



CITY OF PORTLAND FIRE & POLICE DISABILITY & RETIREMENT (FPDR) FUND

Pension Actuarial Valuation Report as of June 30, 2016

Prepared by:

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January 16, 2017

Ms. Stacy Jones
FPDR Financial Manager
Bureau of Fire & Police Disability & Retirement

Dear Stacy,

As part of our engagement with the Bureau of Fire & Police Disability & Retirement and the City of Portland, we performed an actuarial valuation of the Fire & Police Disability & Retirement Fund ("FPDR" or "the System") sponsored by the City as of June 30, 2016. Our findings are set forth in this actuarial valuation report. This report reflects the benefit provisions in effect as of June 30, 2016.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by City Charter, employee 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, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

This valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions or cost recognition. 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.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System 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; and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The assumptions used in this report were reviewed and accepted by the FPDR Board in its May 2014 and September 2016 meetings.



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Ms. Stacy Jones
Bureau of Fire & Police Disability & Retirement
January 16, 2017
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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 actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

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

Sincerely,



Matthew R. Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary



Scott D. Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

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Section I – Summary of the Findings

Summary of the Findings

Milliman has prepared this report for the City of Portland and its Fire & Police Disability & Retirement Fund (“FPDR” or “the Plan”) to:

- Estimate the Plan's actuarial liabilities as of June 30, 2016 for FPDR and the City of Portland,
- Provide a multi-year estimate of projected benefit payments from the Plan, and
- Provide the basis for later financial reporting results and levy adequacy analysis requested by FPDR, which will build from these June 30, 2016 valuation results.

Summary of Principal Results

The following table summarizes the primary results of the valuation which are discussed further below.

	June 30, 2014	June 30, 2016
Discount Rate	4.29%	2.85%
Actuarial Cost Method	Entry Age Normal	Entry Age Normal
Actuarial Accrued Liability (AAL)	\$ 2,488,261,858	\$ 3,689,965,110
Assets	20,532,924	17,425,353
Unfunded Actuarial Accrued Liability (UAAL)	2,467,728,934	3,672,539,757
Projected Base Pay for Next Year	138,327,897	137,979,123
Normal Cost	54,833,824	88,590,012

FPDR is essentially funded on a pay-as-you-go basis via a property tax levy. The actuarial liabilities contained in this report are not used as a basis for pre-funding the plan, but do provide a measure of the present value of the financial obligation associated with the program. The actuarial liabilities are calculated from a projection of benefit payments. The projection reflects the current provisions, assumptions, and demographic information documented in this report. The stream of projected future benefit payments is converted to a net present value as of the valuation date based on the valuation discount rate, which is 2.85% for the current valuation. The total net present value is then assigned to past, present, and future service according to the actuarial cost method. The portion assigned to the past is called the **actuarial accrued liability (AAL)**¹, while the portion assigned to the current year is referred to as the **normal cost**.

The results from this valuation will also be used to assist the City and FPDR in completing disclosures for financial reporting **measurement dates** as of June 30, 2017 and June 30, 2018 under **GASB 67** (which governs plan financial reporting) and **GASB 68** (which governs the City's reporting). Results calculated as of the June 30, 2016 **valuation date** in this report will be recalculated as of these later dates using standard actuarial roll-forward techniques. GASB 67 and GASB 68 permit the use of a valuation date that is up to 24 months prior to the measurement date. Actuarial valuations are conducted each even-numbered year, and results from that valuation will be used to develop the fiscal year-end for measurement dates 12 and 24 months subsequent to the valuation date. Following this procedure and generally accepted financial reporting practices for governmental entities, the results from this report will be used to develop GASB 67 and 68 results for the fiscal years ending in 2017 and 2018. However, the actual fiscal year-ending 2017 and 2018

¹ *Bolded terms from the Executive Summary are defined in the report glossary.*

results are not included in this report, as the measurements must be adjusted to reflect experience (including bond market information to identify the appropriate discount rate and audited fund asset levels) through the relevant dates. These results will be provided separately according to the relevant financial reporting timeframe.

The discount rate used to determine a net present value changed from 4.29% for the previous valuation as of June 30, 2014 to 2.85% for the current valuation as of June 30, 2016, which had the effect of significantly increasing the measured plan liabilities. The discount rate of 2.85% is the same rate used by FPDR in plan financial reporting as of June 30, 2016, and was selected to be consistent with the rate selection basis required under GASB 67. Because of the primarily unfunded nature of the FPDR plan, the discount rate under GASB 67 should be set equal to a municipal bond rate or index that represents yields for 20-year tax-exempt general obligation municipal bonds.

In this valuation, there are two categories of plan assets considered for FPDR: a \$750,000 Reserve Fund established by the governing City Charter, and the FPDR Fund, which held \$16,675,353 in trust for pension benefits as of June 30, 2016. Assets are reported by FPDR and are measured on a fair market value basis. We understand these funds are invested in short-term fixed income securities, in a similar manner to the general assets of the City of Portland. The FPDR Fund is included as an asset in this valuation based upon consultation with FPDR, the City of Portland, and the City's external auditor.

The City of Portland also provides an "indirect subsidy" retiree healthcare benefit for FPDR members via allowing access to the medical plans offered to active FPDR members. We understand the indirect (or implicit) subsidy for these benefits is valued in a separate actuarial valuation conducted by another actuary.

In addition to the indirect subsidy noted above, FPDR also provides a benefit that reimburses medical expenses associated with service-connected injuries and illness. In consultation with FPDR and the City's external auditor, it was decided that beginning with the June 30, 2012 valuation the liability for post-retirement disability-related expenses could be estimated by applying a fixed percentage load to the pension liabilities. For valuations conducted since that date – including the current one – the percentage load was 0.5%. This percentage is consistent with observed experience over the prior 6 years, where disability-related post-retirement benefits averaged approximately 0.5% of pension payments.

Plan Provisions

Since to the previous valuation, two significant changes occurred that modified the plan provisions reflected in this valuation.

FPDR Two COLA: Based on requirements of the City Charter and FPDR administrative practices, we understand that the FPDR Board has discretion over the COLA paid to FPDR Two retirees, but that the COLA may not exceed the amount paid to police & fire members under Oregon PERS. When the prior valuation as of June 30, 2014 was conducted, the highest annual COLA payable prospectively under Oregon PERS was 1.25%. The June 30, 2014 valuation used an assumption that the future COLA for FPDR Two members would be 1.25% each year.

As a result of the Oregon Supreme Court decision in *Moro v. State of Oregon* (released in April 2015), Oregon PERS now administers a blended COLA that varies by individual based on both when service was performed and on the amount of annual benefit. Under the current approach, the highest COLA received by any PERS police & fire retiree is 2%. That rate applies for PERS retirees who performed all their service prior to October 2013.

In 2016, the FPDR Board chose to pay a blended COLA for FPDR Two retirees. The blended COLA paid was calculated as 2.0% for benefits related to service through October 8, 2013 and 1.25% for benefits related to service after that date. While the COLA selected by the Board can vary from year to year, for purposes of the valuation we have assumed this same FPDR Two COLA calculation approach applies in the future, based upon discussion with FPDR and the Board.

Reflecting the blended FPDR Two COLA instead of the 1.25% FPDR Two COLA assumed in the previous valuation increased the Actuarial Accrued Liability by \$289 million in the current valuation.

27 Pay Periods and Final Average Salary: In 2012, changes were made to the City charter that eliminated the situation where in certain retirement months 27 pay periods are included in the plan's one-year final average pay calculation (rather than the typical 26 pay periods). Since the previous valuation, we understand that an arbitration ruling reversed the effect of those changes. As a result, in the current valuation we added an assumption regarding the average increase to final average pay that may occur due to the likelihood that members will choose to retire in favorable (27 pay period) months. This change increased the Actuarial Accrued Liability by \$33 million in the current valuation.

Assumptions and Methods

Most demographic and economic assumptions used in this valuation are based on an experience study presented to the FPDR Board on May 27, 2014, which also formed the basis for the assumptions used in the June 30, 2014 valuation.

The following assumptions were updated in the current valuation, in keeping with the procedures adopted by the FPDR Board with the 2014 experience study:

- The discount rate used for the valuation is selected to be consistent with the discount rate used for GASB financial reporting at the valuation date. The GASB standards require the use of a municipal bond rate or index for a plan such as FPDR, which led to the current valuation's discount rate of 2.85%. This is a decrease of 144 basis points from the prior valuation, and the discount rate change increased the Actuarial Accrued Liability (AAL) as of the valuation date by \$574 million.
- In the 2014 experience study, the mortality assumptions used for all members and beneficiaries were selected to be consistent with the same assumptions used by the Oregon Public Employees Retirement System (OPERS) for police and fire members in the most recently published OPERS valuation. The OPERS assumption is used because the much larger size of the OPERS system generates more statistically credible mortality experience for Oregon public safety personnel than would result from examining FPDR experience in isolation. Because the OPERS assumption for police and fire members has been updated since the previous FPDR valuation, a parallel change was made in the current FPDR valuation. Updating this assumption, which lengthened assumed retiree life expectancy, increased AAL by \$147 million in the current valuation.
- Changes were also made to assumptions regarding salary increases to reflect the salary increases for Portland Police Association members contained in a recently approved contract. Including the an assumption provision for the PPA contract increased AAL by \$26 million in the current valuation.

These changes are discussed more fully in the appendices to this report, and their effects on measured liabilities are shown in Section II of this report. All actuarial assumptions, methods, and plan provisions valued are summarized in the appendices of this report.

Section II – Valuation Results

Valuation Results

Calculation of the Unfunded Actuarial Accrued Liability (UAAL)

The development of the Unfunded Actuarial Accrued Liability is shown in the table below.

Benefit Obligations and UAAL		June 30, 2014	June 30, 2016
	Actuarial Cost Method	Entry Age Normal	Entry Age Normal
1	Discount Rate	4.29%	2.85%
2	Total Present Value of Benefits (includes future accruals)	3,059,753,560	4,624,510,192
3	Actuarial Accrued Liability		
a.	Retirees	1,356,896,382	2,010,042,320
b.	Pre-retirement disableds	52,332,714	63,447,477
c.	Surviving spouses and alternate payees	127,145,353	165,097,924
d.	Inactive participants with deferred benefits	27,003,890	57,238,628
e.	Active employees	924,883,520	1,394,138,761
f.	Total	2,488,261,858	3,689,965,110
4	Present value of future normal costs (2.-3.f.)	571,491,702	934,545,082
5	Projected next year's base pay	138,327,897	137,979,123
6	Normal cost	54,833,824	88,590,012
7	Assets	20,532,924	17,425,353
8	Unfunded Actuarial Accrued Liability (UAAL) (3.f. -7.)	2,467,728,934	3,672,539,757

Projected Benefit Payments

The table below shows the projected benefit payments assuming no new entrants and all valuation assumptions are realized. The payment projections shown include the effect of assumed future service and salary increases for current actives, as well as the assumed load for disability-related medical expenses in retirement. The amounts shown do not include any projected benefit payments to members from the Oregon Public Employees Retirement System (OPERS) in which FPDR Three members also participate. The amounts shown also do not include either any employer contributions to OPERS for service by FPDR Three members or any projected benefit payments from OPERS to FPDR Three members and their survivor beneficiaries. For comparison, the actual benefit payments during the 2015-2016 fiscal year on this basis were approximately \$110 million.

Fiscal Year	Projected Benefit Payments
2016-2017	\$117,717,000
2017-2018	121,682,000
2018-2019	126,264,000
2019-2020	131,371,000
2020-2021	136,344,000
2021-2022	141,530,000
2022-2023	146,488,000
2023-2024	151,876,000
2024-2025	158,548,000
2025-2026	165,329,000
2026-2027	172,243,000
2027-2028	179,011,000
2028-2029	185,634,000
2029-2030	191,528,000
2030-2031	197,433,000
2031-2032	203,004,000
2032-2033	207,845,000
2033-2034	211,453,000
2034-2035	213,909,000
2035-2036	215,265,000
2036-2037	215,700,000
2037-2038	215,260,000
2038-2039	214,075,000
2039-2040	212,346,000
2040-2041	210,063,000
2041-2042	207,345,000
2042-2043	204,309,000
2043-2044	200,816,000
2044-2045	197,130,000
2045-2046	193,047,000

Actuarial Liabilities by Tier

	June 30, 2016						
	FPDR One Police	FPDR One Fire	FPDR Two Police	FPDR Two Fire	FPDR Three Police	FPDR Three Fire	Total
Total Present Value of Benefits							
Active	-	-	1,390,790,243	914,282,237	12,116,426	11,494,937	2,328,683,843
Inactive	115,424,002	104,689,114	1,204,127,235	871,585,998	-	-	2,295,826,349
Total	115,424,002	104,689,114	2,594,917,478	1,785,868,235	12,116,426	11,494,937	4,624,510,192
Actuarial Accrued Liability							
Active	-	-	871,404,215	520,467,173	1,140,953	1,126,420	1,394,138,761
Inactive	115,424,002	104,689,114	1,204,127,235	871,585,998	-	-	2,295,826,349
Total	115,424,002	104,689,114	2,075,531,450	1,392,053,171	1,140,953	1,126,420	3,689,965,110
Normal Cost	-	-	53,815,198	33,816,770	485,434	472,610	88,590,012
Projected next year's base pay	-	-	60,344,784	39,988,494	19,493,545	18,152,300	137,979,123
Normal Cost as % of base pay	N/A	N/A	89.2%	84.6%	2.5%	2.6%	64.2%

Analysis of Gains and Losses

The table below shows Actuarial Accrued Liability (AAL) as of the previous valuation date of July 1, 2014, the expected AAL at the current valuation date if all assumptions were met with no changes to benefit provisions or assumptions, and the actual AAL calculated in this valuation before reflecting any changes to benefit provisions or assumptions. As detailed in the table, actual experience compared to assumption since the last valuation led to a \$21 million demographic experience loss, or increase in liability, compared to the expected liability. The main reasons for this loss were FPDR Two COLA increases being higher than expected and participants living longer than assumed. These losses were partially offset by actual salary increases during the prior two year period being below those anticipated by the previous valuation's assumptions, leading to lower projected retirement benefits, and by FPDR One COLA increases being lower than expected.

Actuarial Accrued Liability Gain/(Loss) Analysis	
	Actuarial Accrued Liability
June 30, 2014 AAL	2,488,261,858
Expected June 30, 2016 AAL before changes	2,600,582,875
Actual June 30, 2016 AAL before changes	2,621,295,094
Gain/(Loss)	(20,712,219)
Gain/(Loss) as % of expected AAL	-0.8%
Sources of Gain/(Loss)	
Salary experience	16,091,160
COLA experience	(27,611,790)
Retiree mortality experience	(12,695,561)
New actives	(86,848)
Total	(24,303,039)
Remaining Gain/(Loss) from other sources	3,590,820
Remaining Gain/(Loss) as % of expected AAL	0.1%

Effect of Assumption, Method, and Plan Changes

The table below shows the changes in plan AAL and Normal Cost that occurred as a result of legislative changes and an arbitration ruling that impact benefits payable under the FPDR plan provisions, along with the effects of updating the discount rate, mortality, and salary merit scale assumptions, as discussed in Appendix C of this report.

Effect of Assumption, Method, and Plan Changes		
	Actuarial Accrued Liability (AAL)	Normal Cost
June 30, 2014 Valuation	2,488,261,858	54,833,824
June 30, 2016 before changes	2,621,295,094	51,693,616
Plan provision changes		
FPDR Two COLA change	289,174,272	6,062,805
27 pay period arbitration decision	33,083,445	1,733,255
Assumption/method changes		
Discount rate assumption	573,921,646	24,663,845
Mortality assumption	146,973,074	2,983,935
Reflect new PPA contract in merit scale	25,517,579	1,452,556
Total change	1,068,670,016	36,896,396
June 30, 2016 Final Valuation Results	3,689,965,110	88,590,012

Section III – Plan Assets

Plan Assets

The FPDR Board of Trustees administers both the FPDR Fund and a Reserve Fund.

The FPDR Fund is invested primarily in cash and short-term investments. As of June 30, 2016, the Fund had a total of \$16,675,353 in net assets considered held in trust for pension benefits.

The Reserve Fund is authorized under provisions of Chapter 5 (Section 5-104) of the City of Portland's Charter; and its purpose is to provide a reserve from which advances can be made to the FPDR Fund in the event the Fund is depleted to the extent that it cannot meet its current obligations. Under provisions of the City Charter, the Reserve Fund maximum is established at \$750,000 and is fully funded as of June 30, 2016.

Based on input from FPDR, the City of Portland and its external auditor, we understand both the FPDR Fund held in trust for pension benefits and the Reserve Fund are considered to meet GASB requirements of plan assets for financial reporting, and thus are used for plan actuarial valuation purposes.

The amounts shown below for both the current and prior valuation date are provided to us by FPDR and the City of Portland and are reported on a fair market value basis.

Valuation Date	Asset Summary		
	FPDR Fund - Held in Trust for Pension	Reserve Fund	Total Pension Assets
June 30, 2014	\$19,782,924	\$750,000	\$20,532,924
June 30, 2016	\$16,675,353	\$750,000	\$17,425,353

Appendix A

Participant Data

Statistics for FPDR Participants as of June 30, 2016

	FPDR One		FPDR Two		FPDR Three		Total		Grand Total
	Police	Fire	Police	Fire	Police	Fire	Police	Fire	
Actives									
Headcount	0	0	628	427	239	223	867	650	1,517
Average Age	N/A	N/A	46.1	44.7	34.9	35.6	43.0	41.6	42.4
Average Service	N/A	N/A	18.2	17.0	5.8	5.7	14.8	13.1	14.1
Average Salary*	N/A	N/A	\$96,368	\$96,563	\$81,563	\$81,400	\$92,287	\$91,361	\$91,890
Current Retiree & Beneficiaries**									
Headcount	245	243	787	541	0	0	1,032	784	1,816
Average Age	82.0	84.2	65.9	66.1	N/A	N/A	69.7	71.7	70.6
Average Monthly Benefit	\$3,148	\$3,251	\$5,427	\$6,138	N/A	N/A	\$4,886	\$5,243	\$5,040
Current Disabled Participants									
Headcount	4	5	23	3	0	0	27	8	35
Average Age	61.3	61.0	50.3	49.3	N/A	N/A	51.9	56.6	53.0
Average Monthly Benefit	\$4,385	\$4,394	\$3,779	\$2,234	N/A	N/A	\$3,869	\$3,584	\$3,804
Inactive Deferred Participants									
Headcount	0	0	78	9	0	0	78	9	87
Average Age	N/A	N/A	46.1	42.8	N/A	N/A	46.1	42.8	45.7
Average Monthly Benefit	N/A	N/A	\$2,109	\$2,067	N/A	N/A	\$2,109	\$2,067	\$2,105

* Average Salary is projected 2016-2017 basic annualized earnings.

** Headcount does not include 104 Alternate Payees receiving benefits via a Domestic Relations Order (DRO). The average monthly benefit for that group is \$1,532.

Distribution of FPDR Two Active Participants as of June 30, 2016								
FPDR Two Police								
Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30	
0-20	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0
30-34	0	2	8	0	0	0	0	10
35-39	0	4	68	12	0	0	0	84
40-44	0	0	48	94	12	0	0	154
45-49	0	2	30	67	92	9	0	200
50-54	0	0	13	29	67	19	0	128
55-59	0	0	3	5	19	10	3	40
60-64	0	0	2	0	3	5	0	10
65-69	0	0	1	0	1	0	0	2
70-74	0	0	0	0	0	0	0	0
75+	0	0	0	0	0	0	0	0
Total	-	8	173	207	194	43	3	628
FPDR Two Fire								
Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30	
0-20	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0
30-34	0	5	17	0	0	0	0	22
35-39	0	7	52	17	0	0	0	76
40-44	0	6	61	63	6	0	0	136
45-49	0	3	23	45	14	5	0	90
50-54	0	0	7	17	11	21	3	59
55-59	0	0	0	3	4	14	11	32
60-64	0	0	0	2	0	2	7	11
65-69	0	0	0	0	0	1	0	1
70-74	0	0	0	0	0	0	0	0
75+	0	0	0	0	0	0	0	0
Total	-	21	160	147	35	43	21	427
FPDR Two Total								
Age	Years of Service							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30	
0-20	0	0	0	0	0	0	0	0
20-24	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0
30-34	0	7	25	0	0	0	0	32
35-39	0	11	120	29	0	0	0	160
40-44	0	6	109	157	18	0	0	290
45-49	0	5	53	112	106	14	0	290
50-54	0	0	20	46	78	40	3	187
55-59	0	0	3	8	23	24	14	72
60-64	0	0	2	2	3	7	7	21
65-69	0	0	1	0	1	1	0	3
70-74	0	0	0	0	0	0	0	0
75+	0	0	0	0	0	0	0	0
Total	-	29	333	354	229	86	24	1,055

Distribution of FPDR Three Active Participants as of June 30, 2016								
FPDR Three Police								
	Years of Service							
Age	0-4	5-9	10-14	15-19	20-24	25-29	30	Total
0-20	0	0	0	0	0	0	0	0
20-24	6	0	0	0	0	0	0	6
25-29	32	9	0	0	0	0	0	41
30-34	25	52	0	0	0	0	0	77
35-39	13	51	0	0	0	0	0	64
40-44	6	24	0	0	0	0	0	30
45-49	1	15	0	0	0	0	0	16
50-54	0	3	0	0	0	0	0	3
55-59	0	1	0	0	0	0	0	1
60-64	0	1	0	0	0	0	0	1
65-69	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0
75+	0	0	0	0	0	0	0	0
Total	83	156	-	-	-	-	-	239
FPDR Three Fire								
	Years of Service							
Age	0-4	5-9	10-14	15-19	20-24	25-29	30	Total
0-20	0	0	0	0	0	0	0	0
20-24	4	0	0	0	0	0	0	4
25-29	15	9	0	0	0	0	0	24
30-34	24	39	0	0	0	0	0	63
35-39	16	69	0	0	0	0	0	85
40-44	8	27	0	0	0	0	0	35
45-49	1	10	0	0	0	0	0	11
50-54	0	1	0	0	0	0	0	1
55-59	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0
75+	0	0	0	0	0	0	0	0
Total	68	155	-	-	-	-	-	223
FPDR Three Total								
	Years of Service							
Age	0-4	5-9	10-14	15-19	20-24	25-29	30	Total
0-20	0	0	0	0	0	0	0	0
20-24	10	0	0	0	0	0	0	10
25-29	47	18	0	0	0	0	0	65
30-34	49	91	0	0	0	0	0	140
35-39	29	120	0	0	0	0	0	149
40-44	14	51	0	0	0	0	0	65
45-49	2	25	0	0	0	0	0	27
50-54	0	4	0	0	0	0	0	4
55-59	0	1	0	0	0	0	0	1
60-64	0	1	0	0	0	0	0	1
65-69	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0
75+	0	0	0	0	0	0	0	0
Total	151	311	-	-	-	-	-	462

Distribution of All Active Participants as of June 30, 2016								
Police Total								
		Years of Service						
Age	0-4	5-9	10-14	15-19	20-24	25-29	30	Total
0-20	0	0	0	0	0	0	0	0
20-24	6	0	0	0	0	0	0	6
25-29	32	9	0	0	0	0	0	41
30-34	25	54	8	0	0	0	0	87
35-39	13	55	68	12	0	0	0	148
40-44	6	24	48	94	12	0	0	184
45-49	1	17	30	67	92	9	0	216
50-54	0	3	13	29	67	19	0	131
55-59	0	1	3	5	19	10	3	41
60-64	0	1	2	0	3	5	0	11
65-69	0	0	1	0	1	0	0	2
70-74	0	0	0	0	0	0	0	0
75+	0	0	0	0	0	0	0	0
Total	83	164	173	207	194	43	3	867
Fire Total								
		Years of Service						
Age	0-4	5-9	10-14	15-19	20-24	25-29	30	Total
0-20	0	0	0	0	0	0	0	0
20-24	4	0	0	0	0	0	0	4
25-29	15	9	0	0	0	0	0	24
30-34	24	44	17	0	0	0	0	85
35-39	16	76	52	17	0	0	0	161
40-44	8	33	61	63	6	0	0	171
45-49	1	13	23	45	14	5	0	101
50-54	0	1	7	17	11	21	3	60
55-59	0	0	0	3	4	14	11	32
60-64	0	0	0	2	0	2	7	11
65-69	0	0	0	0	0	1	0	1
70-74	0	0	0	0	0	0	0	0
75+	0	0	0	0	0	0	0	0
Total	68	176	160	147	35	43	21	650
Grand Total								
		Years of Service						
Age	0-4	5-9	10-14	15-19	20-24	25-29	30	Total
0-20	0	0	0	0	0	0	0	0
20-24	10	0	0	0	0	0	0	10
25-29	47	18	0	0	0	0	0	65
30-34	49	98	25	0	0	0	0	172
35-39	29	131	120	29	0	0	0	309
40-44	14	57	109	157	18	0	0	355
45-49	2	30	53	112	106	14	0	317
50-54	0	4	20	46	78	40	3	191
55-59	0	1	3	8	23	24	14	73
60-64	0	1	2	2	3	7	7	22
65-69	0	0	1	0	1	1	0	3
70-74	0	0	0	0	0	0	0	0
75+	0	0	0	0	0	0	0	0
Total	151	340	333	354	229	86	24	1,517

Distribution of Current Retirees and Beneficiaries as of June 30, 2016								
Age	FPDR One				FPDR Two			
	Police		Fire		Police		Fire	
	Count	Total Monthly Benefit	Count	Total Monthly Benefit	Count	Total Monthly Benefit	Count	Total Monthly Benefit
<40	0	-	0	-	2	8,899	1	804
40-44	0	-	0	-	0	-	0	-
45-49	1	1,578	0	-	2	7,566	0	-
50-54	0	-	0	-	35	229,718	19	153,270
55-59	1	1,735	1	1,318	112	702,413	76	536,906
60-64	4	10,723	2	4,149	174	970,632	168	1,092,548
65-69	21	70,316	11	40,066	225	1,168,528	115	688,565
70-74	28	95,040	20	63,250	165	827,277	78	420,531
75-79	35	89,720	31	96,093	50	246,554	54	270,560
80-84	42	128,883	39	121,951	14	67,034	27	141,893
85-89	60	200,139	71	233,448	8	42,175	3	15,718
90-94	42	134,906	56	193,319	0	-	0	-
95+	11	38,297	12	36,436	0	-	0	-
Total	245	\$771,337	243	\$790,031	787	\$4,270,796	541	\$3,320,795

*Headcount does not include 104 Alternate Payees receiving benefits via a Domestic Relations Order (DRO). Total monthly benefits for that group was \$159,315

Distribution of Disabled Participants as of June 30, 2016								
Age	FPDR One				FPDR Two			
	Police		Fire		Police		Fire	
	Count	Total Monthly Benefit	Count	Total Monthly Benefit	Count	Total Monthly Benefit	Count	Total Monthly Benefit
<40	0	-	0	-	1	2,344	1	1,679
40-44	0	-	0	-	2	5,852	0	-
45-49	0	-	0	-	9	33,593	0	-
50-54	0	-	0	-	6	24,726	1	3,176
55-59	1	4,385	2	8,787	3	12,058	1	1,847
60-64	3	13,154	3	13,181	2	8,343	0	-
65-69	0	-	0	-	0	-	0	-
70-74	0	-	0	-	0	-	0	-
75-79	0	-	0	-	0	-	0	-
80-84	0	-	0	-	0	-	0	-
85-89	0	-	0	-	0	-	0	-
90-94	0	-	0	-	0	-	0	-
95+	0	-	0	-	0	-	0	-
Total	4	\$17,539	5	\$21,968	23	\$86,916	3	\$6,703

Distribution of Inactive Deferred Participants as of June 30, 2016								
Age	FPDR One				FPDR Two			
	Police		Fire		Police		Fire	
	Count	Total Monthly Benefit	Count	Total Monthly Benefit	Count	Total Monthly Benefit	Count	Total Monthly Benefit
<40	0	-	0	-	4	6,300	4	6,467
40-44	0	-	0	-	27	51,827	1	659
45-49	0	-	0	-	25	49,977	2	3,182
50-54	0	-	0	-	21	53,719	2	8,291
55-59	0	-	0	-	1	2,684	0	-
60-64	0	-	0	-	0	-	0	-
65-69	0	-	0	-	0	-	0	-
70-74	0	-	0	-	0	-	0	-
75-79	0	-	0	-	0	-	0	-
80-84	0	-	0	-	0	-	0	-
85-89	0	-	0	-	0	-	0	-
90-94	0	-	0	-	0	-	0	-
95+	0	-	0	-	0	-	0	-
Total	0	-	0	-	78	\$164,508	9	\$18,599

Appendix B

Actuarial Cost Method and Policies

Actuarial Cost Method and Policies

Actuarial cost method: Liabilities shown in this report are computed using the Individual Entry Age Normal cost method allocated as a level percent of projected pay from the date of entry to projected exit age. Under this method, the total Actuarial Present Value of Benefits allocated over the service for each active member from their date of entry into the Plan until their assumed date of exit from the Plan, as a level percent of projected pay. This level amount is referred to as the Normal Cost, and is calculated for each active member. It is calculated by dividing the total Actuarial Present Value of Projected Benefits at entry age by the Actuarial Present Value of Projected Service at entry age. The Normal Cost equals \$0 for non-active members. The sum of the individual Normal Costs is the Normal Cost for the Plan.

Actuarial Value of Assets: Assets are provided by FPDR and the City of Portland and are reported on a fair market value basis. The considered assets have two components: the FPDR Fund and the Reserve Fund.

Census data: To prepare this report Milliman has used and relied on participant data supplied by FPDR and summarized in the valuation report in Appendix A. FPDR is responsible for ensuring that such participant data provides an accurate description of all persons who are participants under the terms of the plan or otherwise entitled to benefits as of June 30, 2016, that is sufficiently comprehensive and accurate for the purposes of this report. Although we have reviewed the data in accordance with Actuarial Standards of Practice No. 23, we have not verified or audited any of the data or information provided. Assumptions and estimates were made for any incomplete or missing data in consultation with FPDR.

Funding policy: Currently, the plan's benefits are effectively funded on a pay-as-you-go basis. FPDR funds on a cash basis as benefits are paid. The only assets that have been segregated and restricted to provide plan benefits are the amounts noted in the assets section of this report.

The valuation is based on the premise that the plan is ongoing and that the pay-as-you-go funding mechanism specified in City Charter continues.

Appendix C

Actuarial Assumptions

Actuarial Assumptions

The following assumptions were used in valuing the liabilities and benefits under the plan. The underlying basis for each assumption was reviewed and adopted in conjunction with an experience study presented to the FPDR Board in May 2014. The assumption selection process and rationale is described in detail in that study.

Note that for any given individual Member, the anticipated pay increase in a given year is the combined effect of inflation, real wage growth and salary merit increase.

Discount Rate

2.85% per annum. This rate was selected by the City of Portland via a reference to a bond rate or index as of June 30, 2016 for high-quality tax-exempt 20-year general obligation municipal bonds, as described in GASB No. 67. The results of this valuation will also be used to develop liabilities at June 30, 2017 and June 30, 2018 using standard roll-forward techniques. The discount rates used for that purpose will be determined based upon relevant municipal bond rate information at the applicable measurement date.

Inflation

2.75% per annum

Real Wage Growth

1.00% per annum

Payroll Growth

3.75% per annum (combination of above two factors)

Salary Merit Increase

Years of Service	Non-PPA Police and Fire	PPA Officers*	PPA Sergeants, Detectives, and Criminalists*
0	20.00%	20.00%	20.00%
1	8.50%	8.50%	8.50%
2	5.50%	5.50%	5.50%
3	4.80%	4.80%	4.80%
4	4.50%	4.50%	6.50%
5	2.50%	4.50%	4.50%
6	0.00%	2.00%	2.00%
7	0.00%	2.00%	0.00%
8+	0.00%	0.00%	0.00%

*Participants who are members of the Portland Police Association are assumed to have an additional 2.00% per annum salary merit increase in each of the next 3 years if they currently have 6 or more Years of Service.

Mortality, Healthy Lives

Mortality rates for healthy lives are based on the rates for Police & Fire members in the December 31, 2015 valuation of Oregon PERS. Future improvement in life expectancies is assumed via a generational projection of mortality improvement as described. For active members, 50% of deaths are assumed to be service related, and 50% are assumed to be non-service related.

Male Retiree	RP-2000 Male, Generational per Scale BB, Combined Active/Healthy Retired, Blended 25% Blue Collar, 75% White Collar, set back 12 months
Female Retiree	RP-2000 Female, Generational per Scale BB, Combined Active/Healthy Retired, Blended 25% Blue Collar, 75% White Collar
Male Beneficiary	RP-2000 Male, Generational per Scale BB, Combined Active/Healthy Retired, Blended 25% Blue Collar, 75% White Collar, set back 12 months
Female Beneficiary	RP-2000 Female, Generational per Scale BB, Combined Active/Healthy Retired, Blended 25% Blue Collar, 75% White Collar
Male Active	75% of rates for Male Retiree
Female Active	60% of rates for Female Retiree

Disabled Mortality

Disabled Male Retiree	70% of RP-2000 Disabled Male, Generational per Scale BB, No Collar
Disabled Female Retiree	95% of RP-2000 Disabled Female, Generational per Scale BB, No Collar

Withdrawal

Rates of withdrawal from causes other than death, disability, and retirement are shown in the following select and ultimate table:

Attained Age	Service		
	0 Years	1 Year	2+ Years
Any	15.00%	5.00%	0.50%

Disability Incidence

Rates of disability are assumed to follow the 1985 Disability Study Class 1 rates. 90 percent of disabilities are assumed to be service related, while the other 10 percent are assumed to be non-service related. Sample rates are shown below:

Age	Rate Per Year
30	0.064%
40	0.158%
50	0.448%

Retirement

Active members are assumed to retire at the rates shown below. Vested terminated members are assumed to retire at the earliest age they would have been eligible to retire had they remained in active employment., i.e., the earlier of a) age 55 or b) age 50 with 25 years of service from date of hire.

Age	Fire	Police
50	25%	50%
51	20	40
52	20	40
53	20	40
54	20	40
55	25	30
56	25	30
57	25	20
58	33	20
59	50	20
60	100	20
61	100	20
62	100	45
63	100	45
64	100	45
65+	100	100

Percentage Married

Males: 80%

Females: 80%

When available, actual marital status is used for retirees.

Age Difference of Spouses

Females are assumed to be 3 years younger than males. When available, actual spouse ages are used for retirees.

Load to Final Pay for 27 Pay Periods

The valuation includes a load of 2.5% in the calculation of Final Pay for retirement benefits. This is an estimate of the average increase that may occur for the overall population from certain members retiring on dates that include 27 pay periods in the averaging period.

Form of Payment for Future Retirees from Active Status

Benefit Formula Elected	Percent Electing
2.8%	80%
2.6%	20%

Form of Payment for Future Retirees from Vested Terminated Status

Benefit Formula Elected	Percent Electing
2.8%	80%
2.6%	20%

Form of Payment for Future Retirees from Disability Status

FPDR One: Marital status at Disability Retirement Age is assumed to be the same as currently reported. Married participants are valued including a survivor benefit percentage as specified in City Charter based on the age difference between a member and spouse.

FPDR Two: Currently disabled members reported as non-married are assumed to elect the 2.8% benefit formula. Those reported as married are assumed to have an 80% likelihood of selecting the 2.8% benefit formula and a 20% likelihood of selecting the 2.6% benefit formula.

Future Cost of Living Increases for Retiree Benefits

FPDR One: 3.75% per annum, representing the assumed annual increase in pay for a First Class Officer or Firefighter

FPDR Two: Blended average using 2.00% per annum for service before October 8, 2013 and 1.25% per annum for service after that date.

Employment of Disabled Members

Disabled members are assumed not to return to active service. One-third of those disabled are assumed to become gainfully employed with earnings equal to 9% of their base pay prior to disability.

Oregon Residency Post-Retirement

For purposes of determining eligibility for tax offset benefits, 80% of active members are assumed to reside in Oregon for retirement. For current retirees, the current tax offset benefit status is expected to continue.

Disability Retirement Age

FPDR One: Age 64

FPDR Two: Age 55

FPDR Three: Age 60

FPDR One and Two members currently receiving disability benefits prior to their Disability Retirement Age are assumed to be credited with 30 years of service for the calculation of their benefit at Disability Retirement Age.

Offset for OPSRP Benefits

Benefits payable to FPDR Three members upon disability or pre-retirement death are offset by benefits paid from the OPSRP program. For valuation purposes, we have assumed OPSRP benefits offset FPDR benefits as follows:

FPDR Three Disability Benefits: For purposes of the valuation OPSRP pre-retirement disability benefits are assumed to replace 0% of final salary. This assumption was employed at FPDR's request in recognition that

eligibility for disability benefits under OPSRP is more limited than under FPDR. This assumption will be reviewed as experience emerges. After age 60, the OPSRP benefit is assumed to exceed the benefit provided by the FPDR program.

FPDR Three Death Benefits: OPSRP benefits are assumed to begin at age 50. At that time, they are assumed to be equal to 50% of the benefit calculated using a 1.8% multiplier, times Years of Service, times Final Salary, times an OPSRP early retirement reduction factor of 0.35. OPSRP benefits are assumed to increase at 1.25% per year.

Liability Load for Disability-Related Medical Expense Reimbursements

To estimate the projected future costs attributable to disability-related medical reimbursement payments occurring after retirement, projected pension payments are increased by 0.5%.

Changes since Prior Valuation

The discount rate was updated from 4.29% to 2.85%.

Healthy and disabled mortality assumptions were updated for male retirees and for all active members based on the rates for Police & Fire members in the December 31, 2015 valuation of Oregon PERS.

Salary merit increase assumptions were updated for Portland Police Association members to reflect salary provisions of a recently ratified contract.

This valuation includes a load of 2.5% in the calculation of Final Pay for future retirements, reflecting the estimated impact of recent arbiter rulings allowing members who retire in certain months to have 27 biweekly pay period included in their Final Pay calculation.

The COLA assumed payable to FPDR Two members changed to be a blended average using 2.00% for service prior to October 8, 2013 and 1.25% for service after that date, reflecting recent legislative changes to Oregon PERS and FPDR Board direction.

Appendix D

Plan Provisions

Plan Provisions

Plan Eligibility

Prior to January 1, 2013, a sworn employee of the Bureau of Fire or Bureau of Police became a Member of the Fund at the time of permanent appointment. Effective January 1, 2013, a new sworn employee will become a Member of the Fund after completing six months of service.

FPDR One: Retired on or before January 1, 1990. Includes benefits provided by the Supplementary Retirement Program. (At the current valuation date, 10 surviving FPDR members continue to receive Supplementary benefits.)

FPDR Two: Not FPDR One, and permanently appointed as sworn employees of the Bureau of Fire or Bureau of Police prior to January 1, 2007.

FPDR Three: All other employees of the Bureau of Fire and Bureau of Police first sworn on or after January 1, 2007. FPDR Three members are also enrolled in the Oregon Public Service Retirement Plan (OPSRP), and OPSRP benefits are not payable from this Fund.

Member Contributions

No Member contributions are required after July 1, 1990. Prior to that date, Member contributions of 7% of First Class Pay were required; accumulated Member contributions prior to July 1, 1990 remain in the Fund.

Normal Retirement – FPDR Two and FPDR Three

Eligibility – A Member is eligible for retirement upon attaining the age of 50 and earning 25 or more Years of Service, or upon reaching age 55 with no service requirement.

Benefit – FPDR Two – The annual retirement benefit is a percentage of the Member’s Final Pay for each Year of Service up to 30 years. The percentage is based on the Member’s choice of a survivor benefit when the Member applies for a retirement benefit, according to the table below:

Percentage of Benefit Continuing to Surviving Spouse or Minor Children	Percentage of Final Pay Per Year of Service
100%	2.2%
75%	2.4%
50%	2.6%
25% or no survivors	2.8%

Benefit – FPDR Three – None.

Benefit Form – The benefit begins at retirement and continues for the Member’s life, with the selected percentage continuing to the Member’s surviving spouse or minor children after the Member’s death.

Cost of Living Increases – FPDR One

Benefits for FPDR One retirees will increase annually in line with increases with the Base Pay of a First Class Officer or Firefighter as appropriate. The increase is not subject to the 2.00 percent cap currently in place for FPDR Two cost of living increases. Benefits provided by the Supplementary Retirement Program do not receive cost of living increases.

Cost of Living Increases – FPDR Two and FPDR Three

Future benefits will be increased at the discretion of the Board of Trustees up to the current Oregon PERS statutory maximum of 2.00 percent per year. In 2016, the FPDR Board chose to pay a blended COLA for FPDR Two retirees. The blended COLA paid was calculated as 2.00% for benefits related to service through October 8, 2013 and 1.25% for benefits related to service after that date.

Service-Connected or Occupational Disability Benefit

Eligibility – A Member is eligible for a service disability benefit upon sustaining an injury or illness in the performance of duty that prevents the Member from engaging in the duties of a firefighter or police officer.

A Member is eligible for an occupational disability benefit if the Member is unable to perform the duties of a firefighter or police officer due to certain illnesses or injuries as specified in City Charter.

Benefit – FPDR One – The benefit payable prior to Disability Retirement Date for a FPDR One member is 60% of the Base Pay of a First Class Officer or Firefighter, as appropriate. Upon reaching Disability Retirement Age, the member will receive his or her maximum earned pension.

Benefit – FPDR Two – During the first year of disability, the benefit is 75% of the Member's Base Pay, reduced by 50% of any wages earned in other employment while disabled.

If the Member is capable of Substantial Gainful Employment, then after one year of disability and after the Member becomes Medically Stationary, but before four years of disability have elapsed, the Member's benefit will change to 50% of Base Pay minus 25% of wages earned in other employment.

Under any circumstances, a minimum benefit of 25% of Base Pay for member's position at disability will continue as long as the disability continues.

At Disability Retirement Age the above benefits stop; the Member is then entitled to a retirement benefit computed using his Base Pay and Years of Service at his Disability Retirement Age.

Benefit – FPDR Three – The same as the benefit for FPDR Two, but offset by any disability benefits received from OPSRP.

Benefit Form – The disability benefit begins at disability and continues until the Member's recovery, death, or Disability Retirement Age, whichever occurs first. Disability benefits will be increased in step with the Base Pay of the position held by the Member at disability.

The retirement benefit begins at Disability Retirement Age and continues for the Member's life, with the selected percentage (or for FPDR One, determined percentage) continuing to the Member's surviving spouse or minor children after the Member's death.

Retirement benefits payable after Disability Retirement Age will be increased in the same manner as Normal Retirement Benefits.

Nonservice-Connected Disability Benefit

Eligibility – A Member is eligible for a nonservice disability benefit if the Member has ten Years of Service and sustains an injury or illness other than in the performance of duty that prevents the Member from engaging in duties as a firefighter or police officer.

Benefit – FPDR One – The benefit payable prior to Disability Retirement Date for a FPDR One member is the maximum earned pension, but not less than 20% of the salary of a First Class Officer or Firefighter, as appropriate. Upon reaching Disability Retirement Age, the member will receive his or her maximum earned pension.

Benefit – FPDR Two – The benefit is 50% of the Member's Base Pay, reduced by 50% of any wages earned in other employment while disabled, less any non-service disability benefits paid.

At Disability Retirement Age the above benefits stop; the Member is then entitled to a retirement benefit computed using his Base Pay and Years of Service at his Disability Retirement Age.

Benefit – FPDR Three – The same as the benefit for FPDR Two, but offset by any disability benefits received from OPSRP.

Benefit Form – The disability benefit begins at disability and continues until the Member's recovery, death, or Disability Retirement Age, whichever occurs first. Disability benefits will be increased in step with the Base Pay of the position held by the Member at disability.

The retirement benefit begins at Disability Retirement Age and continues for the Member's life, with the selected percentage continuing to the Member's surviving spouse or minor children after the Member's death.

Retirement benefits payable after Disability Retirement Age will be increased in the same manner as Normal Retirement benefits.

Preretirement Service-Connected or Occupational Death Benefit

Eligibility – A Member's surviving spouse or dependent minor children are eligible for a service death benefit if the Member dies as a result of an injury or illness sustained in the performance of duty.

A Member's surviving spouse or dependent minor children are eligible for an occupational death benefit if the Member dies as a result of certain illnesses or injuries as specified in City Charter.

Benefit – FPDR Two – Prior to the date the Member would have reached the earliest retirement age, the surviving spouse or dependent minor children will receive an annual benefit equal to 75% of the Member's Base Pay.

After the date the Member would have reached the Member's earliest retirement age, the surviving spouse or dependent minor children will receive an annual benefit equal to 50% of the Member's Final Pay.

Benefit – FPDR Three – The same as the benefit for FPDR Two, but offset by any death benefits received from OPSRP.

Benefit Form – The death benefit begins when the Member dies and continues until the Member's beneficiaries cease to be eligible, which occurs at death for benefits paid to a surviving spouse and at age 18 for benefits paid to minor children.

Death benefits will be increased in the same manner as Normal Retirement benefits.

Preretirement Nonservice Death Benefit

Eligibility – A Member's surviving spouse or dependent minor children are eligible for a nonservice death benefit if a Member has earned one or more Years of Service and dies as a result of an injury or illness not sustained in the performance of duty.

Benefit – FPDR Two – If the Member has earned fewer than five Years of Service, the Member's beneficiaries will receive a refund of the Member's contributions accumulated to July 1, 1990.

If the Member has earned five or more Years of Service, the surviving spouse or dependent minor children will receive a benefit equal to 50% of the Member's retirement pension earned to the date of death, assuming an accrual rate of 2.6% of Final Pay for each Year of Service.

Benefit – FPDR Three – The same as the benefit for FPDR Two, but offset by any death benefits received from OPSRP.

Benefit Form – If the Member had five or more Years of Service, the death benefit to the surviving spouse begins when the spouse reaches age 55 and continues until the death of the surviving spouse.

If the Member had five or more Years of Service, a death benefit is payable to the dependent minor children if there is no surviving spouse or if the spouse is under age 55; the benefit to the dependent minor children begins when the Member dies and continues until the child is no longer a minor.

Death benefits will be increased in the same manner as Normal Retirement benefits.

Vested Termination Benefit

Eligibility – A Member is eligible for a vested termination benefit after earning five years of service.

Benefit – FPDR Two – If the Member terminates after earning five or more Years of Service, the termination benefit is the Member's retirement pension earned to the date of termination payable at the age the Member would have been eligible for retirement had he or she continued employment.

Benefit – FPDR Three – None.

Benefit Form – If the Member had earned five or more Years of Service at termination, the benefit begins when the Member would first have been eligible for retirement and continues for the Member's life, with the selected percentage continuing to the Member's surviving spouse or minor children after the Member's death.

Benefits will be subject to cost of living increases in the same manner as Normal Retirement benefits.

Oregon State Income Tax Adjustment

For Members hired prior to July 14, 1995, benefits will be eligible for an adjustment to compensate the Member for state income taxes paid. Senate Bill 822, enacted in 2013, limits eligibility for these adjustments to individuals residing in Oregon for tax purposes. There are two adjustment formulas and the Member or beneficiary will receive the greater of the two adjustments if eligible for both formulas.

SB 656 Increase: The amount of the adjustment is determined by the Member's Years of Service at termination, in accordance with the table below.

Years of Service	Adjustment
10 – 19	1.0%
20 – 24	2.5%
25 and over	4.0%

$$\text{HB 3349 Increase} \left(\frac{1}{1 - \text{maximum Oregon personal income tax rate (limited to 9\%)}} - 1 \right) \times \frac{\text{Service prior to October 1, 1991}}{\text{All Service}}$$

Supplemental Retirement Benefits

A specified group of FPDR One retirees receive additional monthly supplemental benefits provided by special ordinance. These benefits do not receive a COLA.

Disability-Related Medical Expenses

FPDR reimburses reasonable medical and hospital expenses arising from a service-connected or occupational injury or illness. The Fund Administrator may limit reimbursement to particular medical and hospital service providers with which it has made fee arrangements and may join in the purchase of services and administration of claims for other employees of the City of Portland.

For Members retired on or before January 1, 2007:

For FPDR One/Two Members, reimbursement is for expenses incurred:

- a) While serving as an active Member,
- b) While disability benefits continue, and
- c) While the retirement benefits are paid, assuming the member receives disability benefits through Disability Retirement Age

For Members retiring after January 1, 2007:

Reimbursement for expenses incurred at any time, regardless of whether the Member continued to receive disability benefits through Disability Retirement Age (FPDR One or FPDR Two) or Oregon PERS Normal Retirement Age (FPDR Three) or retired with a retirement benefit under Section 5-304 (FPDR Two) or under Oregon PERS (FPDR Three).

Changes since Prior Valuation

Due to changes in the COLA provided under Oregon PERS that occurred since the June 30, 2014 valuation, it is our understanding the FPDR Board now has discretion to provide a COLA to FPDR Two members of up to 2.0%, rather than up to 1.25%.

Recent arbiter rulings reinstated a methodology for the Final Pay calculation that can result in pay for 27 pay periods (rather than the typical 26 periods) counting toward the one-year Final Pay calculation for retirements that occur in certain months.

Definitions

Base Pay

A Member's Base Pay is the base pay in the Member's position, including premium pay, but excluding overtime and excluding any payments for unused vacation or sick leave, limited by Internal Revenue Code 401(a)(17).

Disability Retirement Age

FPDR One: Age 64

FPDR Two: A Member's Disability Retirement Age is the earlier of Social Security normal retirement age and the age at which the Member has earned 30 Years of Service.

FPDR Three: Normal Retirement Age under Oregon PERS.

Final Pay

A Member's Final Pay is the Member's highest Base Pay during any one of the three consecutive one-year periods preceding the month in which the Member retires, dies, becomes disabled, or terminates employment. For this purpose, a one-year period is defined to include 365 days of pay (366 in a leap year).

If the Member's benefit is deferred due to disability or employment covered by the Oregon Public Employees' Retirement System (OPERS), the Member's Final Pay will be increased during the deferral period with increases in the Base Pay of the Member's position at termination if the termination occurred prior to 2013.

Medically Stationary

A disabled Member is judged to be Medically Stationary when the Member's prognosis is clear and the Member's medical condition has stabilized and is unlikely to change.

Spouse

A Member's spouse must have been designated by marriage or by a registered same-sex domestic partnership for at least twelve months.

Substantial Gainful Activity

A disabled Member is capable of Substantial Gainful Activity if the FPDR Director determines that the Member is capable of being employed with earnings of at least one-third of the Member's Base Pay.

Year of Service

A Member will be credited with one twelfth of a Year of Service for each completed month of active employment as a City firefighter or police officer. (Maximum of 30 years)

In addition, a FPDR Two disabled Member will earn a portion of a Year of Service for each year during which the Member receives disability benefits. The portion of a Year of Service earned will equal the Member's disability pension during the year divided by 75% of current base pay for position held at disablement (the maximum disability benefit).

Excluded Benefits

The benefits described below were excluded from the valuation. We do not believe valuing these benefits would materially change the results of this valuation.

Preretirement Nonservice Death Benefit

A lump sum funeral benefit equal to 50% of one month of First Class Pay will be paid to the beneficiaries of Members who die while active, disabled, or retired.

Minimum Total Payments for Normal Retirement, Disability, Death, and Termination Benefits

The total of all payments to the Member and the Member's survivors will at least equal the Member's contributions accumulated to July 1, 1990.

Funeral Benefits

Upon the death of an active or retired FPDR One Member, the Board shall pay a sum not to exceed \$200 to be used for funeral expenses. A lump sum funeral benefit equal to 50% of one month of First Class Pay will be paid to the beneficiaries of FPDR Two and FPDR Three Members who die while active, disabled, or retired.

Appendix E

Glossary

Glossary

Actuarial Accrued Liability. The portion of the present value of prospective benefits allocated to service before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value. The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions. Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method. Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual actuarial cost of the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss). A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Funded Ratio. The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Measurement Date. The date as of which the Actuarial Accrued Liability (called the Total Pension Liability) is determined under GASB 67 and 68. Under GASB 67, the Measurement Date is required to be the plan's fiscal year-end, but the liability can be recalculated based on a Valuation Date up to 24 months earlier.

Normal Cost. The annual cost assigned to the current year, under the actuarial cost method in use.

Present Value. Sometimes called "actuarial present value," the current worth (on the valuation date) of an amount or series of amounts payable or receivable in the future. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Statement No. 67 of the Governmental Accounting Standards Board (GASB 67). The accounting standard that sets financial reporting standards for defined benefit pension plans.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68). The accounting standard that governs a state or local governmental employer's pension accounting.

Unfunded Actuarial Accrued Liability. The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.

Valuation Date. The date as of which the actuarial valuation is performed.