Pension Plan for Bargaining Unit Employees of TriMet

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

John Q. Rowland, ASA, MAAA

Associate 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

August 2017

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 Pension Plan for Bargaining Unit Employees of TriMet as of July 1, 2017. 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 TriMet and the Plan's Board of Trustees, including the assumption for the long term expected return on plan assets of 6.75%. TriMet and the Plan's Board of Trustees 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.

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 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

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

NML:nml
encl.

PENSION PLAN FOR BARGAINING UNIT EMPLOYEES OF TRIMET

Table of Contents

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 TriMet and the Plan's Board of Trustees, including the assumption for the long term expected return on plan assets of 6.75%. 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. Funding calculations as of July 1, 2017 have not yet been completed, but may be based in part on the findings in this report.

Plan Benefits Valued

Plan provisions used were based on the Amended and Restated Plan effective July 1, 2013, as amended through Amendment 2 and the Working and Wage Agreement between TriMet and ATU 757 in effect from December 1, 2012 through November 30, 2016. The provisions are summarized in Appendix A.

The benefit rates for active and disabled participants and post-retirement benefit increases were not adjusted after November 30, 2016 due to ongoing labor negotiations. Any adjustment that comes from these negotiations will be included in subsequent actuarial valuations.

Actuarial Methods and Assumptions

Appendix B summarizes the assumptions and methods used for the valuation. There were no changes from the prior 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	1,580	1,460
Average Age	52.2	52.7
Average Years of Vesting Service	15.2	15.9
Management Transfers	64	58
Vested Terminations	122	124
Retirees, Disabled & Beneficiaries	1,701	1,780
Average Age	69.1	69.3
Average Monthly Benefit	$1,623	$1,617
Total Participants	3,467	3,422
Ratio of Inactives to Actives	111%	125%

GASB Summary

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

	June 30, 2016	June 30, 2017
Total Pension Liability	$ 656,436,988	$ 657,398,760
Fiduciary Net Position	472,829,115	520,926,813
Net Pension Liability	$ 183,607,873	$ 136,471,947
Funded Percentage	72.03%	79.24%
Pension Expense	$ 29,193,028	$ 19,072,107
Discount Rate	6.75%	6.75%
Long-term Expected Return on Plan Assets	6.75%	6.75%
Actuarially determined contribution	$ 28,030,416	$ 28,497,521
Actual employer contribution*	38,026,735	35,862,442
Contribution deficiency (excess)	$ (9,996,319)	$ (7,364,921)

* *Excluding contributions for Medicare reimbursement payments.*

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 three sources: investment experience, expense experience, and demographic experience. During the 2016-2017 plan year, the total experience gain was approximately $34.3 million.

Investment Experience

The investment rate of return on the fiduciary net position for the plan year ending June 30, 2017 was about 9.85%. Compared to the 6.75% return assumed for the 2016-2017 plan year, there was an investment gain of approximately $14.7 million.

Expense Experience

There was an experience gain of about $53,000 due to lower administrative expenses than the $300,000 assumed during the 2016-2017 plan year.

Demographic and Economic Experience

Demographic gains and losses occur when the Plan's actual demographic experience differs from our valuation assumptions. Under GASB 68, this experience is combined with the economic experience of changes to the benefit multiplier or COLA that differ from expectations. Exhibit 4 shows that the Plan experienced a net gain on the total pension liability of approximately $19.6 million from economic/demographic experience different than assumed. Most of this gain was due to the economic factors described below.

Cost-of-living adjustments (COLAs) during the 2016-2017 plan year were below the valuation assumption (2.50% for participants who retired before August 1, 2012 and 2.25% for participants who retired on or after August 1, 2012). The actual COLA was 0% for all participants, pending the outcome of ongoing labor negotiations. Similarly, the benefit multiplier increase during the 2016-2017 plan year was 0%, pending the outcome of ongoing labor negotiations These lower than expected increases made up the majority of the $19.6 million gain. To the extent that the resolution of labor negotiations provides retroactive COLAs and benefit multiplier increases, subsequent years' measurements will increase accordingly.

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

Implementation of 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 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 management transfers and 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 4.6, based on the following statistics.

As of June 30, 2016	Expected Remaining Service Lives	Employee Count
Active employees	9.605	1,644
Inactive employees	0.000	1,823

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.

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 $300,000 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 15 years, reducing one year annually until 5 years is reached.
- The 15-year amortization period was effective July 1, 2014. The amortization period as of July 1, 2017 is 12 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 6.75%.
- The assumed tax-exempt, high-quality general obligation municipal bond index rate is 3.13%.

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

Exhibit 2

Projection of Fiduciary Net Position and Discount Rate

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	520,926,813	24,565,994	(36,030,396)	(300,000)	34,771,994	543,934,405
7/1/2018	543,934,405	24,142,020	(38,673,913)	(309,000)	36,222,871	565,316,383
7/1/2019	565,316,383	24,698,945	(41,185,168)	(318,270)	37,600,965	586,112,855
7/1/2020	586,112,855	24,839,442	(43,562,190)	(327,818)	38,930,160	605,992,449
7/1/2021	605,992,449	24,164,650	(45,808,875)	(337,653)	40,174,715	624,185,286
7/1/2022	624,185,286	23,957,370	(48,024,033)	(347,783)	41,321,974	641,092,814
7/1/2023	641,092,814	23,796,055	(50,175,661)	(358,216)	42,386,098	656,741,090
7/1/2024	656,741,090	23,688,305	(52,108,298)	(368,962)	43,374,261	671,326,396
7/1/2025	671,326,396	20,377,323	(53,840,793)	(380,031)	44,190,964	681,673,859
7/1/2026	681,673,859	17,580,155	(55,516,000)	(391,432)	44,740,562	688,087,144
7/1/2027	688,087,144	15,190,481	(56,932,580)	(403,175)	45,046,705	690,988,575
7/1/2028	690,988,575	13,167,849	(58,201,424)	(415,270)	45,132,876	690,672,606
7/1/2029	690,672,606	11,436,996	(59,314,058)	(427,728)	45,016,734	687,384,550
7/1/2030	687,384,550	9,959,992	(60,234,843)	(440,560)	44,714,760	681,383,899
7/1/2031	681,383,899	8,683,658	(61,119,823)	(453,777)	44,237,525	672,731,482
7/1/2032	672,731,482	7,582,904	(61,701,376)	(467,390)	43,597,184	661,742,804
7/1/2033	661,742,804	6,650,183	(62,037,995)	(481,412)	42,812,842	648,686,422
7/1/2034	648,686,422	5,844,623	(62,137,236)	(495,854)	41,901,018	633,798,973
7/1/2035	633,798,973	5,123,968	(62,062,004)	(485,937)	40,875,017	617,250,017
7/1/2036	617,250,017	4,491,067	(61,775,242)	(476,218)	39,746,794	599,236,418
7/1/2037	599,236,418	3,951,871	(61,251,867)	(466,694)	38,530,667	580,000,395
7/1/2038	580,000,395	3,475,112	(60,573,766)	(457,360)	37,239,230	559,683,611
7/1/2039	559,683,611	3,056,730	(59,700,484)	(448,213)	35,883,253	538,474,897
7/1/2040	538,474,897	2,696,119	(58,630,677)	(439,249)	34,475,506	516,576,596
7/1/2041	516,576,596	2,380,789	(57,405,637)	(430,464)	33,027,864	494,149,148
7/1/2042	494,149,148	2,103,850	(56,019,445)	(421,855)	31,551,124	471,362,822
7/1/2043	471,362,822	1,858,643	(54,545,816)	(413,418)	30,054,109	448,316,340
7/1/2044	448,316,340	1,644,499	(52,971,526)	(405,150)	28,543,900	425,128,063
7/1/2045	425,128,063	1,455,268	(51,277,351)	(397,047)	27,028,923	401,937,856
7/1/2046	401,937,856	1,290,647	(49,511,846)	(389,106)	25,516,996	378,844,547
7/1/2047	378,844,547	1,145,687	(47,699,827)	(381,324)	24,013,800	355,922,883
7/1/2048	355,922,883	1,020,016	(45,789,724)	(373,698)	22,526,082	333,305,559
7/1/2049	333,305,559	915,513	(43,795,545)	(366,224)	21,062,396	311,121,699
7/1/2050	311,121,699	828,278	(41,748,481)	(358,900)	19,630,293	289,472,889
7/1/2051	289,472,889	753,854	(39,670,835)	(351,722)	18,235,742	268,439,928
7/1/2052	268,439,928	690,838	(37,565,872)	(344,688)	16,884,040	248,104,246

Note: Years on and after July 1, 2053 and before July 1, 2087 have been omitted from this table.

Exhibit 2

Projection of Fiduciary Net Position and Discount Rate

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
7/1/2087	394,948	177,410	(165,714)	(169,958)	21,405	258,091
7/1/2088	258,091	172,924	(114,911)	(166,559)	13,817	163,362
7/1/2089	163,362	168,652	(78,010)	(163,228)	8,617	99,393
7/1/2090	99,393	164,581	(51,808)	(159,963)	5,142	57,345
7/1/2091	57,345	160,691	(33,638)	(156,764)	2,884	30,518
7/1/2092	30,518	156,968	(21,343)	(153,629)	1,462	13,976
7/1/2093	13,976	153,394	(13,229)	(150,556)	598	4,183
7/1/2094	4,183	149,961	(8,008)	(147,545)	97	(1,312)
7/1/2095	(1,312)	146,712	(4,733)	(144,594)	(176)	(4,103)
7/1/2096	(4,103)	143,632	(2,732)	(141,702)	(304)	(5,209)
7/1/2097	(5,209)	140,553	(1,541)	(138,868)	(347)	(5,412)
7/1/2098	(5,412)	137,528	(850)	(136,091)	(346)	(5,171)
7/1/2099	(5,171)	134,576	(459)	(133,369)	(325)	(4,748)
7/1/2100	(4,748)	131,708	(244)	(130,702)	(295)	(4,281)
7/1/2101	(4,281)	128,927	(127)	(128,088)	(265)	(3,834)
7/1/2102	(3,834)	126,225	(65)	(125,526)	(238)	(3,438)
7/1/2103	(3,438)	123,600	(33)	(123,015)	(214)	(3,100)
7/1/2104	(3,100)	121,050	(16)	(120,555)	(194)	(2,815)
7/1/2105	(2,815)	118,566	(8)	(118,144)	(176)	(2,577)
7/1/2106	(2,577)	116,144	(4)	(115,781)	(162)	(2,380)
7/1/2107	(2,380)	113,780	(2)	(113,465)	(150)	(2,217)
7/1/2108	(2,217)	111,474	(1)	(111,196)	(140)	(2,080)
7/1/2109	(2,080)	109,219	(0)	(108,972)	(132)	(1,965)

Projection Results: The Plan's fiduciary net position is projected to become insolvent during the 2094-2095 plan year. Nearly all of the Plan's benefits are expected to have been paid out by this time. Assuming a municipal bond rate of 3.13% after this year, the single effective discount rate would be 6.749990%.

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, 6.75%.

Exhibit 3

Net Pension Liability

Net Pension Liability	June 30, 2016	June 30, 2017
Total pension liability	$ 656,436,988	$ 657,398,760
Fiduciary net position	472,829,115	520,926,813
Net pension liability	$ 183,607,873	$ 136,471,947
Fiduciary net position as a % of total pension liability	72.03%	79.24%
Covered payroll	$ 117,666,306	$ 106,596,389
Net pension liability as a % of covered payroll	156.04%	128.03%

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 become insolvent during the years shown below. Nearly all of the Plan’s benefits are expected to have been paid out by this time. 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.

Year of insolvency	2094-2095	2094-2095
Discount rate	6.75%	6.75%
Long-term expected rate of return (net of investment expenses)	6.75%	6.75%

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		
Benefit Multiplier	Salary Increases	Salary Increases
If retired prior to August 1, 2012, Disability Benefits	Inflation	Inflation
If retired on or after August 1, 2012	90% of Inflation	90% of Inflation
Mortality	RP-2014 Annuitant and Non-Annuitant Mortality Tables with Blue Collar Adjustment set forward 1 year for males and set forward 2 years for females	RP-2014 Annuitant and Non-Annuitant Mortality Tables with Blue Collar Adjustment set forward 1 year for males and set forward 2 years for 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	Total Pension Liability (a)	Increase (Decrease) Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)
Balances as of June 30, 2016	$656,436,988	$472,829,115	$183,607,873
Changes for the year:			
Service cost	10,850,730		10,850,730
Interest on total pension liability	43,888,922		43,888,922
Effect of plan changes	0		0
Effect of economic/demographic (gains) or losses	(19,614,961)		(19,614,961)
Effect of assumptions changes or inputs	0		0
Benefit payments*	(34,162,919)	(34,162,919)	0
Administrative expenses		(247,254)	247,254
Member contributions		0	0
Net investment income		46,645,429	(46,645,429)
Employer contributions*		35,862,442	(35,862,442)
Balances as of June 30, 2017	$657,398,760	$520,926,813	$136,471,947

* *Medicare reimbursements are excluded in the benefit payment and employer contribution amounts above.*

Sensitivity Analysis

The following presents the net pension liability of the Plan, calculated using the discount rate of 6.75%, 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 (5.75%) or 1 percentage point higher (7.75%) than the current rate.

	1% Decrease 5.75%	Current Discount Rate 6.75%	1% Increase 7.75%
Total pension liability	$732,917,801	$657,398,760	$593,418,666
Fiduciary net position	520,926,813	520,926,813	520,926,813
Net pension liability	$211,990,988	$136,471,947	$72,491,853

Exhibit 5

Pension Expense

Pension Expense	July 1, 2016 to June 30, 2017
Service cost	$10,850,730
Interest on total pension liability	43,888,922
Effect of plan changes	0
Administrative expenses	247,254
Member contributions	0
Expected investment return net of investment expenses	(31,923,131)
Recognition of Deferred (Inflows)/Outflows of Resources	
Recognition of economic/demographic (gains) or losses	(8,257,087)
Recognition of assumption changes or inputs	8,287,965
Recognition of investment (gains) or losses	(4,022,546)
Pension Expense	$19,072,107

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	$ (26,024,191)	$ 250,992
Changes of assumptions or inputs	(7,359,317)	23,182,267
Net difference between projected and actual earnings	0	7,083,873
Contributions made subsequent to measurement date	0	0
Total	$(33,383,508)	$30,517,132

* *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	$ (1,211,858)
2019	4,210,588
2020	(362,175)
2021	(5,502,931)
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	$ (14,722,298)	06/30/2017	5.0	$ (2,944,460)	$ (11,777,838)	$ 0
	30,755,311	06/30/2016	5.0	6,151,062	0	18,453,187
	19,269,512	06/30/2015	5.0	3,853,902	0	7,707,806
	(36,496,410)	06/30/2014	5.0	(7,299,282)	(7,299,282)	0
	(18,918,832)	06/30/2013	5.0	(3,783,768)	0	0
				$ (4,022,546)	$ (19,077,120)**	$ 26,160,993**
Economic/demographic (gains) or losses	$ (19,614,961)	06/30/2017	4.6	$ (4,264,122)	$ (15,350,839)	$ 0
	(8,966,475)	06/30/2016	5.0	(1,793,295)	(5,379,885)	0
	(541,183)	06/30/2015	5.4	(100,219)	(240,526)	0
	(11,294,241)	06/30/2014	5.8	(1,947,283)	(3,505,109)	0
	(8,583,422)	06/30/2013	6.1	(1,407,118)	(1,547,832)	0
	7,780,692	06/30/2012	6.2	1,254,950	0	250,992
				$ (8,257,087)	$ (26,024,191)	$ 250,992
Assumption changes or inputs	$ 0	06/30/2017	4.6	$ 0	$ 0	$ 0
	18,776,392	06/30/2016	5.0	3,755,278	0	11,265,836
	(16,558,463)	06/30/2015	5.4	(3,066,382)	(7,359,317)	0
	29,476,059	06/30/2014	5.8	5,082,079	0	9,147,743
	15,353,638	06/30/2013	6.1	2,516,990	0	2,768,688
				$ 8,287,965	$ (7,359,317)	$ 23,182,267

* *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	$10,850,730	$10,702,574	$11,756,232	$11,406,016	$11,122,166	$11,030,625	$0	$0	$0	$0
Interest on total pension liability	43,888,922	43,371,673	43,025,200	42,869,939	41,827,133	40,065,267	0	0	0	0
Effect of plan changes	0	0	0	0	0	(10,616,209)	0	0	0	0
Effect of assumption changes or inputs	0	18,776,392	(16,558,463)	29,476,059	15,353,638	0	0	0	0	0
Effect of economic/demographic (gains) or losses	(19,614,961)	(8,966,475)	(541,183)	(11,294,241)	(8,583,422)	7,780,692	0	0	0	0
Benefit payments*	(34,162,919)	(32,679,854)	(30,677,192)	(28,845,723)	(27,372,519)	(23,863,800)	0	0	0	0
Net change in total pension liability	961,772	31,204,310	7,004,594	43,612,050	32,346,996	24,396,575	0	0	0	0
Total pension liability, beginning	656,436,988	625,232,678	618,228,084	574,616,034	542,269,038	517,872,463	0	0	0	0
Total pension liability, ending (a)	$657,398,760	$656,436,988	$625,232,678	$618,228,084	$574,616,034	$542,269,038	$517,872,463	0	0	0
Fiduciary Net Position										
Employer contributions*	$35,862,442	$38,026,735	$36,200,926	$47,261,301	$70,379,741	$18,823,691	$0	$0	$0	$0
Member contributions	0	0	0	0	0	0	0	0	0	0
Investment income net of investment expenses	46,645,429	1,948,822	12,275,500	64,460,966	42,348,566	792,478	0	0	0	0
Benefit payments*	(34,162,919)	(32,679,854)	(30,677,192)	(28,845,723)	(27,372,519)	(23,863,800)	0	0	0	0
Administrative expenses	(247,254)	(281,539)	(363,267)	(486,934)	(222,824)	(289,032)	0	0	0	0
Net change in plan fiduciary net position	48,097,698	7,014,164	17,435,967	82,389,610	85,132,964	(4,536,663)	0	0	0	0
Fiduciary net position, beginning	472,829,115	465,814,951	448,378,984	365,989,374	280,856,410	285,393,073	0	0	0	0
Fiduciary net position, ending (b)	$520,926,813	$472,829,115	$465,814,951	$448,378,984	$365,989,374	$280,856,410	$285,393,073	0	0	0
Net pension liability, ending = (a) - (b)	$136,471,947	$183,607,873	$159,417,727	$169,849,100	$208,626,660	$261,412,628	$232,479,390	$0	$0	$0
Fiduciary net position as a % of total pension liability	79.24%	72.03%	74.50%	72.53%	63.69%	51.79%	55.11%	N/A	N/A	N/A
Covered payroll	$106,596,389	$117,666,306	$116,555,801	$124,695,531	$125,143,307	$125,142,143	$119,165,798	$0	$0	$0
Net pension liability as a % of covered payroll	128.03%	156.04%	136.77%	136.21%	166.71%	208.89%	195.09%	N/A	N/A	N/A

* *Medicare reimbursements are excluded in the benefit payment and employer contribution amounts above.*

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	$ 28,498	$ 28,030	$ 31,926	$ 35,553	$ 34,638	$ 32,224	$ 34,028	$ 28,051	$ 26,154	$ 26,177
Actual employer contribution*	35,862	38,027	36,201	47,261	70,379	18,824	47,428	28,051	26,154	26,177
Contribution deficiency (excess)	(7,365)	(9,996)	(4,275)	(11,708)	(35,741)	13,400	(13,400)	0	0	0
Covered payroll	106,596	117,666	116,556	124,696	125,143	125,142	119,166	121,124	123,784	116,418
Contribution as a % of covered payroll	33.64%	33.32%	31.06%	37.90%	56.24%	15.04%	39.80%	23.16%	21.13%	22.49%
Valuation Date	7/1/2016	7/1/2015	7/1/2014	7/1/2012	7/1/2011	7/1/2010	7/1/2009	7/1/2008	7/1/2007	7/1/2006
Investment Rate of Return Assumption	6.75%	7.00%	7.00%	7.75%	7.75%	8.00%	8.00%	8.00%	8.00%	8.00%

* *Medicare reimbursements are excluded in the actual employer contribution amounts above.*

Notes to Schedule – *The assumptions below reflect those used for valuations up through July 1, 2016.*

Valuation Date	Effective July 1, 2014: Actuarially determined contribution (ADC) calculated using the valuation for the current fiscal year Effective July 1, 2006: ADC calculated as of the July 1 the year prior to fiscal year in which contributions are reported
Methods and assumptions used to determine contribution rates	
Actuarial Cost Method	Effective July 1, 2014: Individual entry age normal, level percent of pay Effective July 1, 2004: Individual entry age normal, level dollar
Amortization Method	Effective July 1, 2014: Closed 15-year amortization, level percent of pay, decreasing by 1 each year until 5 is reached Effective July 1, 2006: Open 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, 2016: RP-2014 Annuitant and Non-Annuitant Mortality with Blue Collar Adjustment set forward 1 year for males and set forward 2 years for females Effective July 1, 2010: RP-2000 Combined Healthy Mortality with Blue Collar Adjustment, projected to 2010 using Scale AA Effective July 1, 2004: RP-2000 Combined Healthy Mortality with Blue Collar Adjustment
Inflation and Pay Increases	Effective July 1, 2016: 2.50% Inflation and 2.75% Pay Increases Effective July 1, 2015: 2.75% Effective July 1, 2004: 3.00%
Cost of Living Adjustments	Effective July 1, 2016
Benefit Multiplier and Disability Benefits	Salary Increases
If retired prior to August 1, 2012	Inflation
If retired on or after August 1, 2012	90% of inflation (valuation dates on and after July 1, 2012), 100% of inflation (valuation dates prior to July 1, 2012)

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. For these calculations, Medicare reimbursements have been excluded from both contributions and benefit payments.

	Net External Cash Flows	Periods Invested	Period Weight	Net External Cash Flows With Interest
Beginning Value - July 1, 2016	$472,829,115	12	1.00	$519,396,354
Monthly net external cash flows:				
July	206,846	11	1.00	225,516
August	166,784	10	0.83	180,308
September	150,302	9	0.75	161,273
October	103,957	8	0.67	110,710
November	156,458	7	0.58	165,219
December	112,098	6	0.50	117,488
January	142,053	5	0.42	147,769
February	123,147	4	0.33	127,024
March	83,532	3	0.25	85,517
April	126,889	2	0.17	128,932
May	66,502	1	0.08	67,004
June	13,699	0	0.00	13,699
Ending Value - June 30, 2017				$520,926,813
Money-Weighted Rate of Return	9.85%			

Schedule of Investment Returns

Fiscal Year Ending June 30,	Money-Weighted Rate of Return Net of Investment Expenses
2017	9.85%
2016	0.42%
2015	2.73%
2014	17.28%
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.

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Fixed Income	10%	1.7%
U.S. Large-Mid Cap Equities	27%	4.9%
U.S. Small Cap Equities	3%	5.9%
Non-US Equities	22%	6.0%
Tactical Asset Allocation*	8%	3.7%
Absolute Return	15%	2.0%
Private Real Estate	10%	3.9%
Private Equity	3%	8.9%
Private Credit**	2%	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

Plan Provisions

Plan provisions used were based on the Amended and Restated Plan effective July 1, 2013, as amended through Amendment 2 and the Working and Wage Agreement between TriMet and ATU 757 in effect from December 1, 2012 through November 30, 2016.

Name

Pension Plan for Bargaining Unit Employees of TriMet.

Effective Date

The Plan was originally adopted in 1979 and was last restated effective July 1, 2013.

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.

Participants 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.

Participants 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.

Continuous Service

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

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

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.

Normal Retirement

(a) 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

(b) Benefit

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

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

Beginning December 1, 2009, benefit rates are adjusted on February 1 each year by the amount of any specified general wage adjustment under the Working and Wage Agreement during the preceding twelve months. No adjustment was made on February 1, 2017 due to ongoing labor negotiations. Any adjustment that comes from these negotiations will be included in subsequent actuarial valuations.

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

(c) 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 $.25 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

Early Retirement

(a) Eligibility

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

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

(b) Benefit

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

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

Forms of Payment

(a) Single Life Annuity

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

Disability Benefit

(a) Eligibility

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

(b) 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	766.98	924.40	1,073.76

Disability benefits increase at the same time and percentage as post-retirement benefit increases for participants who retired before August 1, 2012. No adjustment was made on May 1, 2017 due to ongoing labor negotiations. Any adjustment that comes from these negotiations will be included in subsequent actuarial valuations.

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.

Vesting

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

Contributions

Contributions are made to the Trust Fund by TriMet. There are no participant 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.

Pre-retirement Death Benefit

(a) 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.

(b) 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.

Post-Retirement Benefit Increases

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

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

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

No adjustment was made on May 1, 2017 due to ongoing labor negotiations. Any adjustment that comes from these negotiations will be included in subsequent actuarial valuations.

Plan Amendments since the Prior Valuation

There were no changes to Plan provisions since the prior valuation.

Appendix B

Actuarial Assumptions and Cost Methods

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 the Plan's 2013 Experience Study dated February 14, 2014, and letter regarding the assumptions for the 2017 Actuarial Valuation dated 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

If necessary, active participant records missing hire date are assumed to have a hire age equal to the average hire age of the active participants with complete data. Records missing spouse gender assume the spouse is the opposite sex of the participant. Records missing spouse date of birth assume females are two years younger than their spouses.

Actuarial Cost Method (Effective July 1, 2014)

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 (effective July 1, 2014)

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)

6.75% 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, 2015)

Annual administrative expenses of $300,000 payable midyear are assumed.

Annualized Pay (effective July 1, 2014)

Rates of pay for each active Union participant and salaries for each Management Transfer are provided by TriMet. Annual pay for active Union participants are calculated by multiplying the pay rate by 2,080 hours (40 hours per week) for full time participants and 1,560 hours (30 hours per week) for mini-run participants.

Pay Increases (effective July 1, 2015)

Annualized pay is assumed to increase 2.75% per year.

Pre- and Post-Retirement Benefit Increases

The benefit multiplier is assumed to increase 2.75%, the same as pay increases. Temporary disability benefits for active participants who become disabled after the valuation date are assumed to increase with inflation (2.50%).

For terminations, disabilities and retirements assumed to occur in the 2017-2018 plan year, the benefit rates used in the valuation are as shown below.

	2017 – 2018
Benefit Multiplier	$ 86.08
Disability Benefit	
10 Years of Continuous Service	$ 786.15
15 Years of Continuous Service	947.51
20 Years of Continuous Service	1,100.60

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

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

Mortality

Healthy Lives Mortality (effective July 1, 2016)

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

Disabled Lives Mortality (effective July 1, 2016)

RP-2014 Disability Mortality Tables for males and females.

Future Service Credits

Active and disabled participants are assumed to earn one year of vesting service and one year of continuous service credit each year into the future. Management transfers are assumed to earn one year vesting service and no continuous service each year in the future.

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

Active mini-run participants are assumed to transfer to full time based on the following schedule:

Years of Vesting Service	Annual Rate
Less than 4	40%
4 or more	5%

Form of Benefit (effective July 1, 2014)

All non-retired participants with a spouse or domestic partner are assumed to elect the following form of payment at retirement:

Probability	Form of Payment
33 1/3%	Single Life Annuity
66 2/3%	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, 2014)

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

Age	Annual Rate	Age	Annual Rate
55 - 56	4.0%	63	20.0%
57	7.5	64	25.0
58 - 60	11.0	65	30.0
61	20.0	66 - 69	40.0
62	35.0	70	100.0

Retirement from Inactive Status

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

Disablement (effective July 1, 2014)

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

Age	Number of Participants Becoming Disabled During the Year (per 1,000 Actives)
30	2
35	3
40	4
45	6
50	9
55	15
60	22

It is assumed that 75% of disabled participants will become eligible for Social Security disability benefits.

Tabular disability benefits are assumed to be paid to age 62. At age 62, the benefit is converted to a retirement benefit based on the participant's projected service and projected benefit level at age 62.

Disabled participants who have not yet retired are assumed to have fully accrued their projected age 62 retirement benefit at the date of their disability.

Withdrawal (effective July 1, 2014)

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

Years of Vesting Service	Number of Participants Withdrawing During the Year (per 1,000 Actives)	
	Males	Females
Less than 1	50	140
1-6	25	30
7-9	15	30
10 and more	5	10

Unused Sick Leave Benefits (effective July 1, 2014)

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

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

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

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

Spouse's Age (effective July 1, 2014)

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

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

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

Annualization of Benefits (effective July 1, 2016)

Benefits for participants who retired prior to August 1, 2012 are annualized using a factor of 12.05 to incorporate the anticipated 2.50% post-retirement benefit increase occurring May 1.

Benefits for participants who retire on or after August 1, 2012 annualized using a factor of 12.045 to incorporate 90% of the anticipated 2.50% retiree post-retirement benefit increase occurring May 1.

Changes in Actuarial Methods and Assumptions

None.

Appendix C

Participant Information

Participant Information

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

The following table shows the number of participants included in the current actuarial valuation and the comparable numbers from the previous valuation.

	July 1, 2017	July 1, 2016	Change
Active			
Vested Participants	1,005	998	0.7%
Non-Vested Participants	455	582	- 21.8%
Management Transfers*	58	64	- 9.4%
TOTAL ACTIVE	1,518	1,644	- 7.7%
Inactive			
Retirees & Beneficiaries**	1,780	1,701	4.6%
Vested Terminations***	124	122	1.6%
TOTAL INACTIVE	1,904	1,823	4.4%
TOTAL PARTICIPANTS	3,422	3,467	- 1.3%

More detailed information on current plan participants is shown on the following pages.

* *These participants no longer accrue continuous service under the Plan but continue to accrue service for vesting purposes.*

** *Includes participants receiving a disability benefit.*

*** *Includes deferred beneficiaries.*

The following is a summary of the significant data for the participants included in this valuation, together with comparable figures from the last two years.

	July 1, 2017	July 1, 2016	July 1, 2015
Active Full-Time Participants			
Number	1,355	1,469	1,580
Average Age	52.5	52.0	51.6
Average Years of Continuous Service	16.1	15.4	14.8
Active Mini-Run Participants			
Number	105	111	126
Average Age	55.1	55.1	53.9
Average Years of Continuous Service	13.5	12.8	12.0
Management Transfers			
Number	58	64	64
Average Age	53.4	53.7	53.6
Vested Terminations (including deferred beneficiaries)			
Number	124	122	133
Average Age	53.1	53.1	53.1
Average Monthly Benefit payable at the Participant's applicable Normal Retirement Age	$ 815	$ 791	$ 763
Retirees and Beneficiaries (including disabled)			
Number in pay status	1,780	1,701	1,611
Average Age	69.3	69.1	68.7
Average Monthly Benefit	$ 1,617	$ 1,623	$ 1,632

Active Participants

Summary by Age and Years of Continuous Service as of July 1, 2017

YEARS OF CONTINUOUS SERVICE

AGE	UNDER 1	1 TO 4	5 TO 9	10 TO 14	15 TO 19	20 TO 24
Under 25	0	0	0	0	0	0
25 to 29	0	0	9	0	0	0
30 to 34	0	0	53	1	0	0
35 to 39	0	0	56	18	6	0
40 to 44	0	0	65	43	29	11
45 to 49	0	0	69	40	53	50
50 to 54	0	0	58	65	67	41
55 to 59	0	0	82	46	63	67
60 to 64	0	0	39	43	66	40
65 & Up	0	0	24	26	29	16
Totals	0	0	455	282	313	225

YEARS OF CONTINUOUS SERVICE

AGE	25 TO 29	30 TO 34	35 TO 39	40 AND OVER	ALL YEARS
Under 25	0	0	0	0	0
25 to 29	0	0	0	0	9
30 to 34	0	0	0	0	54
35 to 39	0	0	0	0	80
40 to 44	0	0	0	0	148
45 to 49	4	0	0	0	216
50 to 54	19	5	1	0	256
55 to 59	32	29	6	0	325
60 to 64	17	29	11	5	250
65 & Up	9	7	6	5	122
Totals	81	70	24	10	1,460
Active Participants without Complete Data					0
Grand Total					1,460

Active Management Transfers

Summary by Age and Years of Continuous Service as of July 1, 2017

YEARS OF CONTINUOUS SERVICE

AGE	UNDER 1	1 TO 4	5 TO 9	10 TO 14	15 TO 19	20 TO 24
Under 25	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0
30 to 34	0	0	1	0	0	0
35 to 39	0	0	2	1	0	0
40 to 44	0	0	0	3	3	0
45 to 49	0	0	1	0	0	3
50 to 54	0	0	1	2	5	4
55 to 59	0	0	0	0	2	6
60 to 64	0	0	0	0	1	2
65 & Up	0	0	1	0	0	2
Totals	0	0	6	6	11	17

YEARS OF CONTINUOUS SERVICE

AGE	25 TO 29	30 TO 34	35 TO 39	40 AND OVER	ALL YEARS
Under 25	0	0	0	0	0
25 to 29	0	0	0	0	0
30 to 34	0	0	0	0	1
35 to 39	0	0	0	0	3
40 to 44	0	0	0	0	6
45 to 49	0	0	0	1	5
50 to 54	0	3	0	0	15
55 to 59	3	2	2	0	15
60 to 64	2	2	2	1	10
65 & Up	0	0	0	0	3
Totals	5	7	4	2	58

Retirees and Beneficiaries
(July 1, 2017)

Service Retirees

Age	Number	Total Monthly Benefit
Under 55	2	$ 1,311
55 to 59	48	57,304
60 to 64	238	386,915
65 to 69	446	760,924
70 to 74	350	569,857
75 to 79	193	332,147
80 to 84	80	129,891
85 & Up	41	72,117
Total	1,398	$ 2,310,466

Disability

Age	Number	Total Monthly Benefit
Under 55	25	$ 42,574
55 to 59	39	74,119
60 to 64	48	89,018
65 to 69	30	55,997
70 to 74	39	82,181
75 to 79	1	2,427
80 to 84	0	0
85 & Up	0	0
Total	182	$ 346,316

Survivors & Beneficiaries

Age	Number	Total Monthly Benefit
Under 55	6	$ 6,238
55 to 59	11	14,481
60 to 64	22	25,490
65 to 69	37	40,512
70 to 74	42	46,794
75 to 79	39	40,193
80 to 84	21	21,257
85 & Up	22	26,643
Total	200	$ 221,608

New Retirees and Disabilities
(July 1, 2017)

Service Retirees*

Age at Retirement	Number	Total Monthly Benefit
Under 55	0	$ 0
55	1	819
56	1	653
57	3	4,331
58	7	9,706
59	8	9,845
60	8	13,985
61	10	18,501
62	7	11,587
63	11	15,330
64	7	18,313
65	9	15,471
66	7	13,060
67	6	10,561
68	9	13,930
69	1	2,413
70 & Up	5	6,783
Total	100	$ 165,288

*Excludes beneficiaries and QDROs

Disability

Age at Disability	Number	Total Monthly Benefit
Under 50	0	$ 0
50	0	0
51	0	0
52	1	693
53	1	1,074
54	1	1,537
55	0	0
56	2	1,998
57	0	0
58	0	0
59	0	0
60	1	693
61	2	3,459
62	0	0
Total	8	$ 9,454

Vested Terminated Participants*
(July 1, 2017)

Age	Number	Total Monthly Benefit**
Under 40	1	$ 613
40 to 44	13	11,490
45 to 49	19	17,078
50 to 54	33	31,595
55 to 59	43	31,504
60 & Up	15	8,826
Total	124	$ 101,106

* *Includes deferred beneficiaries.*

** *Amounts shown are payable at the Participant's applicable Normal Retirement Age.*

Appendix D

Estimated Benefit Payments

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	$36,030,396	2050	$41,748,481	2083	$589,961
2018	38,673,913	2051	39,670,835	2084	441,468
2019	41,185,168	2052	37,565,872	2085	324,529
2020	43,562,190	2053	35,451,716	2086	234,168
2021	45,808,875	2054	33,339,055	2087	165,714
2022	48,024,033	2055	31,251,348	2088	114,911
2023	50,175,661	2056	29,193,302	2089	78,010
2024	52,108,298	2057	27,177,747	2090	51,808
2025	53,840,793	2058	25,217,184	2091	33,638
2026	55,516,000	2059	23,317,536	2092	21,343
2027	56,932,580	2060	21,483,742	2093	13,229
2028	58,201,424	2061	19,722,883	2094	8,008
2029	59,314,058	2062	18,037,173	2095	4,733
2030	60,234,843	2063	16,430,572	2096	2,732
2031	61,119,823	2064	14,904,826	2097	1,541
2032	61,701,376	2065	13,461,160	2098	850
2033	62,037,995	2066	12,100,379	2099	459
2034	62,137,236	2067	10,822,892	2100	244
2035	62,062,004	2068	9,628,684	2101	127
2036	61,775,242	2069	8,517,300	2102	65
2037	61,251,867	2070	7,487,908	2103	33
2038	60,573,766	2071	6,539,254	2104	16
2039	59,700,484	2072	5,669,618	2105	8
2040	58,630,677	2073	4,876,964	2106	4
2041	57,405,637	2074	4,159,094	2107	2
2042	56,019,445	2075	3,513,714	2108	1
2043	54,545,816	2076	2,938,388	2109	0
2044	52,971,526	2077	2,430,385	2110	0
2045	51,277,351	2078	1,986,572	2111	0
2046	49,511,846	2079	1,603,394	2112	0
2047	47,699,827	2080	1,276,847	2113	0
2048	45,789,724	2081	1,002,427		
2049	43,795,545	2082	775,195		

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