



TriMet Defined Benefit Retirement Plan for Management and Staff Employees

July 1, 2017 GASB 67 and 68 Valuation

Prepared by:

Milliman, Inc.

Nina M. Lantz, FSA, EA, MAAA

Principal and Consulting Actuary

Brent J. Langland, ASA, EA, MAAA

Consulting Actuary

Milliman, Inc.

111 SW Fifth Avenue, Suite 3700

Portland OR 97204-3654

Tel +1 503 227 0634

Fax +1 503 227 7956

milliman.com



111 SW Fifth Avenue
Suite 3700
Portland, OR 97204
USA

Tel +1 503 227 0634
Fax +1 503 227 7956

milliman.com

August 11, 2017

Ms. Dee Brookshire
Executive Director of Finance and Administration
TriMet
1800 SW 1st Avenue, Suite 300
Portland, Oregon 97201

Dear Dee:

As requested, we performed an actuarial valuation of the TriMet Defined Benefit Retirement Plan for Management and Staff Employees as of July 1, 2017, for the Plan Year ending June 30, 2018. Our findings are set forth in this actuary's report.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by TriMet. This information includes, but is not limited to, benefit provisions, member census data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, and other factors for the Plan have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the Plan and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the Plan. The assumptions used for the valuation were selected by the Plan's Board of Trustees and TriMet, including the assumption for the long term expected return on plan assets of 6.30%. The Plan's Board of Trustees and TriMet have the final decision regarding the appropriateness of the assumptions.

This valuation report is only an estimate of the Plan's financial condition as of a single date. It can neither predict the Plan's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of Plan benefits. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

Ms. Dee Brookshire
August 11, 2017
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Actuarial computations presented in this report are for purpose of fulfilling TriMet's financial accounting and reporting requirements under GASB 67 and 68. The calculations enclosed in this report have been made on a basis consistent with our understanding of the Plan, TriMet's funding policy and GASB 67 and 68. Determinations for purposes other than meeting financial reporting requirements may be significantly different than the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

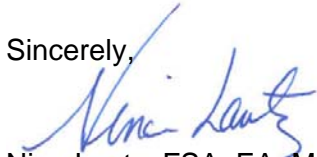
Milliman's work is prepared solely for the use and benefit of the Plan's Board of Trustees and TriMet. Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. No third party recipient of Milliman's work product should rely upon this report. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuary is independent of the plan sponsor. I am not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, I hereby certify that, to the best of my knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. I am a member of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Sincerely,



Nina Lantz, FSA, EA, MAAA
Principal and Consulting Actuary

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encl.

**TRIMET DEFINED BENEFIT RETIREMENT PLAN FOR
MANAGEMENT AND STAFF EMPLOYEES**

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SECTION 1 Purpose and Summary

Purpose

This report presents the results of our actuarial valuation of the Plan as of July 1, 2017. The purpose of this report is to develop the actuarial disclosure information required by the Government Accounting Standards Board (GASB) Statements No. 67 and 68 as of June 30, 2017.

The assumptions used for the valuation were selected by the Plan's Board of Trustees and TriMet, including the assumption for the long term expected return on plan assets of 6.30%. Performing the valuation using other assumptions will yield different results.

The figures in this report are only intended for financial reporting under GASB 67 and 68. The formal funding calculations as of July 1, 2017 have not yet been completed, but may be based in part on the findings in this report.

Unless otherwise specified, all amounts prior to July 1, 2015 were shown in previous valuation reports prepared by SilverStone Heintzberger Group.

Plan Benefits Valued

The Plan provisions used for the valuation were based on the plan document restated effective July 1, 2013 and are summarized in Appendix A. There were no amendments since the last valuation.

Actuarial Methods and Assumptions

Appendix B summarizes the assumptions and methods used for the valuation. There were no changes to the actuarial methods or assumptions since the last valuation.

Participant Statistics

The following is a summary of the more important figures developed in this valuation, together with comparable figures from the prior valuation report. The participant data that was supplied to us is summarized in more detail in Appendix C.

| | July 1, 2016 | July 1, 2017 |
|----------------------------------|--------------|--------------|
| Active Participants | | |
| Accruing Service | 114 | 93 |
| Frozen Service | 15 | 15 |
| Average Age | 55.7 | 55.6 |
| Average Years of Vesting Service | 23.2 | 23.4 |
| Union Transfers | 23 | 19 |
| Vested Terminations | 91 | 85 |
| Retirees & Beneficiaries | 250 | 277 |
| Average Age | 69.9 | 70.0 |
| Average Monthly Benefit | \$1,545 | \$1,653 |
| Leaves & Disabled | 3 | 4 |
| Total Participants | 496 | 493 |
| Ratio of Inactives to Actives | 2.85 | 3.56 |

GASB Summary

A summary of the key figures disclosed under GASB 67 and 68 for fiscal years ending June 30, 2016 and June 30, 2017 are shown below.

| | June 30, 2016 | June 30, 2017 |
|--|--------------------|--------------------|
| Total Pension Liability | \$ 133,362,366 | \$ 138,987,872 |
| Fiduciary Net Position | <u>114,997,281</u> | <u>123,955,858</u> |
| Net Pension Liability | \$ 18,365,085 | \$ 15,032,014 |
| Funded Percentage | 86.23% | 89.18% |
| Pension Expense | \$ 2,977,231 | \$ 2,436,522 |
| Discount Rate | 6.30% | 6.30% |
| Long-term Expected Return on Plan Assets | 6.30% | 6.30% |
| Actuarially determined contribution | \$ 4,242,053 | \$ 3,734,975 |
| Actual employer contribution | <u>7,036,203</u> | <u>6,330,108</u> |
| Contribution deficiency (excess) | \$ (2,794,150) | \$ (2,595,133) |

The annual pension expense reflects changes in the net pension liability from the prior year to the current year, with limited smoothing for investment gains and losses, economic and demographic gains and losses and assumption changes.

Experience Gains and Losses

Experience gains and losses occur due to Plan experience that is different from the actuarial assumptions used to value the Plan's liabilities and assets. Since actual experience will never exactly match the Plan's assumptions, it is certain that the Plan will experience actuarial gains and losses each year. These gains and losses arise from two sources: investment experience and demographic experience. During the 2016-2017 plan year, there was a small total experience loss of about \$0.7 million.

Investment Experience

The investment rate of return on the fiduciary net position for the plan year ending June 30, 2017 was about 6.9%. Compared to the 6.3% return assumed for the 2016-2017 plan year, there was an investment gain of approximately \$0.7 million.

Demographic Experience

Demographic gains and losses occur when the Plan's actual demographic experience differs from our valuation assumptions. The Plan experienced a net loss on the total pension liability of approximately \$1.4 million from demographic experience different than assumed.

Sources of demographic losses for the 2016-2017 plan year include higher than expected salary increases (2.75% assumed versus 3.5% actual) and higher benefits for active participants who retired during the year.

These losses were partially offset by cost-of-living adjustments (COLAs) coming in below the valuation assumption (2.25% assumed versus 1.79% actual).

Sensitivity of Results

The results presented in this report are dependent upon the actuarial assumptions being realized in the future. To the extent that actual Plan experience differs from the assumptions, future actuarial costs will differ from those presented in this report.

SECTION 2 Discussion of the Valuation

GASB 67 and 68

The Governmental Accounting Standards Board (GASB) issued accounting standards for both the Financial Reporting for Pension Plans (Statement No. 67) and the Accounting and Financial Reporting for Pensions (Statement No. 68). GASB 67 applies to financial reporting for public pension plans and is effective for plan fiscal years beginning after June 15, 2013. GASB 68 governs the accounting for pension plan obligations for public employers and is effective for employer fiscal years beginning after June 15, 2014.

TriMet elected to apply both of the new GASB accounting standards effective beginning with the fiscal year ending June 30, 2014.

A summary of the historical measurements is shown on Exhibit 7.

Discount Rate

Under GASB 67 and 68, the discount rate is a single rate that reflects the long-term expected rate of return on the fiduciary net position to the extent those assets plus future contributions in excess of normal costs are sufficient to pay projected benefits, and a 20-year tax-exempt, high quality general obligation municipal bond yield or index rate to the extent that assets and future contributions are not sufficient.

Further, the standards provide that professional judgment should be used in projecting contributions for this solvency projection. Contributions established by statute or contract or any formal, written policy related to contributions should be reflected. The most recent five years of contributions made by the employer should also be considered as a key indicator of future contributions. TriMet adopted a formal, written funding policy which should be considered in conjunction with their recent contribution practice for purposes of developing the discount rate.

Exhibit 1 describes the techniques and assumptions used for the depletion date projection. Exhibit 2 shows the projection of the fiduciary net position over the next 30 years assuming all assumptions are met and describes the discount rate. Exhibit 3 shows the discount rate as of June 30, 2016 and June 30, 2017.

Net Pension Liability

The net pension liability is measured as the total pension liability minus the fiduciary net position.

Total pension liability is determined using the entry age normal actuarial cost allocation method. In addition, GASB 67 and 68 require that the allocation of costs for accounting purposes be made as a level percentage of employees' projected pay, including future anticipated pay increases. The Plan's total pension liability reflects a 2.75% long-term annual salary increase assumption.

The fiduciary net position is equal to the market value of assets as of the valuation date.

Exhibit 3 shows the net pension liability as of June 30, 2016 and June 30, 2017. The changes in the net pension liability from June 30, 2016 to June 30, 2017 are shown on Exhibit 4. The 10-year schedule of changes in the net pension liability and related ratios are provided in Exhibit 7. This 10-year schedule is shown on a prospective basis from June 30, 2011 as allowed under GASB 67 and 68.

Sensitivity Analysis

Exhibit 4 shows what the net pension liability would be using a discount rate that is 1 percentage point lower and 1 percentage point higher than the rate used as of June 30, 2017.

Deferred Inflows and Outflows

Under GASB 68, gains and losses which are amortized over future years are referred to as deferred inflows (gains) and deferred outflows (losses).

- Investment gains and losses are recognized over a closed five year period.
- Economic and demographic gains and losses and changes in the total pension liability due to changes in assumptions are recognized over the closed period equal to the average expected remaining service lives of all covered active and inactive employees, determined as of the beginning of the measurement period.

The amortization period is calculated as the weighted average of expected remaining service lives assuming zero years for all inactive employees. Active employees include transfers from Union Service. Inactive employees include terminated vested and disabled employees, retirees and beneficiaries.

The amortization period for the June 30, 2016 to June 30, 2017 measurement period was 1.5, based on the following statistics.

| As of June 30, 2016 | Expected Remaining Service Lives | Employee Count |
|---------------------|----------------------------------|----------------|
| Active employees | 6.657 | 114 |
| Inactive employees | 0.000 | 382 |

Exhibit 5 shows the total deferred inflows and outflows of resources as of June 30, 2017 along with a schedule showing the amounts that will be recognized in future years. All outstanding deferred inflows and outflows as of June 30, 2017 are shown on Exhibit 6.

Pension Expense

The annual pension expense reflects changes in the net pension liability from the prior year to the current year, with limited smoothing for deferred items. Because GASB requires that a portion of the changes in the net pension liability due to gains and losses and assumption changes be reflected during the current fiscal year, the final pension expense for any year will not be known until after the fiscal year end. Exhibit 5 shows the pension expense for the fiscal year ending June 30, 2017.

The service cost shown on Exhibit 5 is based on the results of the July 1, 2016 GASB 67 and 68 Valuation.

Schedule of Employer Contributions

Exhibit 8 is a 10-year schedule of the actuarially determined contribution, contributions made in relation to the actuarially determined contribution and related ratios. It also summarizes the significant methods and assumptions that were used to develop the actuarially determined contribution.

Money-Weighted Rate of Return

Exhibit 9 is calculation of the money-weighted rate of return net of investment expenses for the fiscal year ending June 30, 2017 assuming monthly cash flows occur at the end of each month.

Long-Term Expected Rate of Return by Asset Class

Exhibit 10 provides the expected real rate of return for each asset class, excluding inflation. It is based on the capital market assumptions developed by Milliman's investment consulting practice as of December 31, 2016 and the Plan's investment policy adopted by the Plan's Board of Trustees and last amended May 31, 2017.

Notes and Required Supplementary Information

GASB 67 and 68 require additional information be presented in the notes to the financial statements and required supplementary information (RSI). The attached exhibits relate to the actuarial disclosures of the Plan. Additional information related to the Plan provisions, census data, and assumptions and methods used for the actuarial disclosures may be found in the respective actuarial valuation reports for the applicable plan years.

Exhibit 1

Depletion Date Projection

In order to determine if the Plan's fiduciary net position is projected to be sufficient to make projected benefit payments, we have prepared a depletion date projection using the following techniques and assumptions:

- Benefit payments are projected based on the Plan provisions summarized in Appendix A and the actuarial assumptions and methods described in Appendix B. Projected benefit payments are shown in Appendix D.
- Administrative expenses are assumed to be \$100,000 for the 2017-2018 fiscal year, increasing 3% per year for each year benefit payments increase, and decreasing 2% per year thereafter.
- TriMet is assumed to contribute the actuarially determined contribution each year. The funding policy used to determine the actuarially determined contribution is assumed to not change in the future.

On February 26, 2014, TriMet's Board of Directors approved Resolution 14-02-06, formally adopting a pension funding policy for the Plan. This policy provides for an actuarially determined contribution based on the following parameters:

- Use of the entry age normal, level percentage of payroll actuarial cost allocation method
- Five year smoothing of market value investment gains and losses, with the resulting smoothed asset value within 20% of market value
- Long-term average annual investment return on plan assets (to be reviewed and updated as appropriate at least every 2 years).
- Initial amortization period of 10 years, reducing one year annually.
- The 10-year amortization period was effective for the plan year ending June 30, 2014. The amortization period as of July 1, 2017 is 6 years.
- All cash flows are assumed to occur on average halfway through the year.
- The long-term expected rate of return on pension plan investments is 6.30%.

Future projections will yield different results as actual Plan experience becomes known.

Exhibit 2

Projection of Fiduciary Net Position and Discount Rate

| EXHIBIT 2 | | | | | | |
|-----------------------|--|-------------------------------|----------------------------|-----------------------------------|-------------------------------|---|
| Fiscal Year Beginning | Projected Beginning Fiduciary Net Position | Projected Total Contributions | Projected Benefit Payments | Projected Administrative Expenses | Projected Investment Earnings | Projected Ending Fiduciary Net Position |
| 7/1/2017 | \$123,955,858 | 3,252,729 | (\$5,891,135) | (\$100,000) | \$7,724,277 | \$128,941,729 |
| 7/1/2018 | 128,941,729 | 3,331,135 | (6,571,774) | (103,000) | 8,019,613 | 133,617,703 |
| 7/1/2019 | 133,617,703 | 3,889,533 | (7,303,467) | (106,090) | 8,308,728 | 138,406,407 |
| 7/1/2020 | 138,406,407 | 4,261,323 | (7,926,157) | (109,273) | 8,602,535 | 143,234,835 |
| 7/1/2021 | 143,234,835 | 4,185,792 | (8,393,253) | (112,551) | 8,889,792 | 147,804,615 |
| 7/1/2022 | 147,804,615 | 4,184,235 | (8,836,581) | (115,928) | 9,163,784 | 152,200,125 |
| 7/1/2023 | 152,200,125 | 600,639 | (9,310,977) | (119,406) | 9,314,719 | 152,685,100 |
| 7/1/2024 | 152,685,100 | 547,304 | (9,738,601) | (122,988) | 9,330,242 | 152,701,057 |
| 7/1/2025 | 152,701,057 | 504,820 | (10,115,937) | (126,678) | 9,318,111 | 152,281,373 |
| 7/1/2026 | 152,281,373 | 457,675 | (10,524,464) | (130,478) | 9,277,419 | 151,361,525 |
| 7/1/2027 | 151,361,525 | 408,934 | (10,882,063) | (134,392) | 9,206,742 | 149,960,746 |
| 7/1/2028 | 149,960,746 | 369,597 | (11,256,799) | (138,424) | 9,105,524 | 148,040,644 |
| 7/1/2029 | 148,040,644 | 340,313 | (11,532,394) | (142,577) | 8,974,972 | 145,680,958 |
| 7/1/2030 | 145,680,958 | 317,061 | (11,775,702) | (146,854) | 8,817,910 | 142,893,373 |
| 7/1/2031 | 142,893,373 | 290,949 | (12,013,313) | (151,260) | 8,633,976 | 139,653,725 |
| 7/1/2032 | 139,653,725 | 274,753 | (12,178,749) | (155,798) | 8,424,103 | 136,018,034 |
| 7/1/2033 | 136,018,034 | 256,753 | (12,309,050) | (160,472) | 8,190,310 | 131,995,575 |
| 7/1/2034 | 131,995,575 | 243,175 | (12,427,312) | (165,286) | 7,932,656 | 127,578,808 |
| 7/1/2035 | 127,578,808 | 232,114 | (12,456,743) | (170,245) | 7,652,990 | 122,836,924 |
| 7/1/2036 | 122,836,924 | 215,698 | (12,420,197) | (166,840) | 7,354,981 | 117,820,566 |
| 7/1/2037 | 117,820,566 | 198,307 | (12,353,080) | (163,503) | 7,040,596 | 112,542,886 |
| 7/1/2038 | 112,542,886 | 187,742 | (12,205,630) | (160,233) | 6,712,450 | 107,077,215 |
| 7/1/2039 | 107,077,215 | 176,822 | (12,014,424) | (157,028) | 6,373,804 | 101,456,389 |
| 7/1/2040 | 101,456,389 | 169,194 | (11,769,628) | (153,887) | 6,027,146 | 95,729,214 |
| 7/1/2041 | 95,729,214 | 161,070 | (11,463,721) | (150,809) | 5,675,666 | 89,951,420 |
| 7/1/2042 | 89,951,420 | 155,068 | (11,100,318) | (147,793) | 5,322,845 | 84,181,222 |
| 7/1/2043 | 84,181,222 | 148,756 | (10,700,217) | (144,837) | 4,971,630 | 78,456,554 |
| 7/1/2044 | 78,456,554 | 144,658 | (10,246,155) | (141,940) | 4,625,023 | 72,838,140 |
| 7/1/2045 | 72,838,140 | 138,726 | (9,771,734) | (139,101) | 4,285,683 | 67,351,714 |
| 7/1/2046 | 67,351,714 | 135,952 | (9,249,996) | (136,319) | 3,956,221 | 62,057,572 |

Projection Results: The Plan's projected fiduciary net position over the next 30 years is shown above. Since the funding policy uses a closed amortization method, the Plan is projected to remain solvent.

Discount Rate: The discount rate for purposes of calculating liabilities in this report is equal to the expected long-term expected rate of return on plan assets, 6.30%.

Exhibit 3

Net Pension Liability

| Net Pension Liability | June 30, 2016 | June 30, 2017 |
|--|----------------------|----------------------|
| Total pension liability | \$ 133,362,366 | \$ 138,987,872 |
| Fiduciary net position | <u>114,997,281</u> | <u>123,955,858</u> |
| Net pension liability | \$ 18,365,085 | \$ 15,032,014 |
| Fiduciary net position as a % of total pension liability | 86.23% | 89.18% |
| Covered payroll | \$ 12,722,153 | \$ 10,592,830 |
| Net pension liability as a % of covered payroll | 144.36% | 141.91% |

The total pension liability was determined by an actuarial valuation as of the valuation date, calculated based on the discount rate and actuarial assumptions below.

Discount Rate

The Plan's fiduciary net position plus anticipated future contributions in adherence with the funding policy is projected to remain solvent. The single effective discount rate for purposes of calculating liabilities in this report is equal to the expected long-term expected rate of return on plan assets.

| | | |
|-----------------------------------|-------|-------|
| Discount rate | 6.30% | 6.30% |
| Long-term expected rate of return | 6.30% | 6.30% |

Other Key Actuarial Assumptions

| | | |
|----------------------------|--|--|
| Valuation date | July 1, 2016 | July 1, 2017 |
| Measurement date | June 30, 2016 | June 30, 2017 |
| Inflation | 2.50% | 2.50% |
| Salary Increases | 2.75% | 2.75% |
| Cost-of-Living Adjustments | 90% of inflation | 90% of inflation |
| Mortality | RP-2014 Annuitant White Collar Mortality, projected, 10 years past valuation date using Scale BB, for males and females | RP-2014 Annuitant White Collar Mortality, projected, 10 years past valuation date using Scale BB, for males and females |
| Actuarial cost method | Entry Age Normal as Level % of Pay | Entry Age Normal as Level % of Pay |

Exhibit 4

Changes in Net Pension Liability (June 30, 2016 to June 30, 2017)

| Changes in Net Pension Liability | Increase (Decrease) | | |
|--|--------------------------------|------------------------------------|------------------------------------|
| | Total Pension Liability (a) | Plan Fiduciary Net Position (b) | Net Pension Liability (a) - (b) |
| Balances as of June 30, 2016 | \$ 133,362,366 | \$ 114,997,281 | \$ 18,365,085 |
| Changes for the year: | | | |
| Service Cost | 1,161,815 | | 1,161,815 |
| Interest on total pension liability | 8,308,518 | | 8,308,518 |
| Effect of plan changes | 0 | | 0 |
| Effect of economic/demographic (gains) or losses | 1,441,063 | | 1,441,063 |
| Effect of assumptions changes or inputs | 0 | | 0 |
| Benefit payments | (5,285,890) | (5,285,890) | 0 |
| Administrative expenses | | (76,230) | 76,230 |
| Member contributions | | 0 | 0 |
| Net investment income | | 7,990,589 | (7,990,589) |
| Employer contributions | | 6,330,108 | (6,330,108) |
| Balances as of June 30, 2017 | \$ 138,987,872 | \$ 123,955,858 | \$ 15,032,014 |

Sensitivity Analysis

The following presents the net pension liability of the Plan, calculated using the discount rate of 6.3%, as well as what the Plan's net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (5.3%) or 1 percentage point higher (7.3%) than the current rate.

| | 1% Decrease 5.3% | Current Discount Rate 6.3% | 1% Increase 7.3% |
|-------------------------|------------------------|----------------------------------|------------------------|
| Total pension liability | \$157,114,772 | \$138,987,872 | \$123,879,510 |
| Fiduciary net position | <u>123,955,858</u> | <u>123,955,858</u> | <u>123,955,858</u> |
| Net pension liability | \$ 33,158,914 | \$ 15,032,014 | \$ (76,348) |

Exhibit 5 Pension Expense

| Pension Expense | July 1, 2016 to June 30, 2017 |
|---|--|
| Service cost | \$ 1,161,815 |
| Interest on total pension liability | 8,308,518 |
| Effect of plan changes | 0 |
| Administrative expenses | 76,230 |
| Member contributions | 0 |
| Expected investment return net of investment expenses | (7,267,035) |
| Recognition of Deferred (Inflows)/Outflows of Resources | |
| Recognition of economic/demographic (gains) or losses | 428,493 |
| Recognition of assumption changes or inputs | 195,292 |
| Recognition of investment (gains) or losses | (466,791) |
| Pension Expense | \$ 2,436,522 |

As of June 30, 2017, the deferred inflows and outflows of resources are as follows:

| Deferred Inflows / Outflows of Resources | Deferred Inflows of Resources* | Deferred Outflows of Resources* |
|--|---|--|
| Differences between expected and actual experience | \$ 0 | \$ 480,354 |
| Changes of assumptions or inputs | 0 | 0 |
| Net difference between projected and actual earnings | 0 | 3,376,154 |
| Contributions made subsequent to measurement date | 0 | 0 |
| Total | \$ 0 | \$ 3,856,508 |

* *Deferred outflows of resources are presented as positive amounts. Deferred inflows of resources are presented as negative amounts.*

Other amounts currently reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

| Year ended June 30: | Annual Recognition* |
|---------------------|---------------------|
| 2018 | \$ 959,228 |
| 2019 | 2,022,813 |
| 2020 | 1,019,177 |
| 2021 | (144,710) |
| 2022 | 0 |
| Thereafter | 0 |

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

Exhibit 6

Schedule of Deferred Inflows and Outflows of Resources

| | Original Amount | Date Established | Original Recognition Period* | Amount Recognized in Expense 06/30/2017 | Balance of Deferred Inflows 06/30/2017 | Balance of Deferred Outflows 06/30/2017 |
|--|-----------------|------------------|------------------------------|--|---|--|
| Investment (gains) or losses | \$ (723,554) | 06/30/2017 | 5.0 | \$ (144,711) | \$ (578,843) | \$ 0 |
| | 5,819,436 | 06/30/2016 | 5.0 | 1,163,887 | 0 | 3,491,662 |
| | 5,018,193 | 06/30/2015 | 5.0 | 1,003,639 | 0 | 2,007,276 |
| | (7,719,697) | 06/30/2014 | 5.0 | (1,543,939) | (1,543,941) | 0 |
| | (4,728,327) | 06/30/2013 | 5.0 | (945,667) | 0 | 0 |
| | | | | \$ (466,791) | \$ (2,122,784)** | \$ 5,498,938** |
| Economic/demographic (gains) or losses | \$ 1,441,063 | 06/30/2017 | 1.5 | \$ 960,709 | \$ 0 | \$ 480,354 |
| | (1,292,524) | 06/30/2016 | 1.7 | (532,216) | 0 | 0 |
| | | | | \$ 428,493 | \$ 0 | \$ 480,354 |
| Assumption changes or inputs | \$ 0 | 06/30/2017 | 1.5 | \$ 0 | \$ 0 | \$ 0 |
| | 474,280 | 06/30/2016 | 1.7 | 195,292 | 0 | 0 |
| | | | | \$ 195,292 | \$ 0 | \$ 0 |

* Investment (gains)/losses are recognized in pension expense over a period of five years; economic/demographic (gains)/losses and assumption changes or inputs are recognized over the weighted average of expected remaining service lives for all active and inactive participants.

** In accordance with paragraph 33b of GASB 68, the balances of deferred inflows and outflows have been combined for reporting purposes (see Exhibit 5).

Exhibit 7

Schedule of Changes in Total Pension Liability, Fiduciary Net Position and Related Ratios

| | Fiscal Year Ending June 30, | | | | | | | | | |
|--|-----------------------------|---------------|---------------|---------------|---------------|---------------|---------------|------|------|------|
| | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 |
| Total Pension Liability | | | | | | | | | | |
| Service cost | \$1,161,815 | \$1,224,152 | \$505,463 | \$793,111 | \$906,565 | \$1,095,477 | \$1,146,132 | \$0 | \$0 | \$0 |
| Interest on total pension liability | 8,308,518 | 8,326,815 | 7,931,015 | 8,453,556 | 7,902,778 | 7,369,518 | 6,903,000 | 0 | 0 | 0 |
| Effect of plan changes | 0 | 0 | 0 | 0 | 1,711,031 | 0 | 0 | 0 | 0 | 0 |
| Effect of assumption changes or inputs | 0 | 474,280 | (2,177,859) | (531,299) | 1,015,215 | 263,570 | 90,260 | 0 | 0 | 0 |
| Effect of economic/demographic (gains) or losses | 1,441,063 | (1,292,524) | 3,591,955 | (3,002,079) | 151,873 | 2,405,026 | 1,508,268 | 0 | 0 | 0 |
| Benefit payments | (5,285,890) | (4,502,096) | (4,457,981) | (3,892,235) | (3,519,261) | (3,134,099) | (2,730,827) | 0 | 0 | 0 |
| Net change in total pension liability | 5,625,506 | 4,230,627 | 5,392,593 | 1,821,054 | 8,168,201 | 7,999,492 | 6,916,833 | 0 | 0 | 0 |
| Total pension liability, beginning | 133,362,366 | 129,131,739 | 123,739,146 | 121,918,092 | 113,749,891 | 105,750,399 | 98,833,566 | 0 | 0 | 0 |
| Total pension liability, ending (a) | \$138,987,872 | \$133,362,366 | \$129,131,739 | \$123,739,146 | \$121,918,092 | \$113,749,891 | \$105,750,399 | 0 | 0 | 0 |
| Fiduciary Net Position | | | | | | | | | | |
| Employer contributions | \$6,330,108 | \$7,036,203 | \$6,559,317 | \$5,601,963 | \$9,775,840 | \$3,007,677 | \$5,615,481 | \$0 | \$0 | \$0 |
| Member contributions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Investment income net of investment expenses | 7,990,589 | 1,459,796 | 2,003,914 | 14,073,839 | 10,099,943 | (240,623) | 12,367,428 | 0 | 0 | 0 |
| Benefit payments | (5,285,890) | (4,502,096) | (4,457,981) | (3,892,235) | (3,519,261) | (3,134,099) | (2,730,827) | 0 | 0 | 0 |
| Administrative expenses | (76,230) | (96,799) | (123,346) | 0* | 0* | 0* | 0* | 0 | 0 | 0 |
| Net change in plan fiduciary net position | 8,958,577 | 3,897,104 | 3,981,904 | 15,783,567 | 16,356,522 | (367,045) | 15,252,082 | 0 | 0 | 0 |
| Fiduciary net position, beginning | 114,997,281 | 111,100,177 | 107,118,273 | 91,334,706 | 74,978,184 | 75,345,229 | 60,093,147 | 0 | 0 | 0 |
| Fiduciary net position, ending (b) | \$123,955,858 | \$114,997,281 | \$111,100,177 | \$107,118,273 | \$91,334,706 | \$74,978,184 | \$75,345,229 | 0 | 0 | 0 |
| Net pension liability, ending = (a) - (b) | \$15,032,014 | \$18,365,085 | \$18,031,562 | \$16,620,873 | \$30,583,386 | \$38,771,707 | \$30,405,170 | \$0 | \$0 | \$0 |
| Fiduciary net position as a % of total pension liability | 89.18% | 86.23% | 86.04% | 86.57% | 74.91% | 65.91% | 71.25% | N/A | N/A | N/A |
| Covered payroll | \$10,592,830 | \$12,722,153 | \$12,751,216 | \$13,141,852 | \$14,199,937 | \$14,868,526 | \$15,390,172 | \$0 | \$0 | \$0 |
| Net pension liability as a % of covered payroll | 141.91% | 144.36% | 141.41% | 126.47% | 215.38% | 260.76% | 197.56% | N/A | N/A | N/A |

* Administrative expenses were included with investment income for fiscal years up through June 30, 2014.

This schedule is presented to illustrate the requirement to show information for 10 years. However, recalculations of prior years are not required, and if prior years are not calculated in accordance with the current GASB standards, they should not be reported.

Exhibit 8

Schedule of Employer Contributions (Dollar Amounts in Thousands)

| | Fiscal Year Ending June 30, | | | | | | | | | |
|--|-----------------------------|----------|----------|----------|----------|----------|----------|------|------|------|
| | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 |
| Actuarially determined contribution | \$ 3,735 | \$ 4,242 | \$ 4,219 | \$ 4,957 | \$ 5,135 | \$ 4,834 | \$ 4,576 | N/A | N/A | N/A |
| Actual employer contribution | 6,330 | 7,036 | 6,559 | 5,602* | 9,776* | 3,008* | 5,615* | N/A | N/A | N/A |
| Contribution deficiency (excess) | (2,595) | (2,794) | (2,340) | (645) | (4,641) | 1,826 | (1,039) | N/A | N/A | N/A |
| Covered payroll | 10,593 | 12,722 | 12,571 | 13,142 | 14,200 | 14,869 | 15,390 | N/A | N/A | N/A |
| Contribution as a % of covered payroll | 59.76% | 55.31% | 51.44% | 42.63% | 68.84% | 20.23% | 36.49% | N/A | N/A | N/A |
| Valuation Date | 7/1/2016 | 7/1/2015 | 7/1/2014 | 7/1/2013 | 7/1/2012 | 7/1/2011 | 7/1/2010 | N/A | N/A | N/A |
| Investment Rate of Return Assumption | 6.30% | 6.50% | 6.50% | 6.50% | 7.00% | 7.00% | 7.00% | N/A | N/A | N/A |

* Any receivable contributions that TriMet designated for a fiscal year which was already ended at the time of actual contribution was reallocated to the fiscal year during which the contribution was made.

Notes to Schedule

Methods and assumptions used to determine contribution rates

Actuarial Cost Method Individual entry age normal, level percent of pay

Amortization Method Effective July 1, 2013: Closed 10-year amortization, level dollar
Effective July 1, 2008: Closed 20-year amortization, level dollar

Asset Valuation Method Market value gains and losses smoothed over 5 years, with result not less than 80% or greater than 120% of market value

Healthy Mortality Effective July 1, 2015: RP-2014 Annuitant Mortality Table with White Collar Adjustment for males and females, projected 10 years past the valuation date using Scale BB. No pre-retirement mortality.
Prior to July 1, 2015: RP-2000 Static Mortality Table for males and females, Annuitant and Non-Annuitant, updated annually

Inflation Effective July 1, 2015: 2.75%
Effective July 1, 2014: 2.00% for first year, increasing 0.25% per year until 4.00%
Effective July 1, 2010: 4.00%

Salary Increases Effective July 1, 2015: 2.75%
Effective July 1, 2014: 3.00% for the next five years, increasing 0.25% per year until 4.00%
Effective July 1, 2010: 5.00%

Cost of Living Adjustments 90% of inflation (retirement after May 31, 1984)

Exhibit 9

Money-Weighted Rate of Return (Fiscal Year Ending June 30, 2017)

The money-weighted rate of return is the internal rate of return on plan assets based on the amounts and timing of actual cash flows. External cash flows (contributions, benefit payments and administrative expenses) are determined on a monthly basis and are assumed to occur at the end of each month. External cash inflows are netted with external cash outflows, resulting in a net external cash flow in each month. The money-weighted rate of return is calculated net of investment expenses.

| | Net External Cash Flows | Periods Invested | Period Weight | Net External Cash Flows With Interest |
|----------------------------------|----------------------------|---------------------|------------------|---|
| Beginning Value - July 1, 2016 | \$114,997,281 | 12.00 | 1.00 | \$122,955,308 |
| Monthly net external cash flows: | | | | |
| July | 117,149 | 11.00 | 0.92 | 124,587 |
| August | 62,551 | 10.00 | 0.83 | 66,123 |
| September | 84,699 | 9.00 | 0.75 | 89,058 |
| October | 85,343 | 8.00 | 0.67 | 89,256 |
| November | 84,915 | 7.00 | 0.58 | 88,275 |
| December | 96,440 | 6.00 | 0.50 | 99,721 |
| January | 89,640 | 5.00 | 0.42 | 92,195 |
| February | 71,425 | 4.00 | 0.33 | 73,020 |
| March | 81,811 | 3.00 | 0.25 | 83,191 |
| April | 67,509 | 2.00 | 0.17 | 68,281 |
| May | 62,595 | 1.00 | 0.08 | 62,931 |
| June | 63,912 | 0.00 | 0.00 | 63,912 |
| Ending Value - June 30, 2017 | | | | \$123,955,858 |
| Money-Weighted Rate of Return | | | 6.92% | |

Schedule of Investment Returns

| Fiscal Year Ending June 30, | Money-Weighted Rate of Return Net of Investment Expenses |
|-----------------------------|---|
| 2017 | 6.92% |
| 2016 | 1.30 |
| 2015 | 1.87 |
| 2014 | 15.62 |
| 2013 | N/A |
| 2012 | N/A |
| 2011 | N/A |
| 2010 | N/A |
| 2009 | N/A |
| 2008 | N/A |

Exhibit 10

Long-Term Expected Rate of Return by Asset Class

The best-estimate range for the long-term expected rate of return is determined by adding expected inflation to expected long-term real returns and reflecting expected volatility and correlation. The capital market assumptions shown are one-year arithmetic averages, excluding inflation, developed by Milliman's investment consulting practice as of December 31, 2016. The Plan's investment policy adopted by the Plan's Board of Trustees was last amended May 31, 2017.

| <u>Asset Class</u> | <u>Target Allocation</u> | <u>Long-Term Expected Real Rate of Return</u> |
|-----------------------------|--------------------------|---|
| Fixed Income | 14.0% | 1.7% |
| U.S. Large-Mid Cap Equities | 21.5% | 4.9% |
| U.S. Small Cap Equities | 2.5% | 5.9% |
| Non-US Equities | 17.0% | 6.0% |
| Tactical Asset Allocation* | 15.0% | 3.7% |
| Absolute Return | 14.0% | 2.0% |
| Private Real Estate | 7.0% | 3.9% |
| Private Equity | 2.0% | 8.9% |
| Private Credit** | 7.0% | 5.0% |

* *Tactical Asset Allocation Strategies were assumed to be split 60% in Global Equity and 40% in Investment Grade Fixed Income.*

** *Private Credit was assumed to have similar expected returns, volatility, and correlations as High Yield Bonds.*

Appendix A

Plan Provisions



This report was prepared solely for TriMet for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

Plan Provisions

Plan provisions used were based on the plan document restated effective July 1, 2013.

Name

TriMet Defined Benefit Retirement Plan for Management and Staff Employees.

Effective Date

The Plan was originally adopted on December 7, 1970 and was last restated effective July 1, 2013.

Eligibility

Prior to April 27, 2003: an employee became a participant upon being employed as an eligible employee and was regularly scheduled to work at least 20 hours per week.

On and after April 27, 2003: Employees hired on or after April 27, 2003 are not eligible to participate in this Plan. Active participants on April 27, 2003 with credited service prior to that date made an irrevocable election to either (1) continue earning benefits under this Plan after April 26, 2003 and not earn benefits under the Defined Contribution Plan, or (2) cease earning benefits under this Plan as of April 27, 2003 and earn future benefits under the Defined Contribution Plan.

Inactive participants who are rehired after April 26, 2003 may resume participation in the Plan if certain requirements are met. Employees hired prior to April 27, 2003 who are participants in the Pension Plan for Bargaining Unit Employees of TriMet ("Union Plan") may become participants in this Plan if they transfer to a management position.

An eligible employee is any management or staff (non-bargaining) common-law employee except those covered by a collective bargaining agreement that does not provide for participation to this Plan, leased employees, employees classified to work less than half time, employees hired on or after April 27, 2003, and employees who transferred their accrued benefit to the Defined Contribution Plan.

Credited Service

Credited service includes all periods of service while a participant in the Plan, including military service, authorized vacation, periods of disability (if entitled to benefits under the TriMet Long-Term Disability Policy), periods of service in the Oregon State Legislative Assembly, authorized leave of absence (subject to return to work rules), part time work (i.e. at least 20 but less than 40 hours per week), and work for predecessor employers.

Credited service does not include periods in which TriMet is required to make contributions to Oregon PERS or to any other state mandated retirement program, periods in which the employee is covered by another TriMet retirement plan (including the Defined Contribution Plan and the Union Plan), and service prior to a break in service.

Periods of service are measured in years and whole months. Each twelve month period of credited service equals one year of credited service and partial years are based on the number of complete months worked divided by 12. Part-time employees earn partial credited service based on the percentage of full-time employment.

Vesting Service

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

Periods of service are measured in years and whole months. Each twelve month period of vesting service equals one year of vesting service and partial years are based on the number of complete months worked divided by 12.

Normal Retirement

(a) Eligibility

A vested participant may receive benefits at age 62, the normal retirement age.

(b) Basic Benefit

The basic benefit is a monthly benefit payable for life equal to 1/12 of 1.75% of final average salary multiplied by credited service. Certain executives who became participants on or before July 1, 2008 receive a different percentage of final average earnings.

Final average salary means 1/3 of the 36 highest consecutive months of base earnings. If the employee is totally disabled, final average salary includes only base earnings paid prior to the onset of disability. Final average salary during a period when an employee is part-time is the employee’s salary during the period divided by the percentage of time the part-time employee worked relative to a full time employee.

(c) Sick Leave Supplement

For participants who retire on or after July 1, 2000, hours of unused sick leave are converted to either a monthly annuity supplement or a lump sum distribution.

- The monthly annuity supplement is equal to 50% of hours of sick leave multiplied by the final average hourly rate, divided by 101.9.
- The lump sum distribution is equal to 50% of hours of sick leave multiplied by the final average hourly rate, multiplied by 1.107.

The final average hourly rate is the participant’s final average salary divided by 2,080.

Hours of sick leave are the lesser of the participant’s hours of unused sick leave or the maximum hours of sick leave from the table below.

| Effective | Maximum Hours of Sick Leave |
|------------------|--------------------------------|
| July 1, 2000 | 1,400 hours |
| March 22, 2005 | 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 |



Early Retirement

(a) Eligibility

A participant may retire prior to his normal retirement date if he has 5 years of credited service and is at least 55 years of age.

(b) Benefit

The normal retirement benefit is actuarially reduced based on the UP 1984 mortality table, adjusted to reflect a population that is 50% male and 50% female, and 7.5% interest.

Forms of Payment

(a) Single Life Annuity

(b) 66 2/3% Joint and Survivor Annuity

(c) Lump sum

Disability Benefit

The Plan does not provide for a disability benefit. However, participants who become entitled to receive disability benefits under the TriMet Long-Term Disability Policy continue to earn credited service toward their normal retirement benefit while disabled.

Vesting

A participant who attains the normal retirement age while active, or who earns at least five years of vesting service will be 100% vested.

Contributions

Contributions are made to the Trust Fund by the funding policy established by TriMet. There are no participant contributions. The funding policy provides that the contribution will be determined in accordance with accepted actuarial principles.

Pre-Retirement Death Benefit

The monthly payment payable to the surviving spouse or domestic partner of a vested participant is equal to the survivor portion of the 66 2/3% joint and survivor annuity which the spouse or domestic partner would have received had the participant retired at the time of his or her death (if eligible for retirement), otherwise as if the participant terminated employment on his or her date of death (if not already terminated), survived to the earliest age at which he or she could have elected to retire, retired with a 66 2/3% joint and survivor annuity, and died the following day.

The payment to the surviving spouse commences on the later of the participant's normal retirement date, or the participant's date of death. However, the spouse may commence actuarially reduced benefits following the earliest date the participant could have elected early retirement.

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 commencement date is earlier than the participant's age 55, the survivor benefit will be actuarial reduced to the commencement date.

Post-Retirement Benefit Increases

Post-retirement benefits for participants who retire after May 31, 1984 are increased each April 1 by 90% of the percentage increase in the U.S. Urban Wage Earners and Clerical Workers Consumer Price Index (CPI-W) (annual average) for the previous calendar year. Annual increases will not be more than 7% per year and benefits will not be decreased if the annual CPI decreases.

Plan Amendments since the Prior Valuation

None.

Appendix B

Actuarial Assumptions and Cost Method



This report was prepared solely for TriMet for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

Actuarial Assumptions and Cost Method

This section of the report describes the actuarial procedures and assumptions used in this valuation. These procedures and assumptions have been chosen on the basis of recent experience of the Plan, published actuarial tables and on current and future expectations. Please see our letters regarding the assumptions dated May 14, 2015, February 18, 2016, and May 31, 2017 for additional detail regarding the development of these assumptions.

The assumptions are intended to estimate the future experience of the participants of the Plan and of the Plan itself in areas which affect the projected benefit flow and anticipated investment earnings. Any variations in future experience from that expected from these assumptions will result in corresponding changes in the estimated costs of the Plan's benefits.

Records and Data

The data used in the valuation consist of employee data and financial information furnished by TriMet. All data for valuation purposes was accepted without audit.

Adjustment for Incomplete Data

Records missing spouse gender assume the spouse is the opposite sex of the participant.

Actuarial Cost Method

The accruing costs of all benefits are measured by the individual entry age normal actuarial cost method. The normal cost expressed as a level percentage of payroll.

Under this method, the total actuarial present value of projected benefits is allocated over the service for each active participant from their date of entry into the Plan until their assumed date of exit from the Plan, as a level percent of payroll. This level percent times payroll is referred to as the normal cost, and is calculated for each active participant. It is calculated by dividing each participant's total actuarial present value of projected benefits at entry age by the actuarial present value of projected salaries at entry age and multiplying this percentage by the participant's anticipated salary for the current plan year. The normal cost equals \$0 for non-active participants. The sum of the individual normal costs is the normal cost for the Plan.

The Plan's total pension liability is equal to the total actuarial present value of projected benefits less the actuarial present value of future normal costs. Net pension liability is equal to total pension liability minus the Plan's fiduciary net position.

Fiduciary Net Position

The Plan's fiduciary net position is equal to the fair market value of the Plan's assets, as provided by TriMet.

Long-term Expected Return on Plan Assets (effective July 1, 2016)

6.30% per annum compounded annually, net of investment management and custodial fees.

Inflation (effective July 1, 2016)

2.50% per annum compounded annually.

Administrative Expenses (effective July 1, 2016)

Annual administrative expenses of \$100,000 payable midyear are assumed.



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Annualized Salary

Pay rates for each active participant were provided by TriMet. Annual salary was calculated by multiplying the pay rate by 2,080 hours.

Salary Increases (effective July 1, 2016)

Salaries are assumed to increase 2.75% per year.

Post-Retirement Benefit Increases (effective July 1, 2016)

Benefits for retired participants and their beneficiaries are assumed to increase 2.25% per year each April 1.

Decrement Timing (effective July 1, 2015)

Active and inactive participants are assumed to decrement (i.e. terminate, retire or die, as applicable) midyear.

Mortality (effective July 1, 2015)

Pre-retirement and Pre-disability Mortality

None.

Post-retirement Mortality (Healthy Lives)

RP-2014 Annuitant Mortality Table with White Collar Adjustment for males and females, projected 10 years past the valuation date using Scale BB. This assumption includes a margin for future mortality improvement.

Disability Mortality

RP-2014 Disability Mortality Table for males and females, projected 10 years past the valuation date using Scale BB.

Future Service Credits

Active and disabled participants are assumed to earn one year of credited service each year into the future. Active participants are assumed to earn one year of vesting service each year into the future.

Form of Benefit (effective July 1, 2015)

All non-retired participants are assumed to elect the following form of payment at retirement:

| <u>Probability</u> | <u>Form of Payment</u> |
|--------------------|----------------------------------|
| 50% | Single Life Annuity |
| 50% | 66 2/3% Joint & Survivor Annuity |

Retired participants are valued according to the benefit form elected at retirement.

Retirement from Active Status (effective July 1, 2015)

All active and disabled participants are assumed to retire by age 67. A certain percentage of active participants are assumed to elect retirement beginning at age 55. The rates of retirement are as follows:

| <u>Age</u> | <u>Annual Rate</u> | <u>Age</u> | <u>Annual Rate</u> |
|------------|--------------------|------------|--------------------|
| 55 - 57 | 2% | 62 | 35% |
| 58 - 60 | 7 | 63-66 | 30 |
| 61 | 15 | 67 | 100 |

Retirement from Inactive Status

Terminated vested participants are assumed to retire at age 62, or present age if greater.

Future Disabilities (effective July 1, 2015)

None.

Withdrawal (effective July 1, 2015)

Participants are assumed to leave active employment for reasons other than retirement and death. Sample withdrawal rates are shown below:

| <u>Years of Vesting Service</u> | <u>Annual Rate</u> |
|---------------------------------|--------------------|
| Less than 2 | 12.0% |
| 3-4 | 9.0 |
| 5-6 | 5.0 |
| 7-10 | 3.5 |
| 11-15 | 2.5 |
| 16 and more | 1.0 |

Unused Sick Leave Benefits (effective July 1, 2015)

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

| <u>Years of Credited Service</u> | <u>Sick Bank Hours</u> |
|----------------------------------|------------------------|
| Less than 10 | 0 |
| 10 – 14 | 600 |
| 15 – 19 | 850 |
| 20 – 24 | 1,100 |
| 25 – 29 | 1,200 |
| 30 and more | 1,400 |

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

At retirement, we assume active participants will elect to convert the sick leave supplement benefit into a monthly annuity.

Spouse's Age (effective July 1, 2015)

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

Probability of Marriage/Domestic Partner (effective July 1, 2015)

For the purpose of valuing the death benefit, 85% of participants are assumed to be married or have a domestic partner.

Changes in Actuarial Methods and Assumptions

None.

Appendix C

Participant Information



This report was prepared solely for TriMet for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.

Participant Information

The current actuarial valuation was based upon the participant data provided by TriMet.

All participants who have met the Plan's eligibility requirements as of the valuation date were included in the valuation. This includes participants who transferred to the Union Plan as well as inactive participants who are entitled to an immediate or deferred vested benefit. Employees that received a lump sum distribution or who transferred their accrued benefit to the Defined Contribution Plan were excluded from the valuation.

The following pages summarize the data used for this valuation together with comparable figures from prior valuations. The reconciliation of the data from last year to this year is provided below.

| | Active Participants | Leaves and Disabled | Transfers | Terminated Vested and Deferred Beneficiaries | Retirees and Beneficiaries |
|---------------------------------|------------------------|------------------------|-----------|---|-------------------------------|
| From 6/30/2016 Valuation Report | 129 | 3 | 23 | 91 | 250 |
| Adjustments/Reclassifications | 0 | 0 | 0 | 0 | 0 |
| 6/30/2016 | 129 | 3 | 23 | 91 | 250 |
| Transfer to Union | 0 | 0 | 0 | 0 | 0 |
| Transfer to Management | 0 | 0 | 0 | 0 | 0 |
| Reinstated | 0 | 0 | 0 | 0 | 0 |
| Terminated with Vesting | (4) | 0 | 0 | 4 | 0 |
| Terminated without Vesting | 0 | 0 | 0 | 0 | 0 |
| Commenced Benefit | (16) | 0 | (2) | (10) | 28 |
| Long Term Disability | (1) | 1 | 0 | 0 | 0 |
| Lump Sum Distribution | 0 | 0 | (2) | 0 | 0 |
| Died | 0 | 0 | 0 | 0 | (4) |
| New Beneficiaries | 0 | 0 | 0 | 0 | 3 |
| 6/30/2017 | 108 | 4 | 19 | 85 | 277 |

Historic Valuation Data

| | 6/30/2017 | 6/30/2016 | 6/30/2015 | 6/30/2014* | 6/30/2013* | 6/30/2012* | 6/30/2011* | 6/30/2010* | 6/30/2009* |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| (1) Active Employees Submitted | 439 | 425 | 424 | 424 | 429 | 407 | 407 | 390 | 432 |
| (a) Not Eligible | 331 | 296 | 283 | 271 | 265 | 227 | 222 | 200 | 222 |
| (2) Number of Employees Valued | | | | | | | | | |
| (a) Active Employees | | | | | | | | | |
| (i) Participants Accruing Credited Services | 93 | 114 | 126 | 137 | 147 | 163 | 168 | 173 | 192 |
| (ii) Frozen Credited Service | <u>15</u> | <u>15</u> | <u>15</u> | <u>16</u> | <u>17</u> | <u>17</u> | <u>17</u> | <u>17</u> | <u>18</u> |
| (iii) Total | 108 | 129 | 141 | 153 | 164 | 180 | 185 | 190 | 210 |
| (b) Retirees and Beneficiaries | 277 | 250 | 234 | 223 | 203 | 180 | 156 | 151 | 140 |
| (c) Terminated Vested Participants | 85 | 91 | 96 | 95 | 105 | 114 | 117 | 118 | 118 |
| (d) Transfers to Union | 19 | 23 | 26 | 29 | 31 | 34 | 33 | 36 | 35 |
| (e) Leave of Absence | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| (f) Disability | <u>4</u> | <u>3</u> | <u>3</u> | <u>3</u> | <u>4</u> | <u>4</u> | <u>3</u> | <u>3</u> | <u>5</u> |
| (g) Total Participants Valued | 493 | 496 | 500 | 506 | 509 | 515 | 497 | 502 | 512 |
| (3) Payroll of Active Participants | \$10,241,717 | \$12,008,845 | \$12,601,695 | \$13,141,852 | \$14,199,937 | \$14,868,526 | \$15,390,172 | \$15,626,270 | \$17,129,704 |
| Percent Increase (Decrease) | (14.72%) | (4.70%) | (4.11%) | (14.61%) | (7.73%) | (3.39%) | (1.51%) | (8.78%) | (3.99%) |
| (4) Average Annual Earnings | | | | | | | | | |
| Active Participants | \$94,831 | \$93,092 | \$89,374 | \$85,894 | \$86,585 | \$82,603 | \$83,190 | \$82,244 | \$81,570 |
| Percent Increase | 1.87% | 4.16% | 4.05% | (0.80%) | 4.08% | (0.71%) | 1.15% | 0.83% | 1.73% |

* Data prior to June 30, 2015 were from previous valuation reports prepared by SilverStone Heintzberger Group.



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Historic Characteristics of Population

| | 2017 | 2016 | 2015 | 2014* | 2013* | 2012* | 2011* | 2010* | 2009* | 2008* | 2007* |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| (1) Active Participants | | | | | | | | | | | |
| (a) Number | 108 | 129 | 141 | 153 | 164 | 180 | 185 | 190 | 210 | 225 | 245 |
| (b) Vested Participants | 108 | 129 | 141 | 153 | 164 | 180 | 185 | 190 | 210 | 225 | 239 |
| (c) Average Age | 55.6 | 55.7 | 55.3 | 54.8 | 54.2 | 53.7 | 53.6 | 52.8 | 52.0 | 51.3 | 50.9 |
| (d) Average Vesting Service | 23.4 | 23.2 | 22.4 | 21.3 | 20.5 | 19.3 | 18.7 | 17.9 | 16.9 | 16.0 | 15.4 |
| (e) Average Annual Earnings | \$94,831 | \$93,092 | \$89,374 | \$85,894 | \$86,585 | \$82,603 | \$83,190 | \$82,244 | \$81,570 | \$79,299 | \$80,181 |
| (2) Terminated Vested Participants | | | | | | | | | | | |
| (a) Number | 85 | 91 | 96 | 98 | 107 | 117 | 120 | 122 | 122 | 127 | 127 |
| (b) Average Age | 57.0 | 56.7 | 56.2 | 55.3 | 55.3 | 55.2 | 54.6 | 54.0 | 53.4 | 53.5 | 52.7 |
| (c) Average Age at Termination | 42.7 | 42.2 | 41.7 | 41.1 | 41.1 | 41.5 | 37.8 | 41.8 | 41.8 | 41.9 | - |
| (d) Average Deferred Monthly Benefit | \$1,069 | \$874 | \$811 | \$824 | \$750 | \$765 | \$711 | \$741 | \$704 | \$662 | \$569 |
| (3) Transfers to Union | | | | | | | | | | | |
| (a) Number | 19 | 23 | 26 | 29 | 31 | 34 | 33 | 36 | 35 | 34 | 35 |
| (b) Average Age | 54.4 | 54.9 | 54.2 | 55.3 | 54.5 | 54.2 | 55.4 | 54.7 | 53.9 | 53.5 | 51.8 |
| (c) Average Years of Management Service | 4.9 | 4.5 | 4.9 | 5.6 | 5.5 | 5.6 | 6.6 | 6.6 | 5.8 | 5.2 | N/A |
| (d) Average Annual Earnings | \$73,115 | \$65,149 | \$64,349 | \$62,987 | \$63,290 | \$63,553 | \$61,607 | \$56,247 | \$57,118 | \$55,553 | N/A |
| (4) Retires and Beneficiaries | | | | | | | | | | | |
| (a) Number | 277 | 250 | 234 | 223 | 203 | 180 | 156 | 151 | 140 | 123 | 106 |
| (b) Average Age | 70.0 | 69.9 | 69.4 | 69.5 | 69.5 | 69.3 | 69.5 | 69.0 | 68.5 | 68.6 | 66.3 |
| (c) Average Age at Retirement | 61.7 | 61.6 | 61.5 | 61.6 | 61.5 | 61.4 | 61.1 | 61.1 | 61.1 | 60.9 | - |
| (d) Average Monthly Benefit | \$1,653 | \$1,545 | \$1,519 | \$1,507 | \$1,503 | \$1,483 | \$1,368 | \$1,221 | \$1,117 | \$1,114 | \$1,087 |
| (5) Other Inactive | | | | | | | | | | | |
| (a) Leave of Absence | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| (b) Disability | 4 | 3 | 3 | 3 | 4 | 4 | 3 | 3 | 5 | 6 | 7 |
| (6) Total Participants | 493 | 496 | 500 | 506 | 509 | 515 | 497 | 502 | 512 | 515 | 520 |

* Data prior to June 30, 2015 were from previous valuation reports prepared by SilverStone Heintzberger Group.



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Appendix D

Projected Benefit Payments



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Projected Benefit Payments*
July 1, 2017

| Fiscal Year Beginning July 1, | Benefit Payment | Fiscal Year Beginning July 1, | Benefit Payment | Fiscal Year Beginning July 1, | Benefit Payment |
|--------------------------------------|------------------------|--------------------------------------|------------------------|--------------------------------------|------------------------|
| 2017 | \$5,891,135 | 2050 | \$7,047,521 | 2083 | \$11,099 |
| 2018 | 6,571,774 | 2051 | 6,504,849 | 2084 | 7,260 |
| 2019 | 7,303,467 | 2052 | 5,977,851 | 2085 | 4,635 |
| 2020 | 7,926,157 | 2053 | 5,470,669 | 2086 | 2,888 |
| 2021 | 8,393,253 | 2054 | 4,986,225 | 2087 | 1,751 |
| 2022 | 8,836,581 | 2055 | 4,526,434 | 2088 | 1,035 |
| 2023 | 9,310,977 | 2056 | 4,092,303 | 2089 | 597 |
| 2024 | 9,738,601 | 2057 | 3,684,172 | 2090 | 336 |
| 2025 | 10,115,937 | 2058 | 3,301,770 | 2091 | 184 |
| 2026 | 10,524,464 | 2059 | 2,944,732 | 2092 | 99 |
| 2027 | 10,882,063 | 2060 | 2,612,471 | 2093 | 51 |
| 2028 | 11,256,799 | 2061 | 2,304,303 | 2094 | 26 |
| 2029 | 11,532,394 | 2062 | 2,019,774 | 2095 | 13 |
| 2030 | 11,775,702 | 2063 | 1,758,318 | 2096 | 7 |
| 2031 | 12,013,313 | 2064 | 1,519,471 | 2097 | 3 |
| 2032 | 12,178,749 | 2065 | 1,302,797 | 2098 | 2 |
| 2033 | 12,309,050 | 2066 | 1,107,575 | 2099 | 1 |
| 2034 | 12,427,312 | 2067 | 933,156 | 2100 | 0 |
| 2035 | 12,456,743 | 2068 | 778,746 | 2101 | 0 |
| 2036 | 12,420,197 | 2069 | 643,409 | 2102 | 0 |
| 2037 | 12,353,080 | 2070 | 526,070 | | |
| 2038 | 12,205,630 | 2071 | 425,512 | | |
| 2039 | 12,014,424 | 2072 | 340,264 | | |
| 2040 | 11,769,628 | 2073 | 268,879 | | |
| 2041 | 11,463,721 | 2074 | 209,826 | | |
| 2042 | 11,100,318 | 2075 | 161,577 | | |
| 2043 | 10,700,217 | 2076 | 122,677 | | |
| 2044 | 10,246,155 | 2077 | 91,778 | | |
| 2045 | 9,771,734 | 2078 | 67,555 | | |
| 2046 | 9,249,996 | 2079 | 48,914 | | |
| 2047 | 8,708,950 | 2080 | 34,785 | | |
| 2048 | 8,157,383 | 2081 | 24,266 | | |
| 2049 | 7,600,534 | 2082 | 16,588 | | |

* This is a closed group projection of benefit payments based on the plan participants as of the valuation date.