – 69 | 35.0 | 35.0 | 40.0 | 40.0 |
| 70+ | 100.0 | 100.0 | 100.0 | 100.0 |

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

### 11. Form of Benefit (effective July 1, 2014)

Upon retirement, members who are married or have a domestic partner 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% |

## APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

### 12. Rates of Disability (effective July 1, 2020)

CalPERS 2017 Industrial Disability Table for County Peace Officers multiplied by 83.1 percent. Sample rates of disability are shown below.

| Age | Rate of Disability |
|---|---|
| 30 | 0.2069% |
| 35 | 0.3075 |
| 40 | 0.4263 |
| 45 | 0.5584 |
| 50 | 0.7637 |
| 55 | 1.2507 |
| 60 | 1.4459 |

85% of disabled members are assumed to qualify for Social Security disability benefits

### 13. Rates of Termination (effective July 1, 2020)

Assumed termination rates are shown below:

| Years of Vesting Service | Rates of Termination | |
|---|---|---|
| | Males | Females |
| Less than 10 | 2.00% | 3.00% |
| 10 | 5.00 | 5.00 |
| 11 | 3.50 | 3.50 |
| 12 | 3.00 | 3.00 |
| 13 | 2.50 | 2.75 |
| 14 | 2.25 | 2.60 |
| 15 | 2.00 | 2.50 |
| 16 | 1.90 | 2.40 |
| 17 | 1.80 | 2.30 |
| 18 | 1.70 | 2.20 |
| 19 | 1.60 | 2.10 |
| 20+ | 1.50 | 2.00 |

### 14. Unused Sick Leave Benefits (effective July 1, 2020)

Active members are assumed to increase their accumulated sick leave hours 30.0 hours each year.

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)

## APPENDIX B – ACTUARIAL ASSUMPTIONS AND METHODS

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

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

### 16. Age of Spouse/Domestic Partner (effective July 1, 2020)

Spouses and domestic partners of male retirees are assumed to be female and three years younger than the retiree. Spouses and domestic partners of female retirees are assumed to be male and two years older than the retiree. Actual spouse demographic data is reflected following benefit commencement.

### 17. 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.

### 18. Mini-Run to Full Time (effective July 1, 2020)

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

| Years of Credited Service | Annual Probability |
|---|---|
| Less than 4 | 25.0% |
| 4 or more | 3.5% |

### 19. Active Management Transfers (effective July 1, 2020)

Demographic assumptions for active members who transfer to Management are the same as those adopted for the TriMet Defined Benefit Retirement Plan for Management and Staff Employees.

### 20. Changes Since the Last Valuation

The inflation assumption was increased from 2.25% to 2.75%.
The amortization payment growth rate was increased from 2.00% to 2.50%.
The salary increase assumption was increased from 2.75% to 3.25%.
The long-term expected return on assets was reduced from 6.50% to 6.25%.

**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. We understand a new policy is under development.

### 1. Actuarial Cost Method (effective June 30, 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 June 30, 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.

## 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 12 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.

## 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, 2007 | $68.25 |
| September 1, 1992 | 43.26 | September 1, 2008 | 70.84 |
| September 1, 1993 | 44.13 | September 1, 2009 | 72.96 |
| September 1, 1994 | 44.57 | February 1, 2010 | 72.96 |
| September 1, 1995 | 47.02 | February 1, 2011 | 75.52 |
| September 1, 1996 | 48.43 | February 1, 2012 | 78.97 |
| September 1, 1997 | 50.27 | February 1, 2013 | 78.97 |
| September 1, 1998 | 51.93 | February 1, 2014 | 78.97 |
| September 1, 1999 | 53.49 | February 1, 2015 | 81.34 |
| September 1, 2000 | 55.49 | February 1, 2016 | 83.78 |
| September 1, 2001 | 57.15 | February 1, 2017 | 86.29 |
| September 1, 2002 | 58.87 | February 1, 2018 | 89.10 |
| September 1, 2003 | 60.64 | February 1, 2019 | 92.00 |
| September 1, 2004 | 62.45 | February 1, 2020 | 94.76 |
| September 1, 2005 | 64.33 | February 1, 2021 | 97.13 |
| September 1, 2006 | 66.26 | February 1, 2022 | 99.32 |

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 12 months.

## APPENDIX C – SUMMARY OF PLAN PROVISIONS

A benefit derived from unused sick leave is added to the above benefit as described below.

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.

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 early retirement benefit will be reduced to be actuarially equivalent to the normal retirement benefit.

### 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

## APPENDIX C – SUMMARY OF PLAN PROVISIONS

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 |
| 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 | 774.50 | 933.46 | 1084.28 |
| May 1, 2018 | 793.32 | 956.14 | 1,110.63 |
| May 1, 2019 | 817.12 | 984.82 | 1,143.95 |

## APPENDIX C – SUMMARY OF PLAN PROVISIONS

| Effective | 10 Years of Continuous Service | 15 Years of Continuous Service | 20 Years of Continuous Service |
|---|---|---|---|
| May 1, 2020 | 836.49 | 1,008.16 | 1,171.06 |
| May 1, 2021 | 850.87 | 1,025.50 | 1,191.20 |
| May 1, 2022 | 897.67 | 1,081.90 | 1,256.72 |

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.

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

## APPENDIX C – SUMMARY OF PLAN PROVISIONS

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 West - Size Class B/C) (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 West - Size Class B/C) (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 and the temporary disability benefits were increased. The definition of actuarial equivalence for early retirement and optional forms was changed to be based on the following assumptions:

| | |
|---|---|
| Mortality: | 2016 Cheiron ATU mortality adjusted to be unisex with MP-2020 generational projection |
| Interest: | 6.5% |
| COLA: | 2.025% |

Factors are based on ages attained in 2023

**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.**

## APPENDIX D – 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 D – 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

## APPENDIX D – 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.

## APPENDIX D – 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.

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