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November 20, 2012

VIA E-MAIL

Debra Hembree
Manager
Actuarial Analysis Section
Oregon PERS

Re: 2012 Purchasing Power Study

Dear Debra:

As requested, we updated the annual purchasing power study for 2012 to compare how well monthly benefits paid to retirees and beneficiaries have kept up with inflation since retirement. Since the last study, the Consumer Price Index for Portland increased 2.86% in 2011. All Tier 1/Tier 2 participants received a 2.00% annual cost-of-living adjustment, experiencing a decrease in purchasing power over the year.

Purchasing power in this report is defined as the cumulative post-retirement benefit increases in Tier 1/Tier 2 benefits compared to the cumulative CPI increases since the year of retirement. The chart below shows the change in purchasing power from 2011 to 2012 by year of retirement.

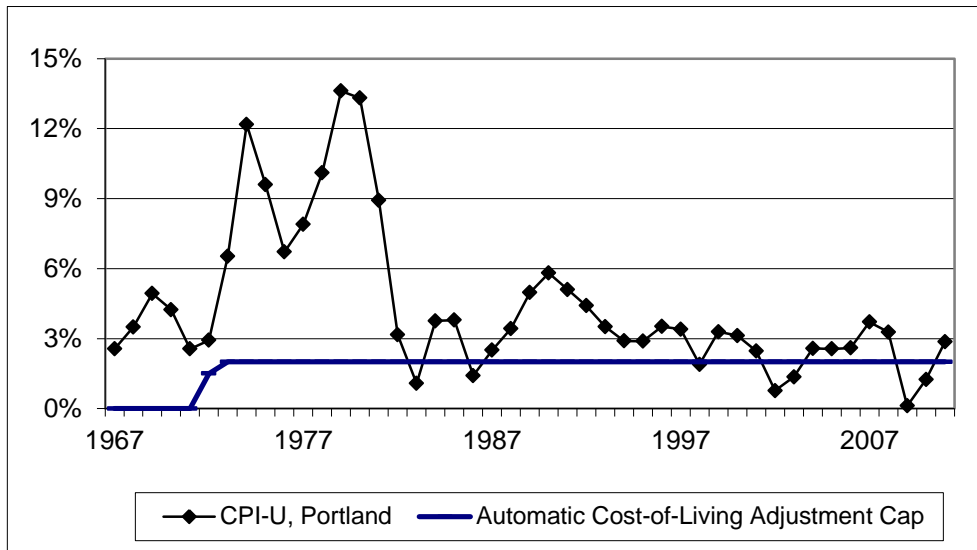
Year Retired	Purchasing Power	
	2011	2012
8/1/1980 – 7/1/1981 & prior	77.2%	76.5%
8/1/1981 – 7/1/1982	79.8%	79.2%
8/1/1982 – 7/1/1983	81.9%	81.2%
8/1/1983 – 7/1/1984	82.0%	81.3%
8/1/1984 – 7/1/1985	79.8%	79.1%
8/1/1985 – 7/1/1986	78.8%	78.1%
8/1/1986 – 7/1/1987	79.7%	79.0%
8/1/1987 – 7/1/1988	79.7%	79.0%
8/1/1988 – 7/1/1989	80.1%	79.4%
8/1/1989 – 7/1/1990	81.2%	80.5%
8/1/1990 – 7/1/1991	83.6%	82.9%
8/1/1991 – 7/1/1992	86.7%	86.0%
8/1/1992 – 7/1/1993	89.3%	88.6%
8/1/1993 – 7/1/1994	91.4%	90.7%
8/1/1994 – 7/1/1995	92.8%	92.0%
8/1/1995 – 7/1/1996	93.6%	92.8%

Year Retired	Purchasing Power	
	2011	2012
8/1/1996 – 7/1/1997	94.4%	93.6%
8/1/1997 – 7/1/1998	95.8%	95.0%
8/1/1998 – 7/1/1999	97.1%	96.2%
8/1/1999 – 7/1/2000	97.1%	96.2%
8/1/2000 – 7/1/2001	98.0%	97.2%
8/1/2001 – 7/1/2002	98.0%	97.2%
8/1/2002 – 7/1/2003	98.0%	97.2%
8/1/2003 – 7/1/2004	98.0%	97.2%
8/1/2004 – 7/1/2005	98.0%	97.2%
8/1/2005 – 7/1/2006	98.6%	97.7%
8/1/2006 – 7/1/2007	99.1%	98.3%
8/1/2007 – 7/1/2008	99.7%	98.9%
8/1/2008 – 7/1/2009	100.0%	99.2%
8/1/2009 – 7/1/2010	100.0%	99.2%
8/1/2010 – 7/1/2011	100.0%	99.2%
8/1/2011 – 7/1/2012	100.0%	99.2%

Inflation

Cost-of-living adjustments (COLAs) are automatically granted each year to Tier 1/Tier 2 retirees and beneficiaries up to a maximum of 2 percent based on the Consumer Price Index for Portland (defined by All Items, All Urban Consumers, Portland-Salem, OR-WA, Annual Average) as released by the Department of Labor. If the Consumer Price Index for Portland (CPI – Portland) exceeds 2 percent, then the retiree receives a 2 percent COLA and the remaining percentage is carried forward in a “bank” to be used in future years when the CPI-Portland is less than 2 percent. Retirees who have recently retired, and do not have a “bank” balance, receive a COLA equal to the CPI-Portland amount if less than 2 percent, otherwise they receive 2 percent.

The graph below page shows the CPI-Portland compared to the automatic cost-of-living adjustment cap that is currently 2.0 percent.



The automatic COLA was established in 1972, and there have only been seven years (1983, 1986, 1998, 2002, 2003, 2009 and 2010) when inflation has been below the COLA cap. Consequently, retiree benefits have tended to lose their purchasing power. Attachment A shows the history of increases in CPI-Portland from 1962 through 2011.

The historical COLA amounts granted to retirees and beneficiaries are shown below:

Date	COLA	Exceptions
July 1972	1.5%	
July 1973 – present	2.0% (maximum COLA)	1.08% in 1984 if retired on or after August 1983 1.41% in 1987 if retired on or after August 1986 1.89% in 1999 if retired on or after August 1998 1.24% in 2003 if retired on or after August 2001 and prior to August 2002 0.77% in 2003 if retired on or after August 2002 1.36% in 2004 if retired on or after August 2001 and prior to August 2004 1.73% in 2004 if retired on or after August 2000 and prior to August 2001 1.40% in 2010 if retired on or after August 2008 and prior to August 2009 0.12% in 2010 if retired on or after August 2009 and prior to August 2010 1.25% in 2011 if retired on or after August 2008 and prior to August 2011

Benefit Increases

From April 1964 through December 1971 there were some one-time additional payments granted to retirees. These payments are not included in this analysis as they did not affect the ongoing benefit paid to the retiree. A summary of the one-time payments follows:

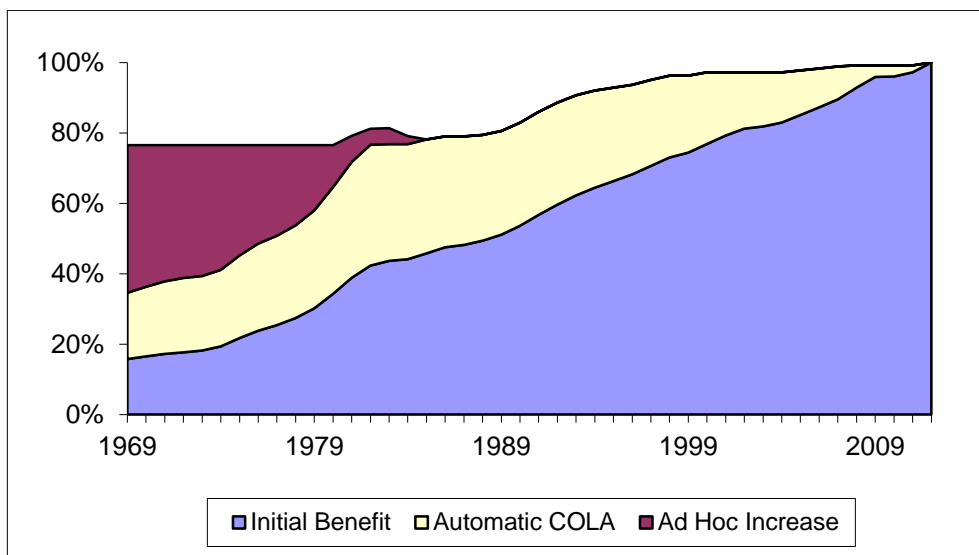
Effective Date	One Time Payment Amount
April 1964	Monthly Benefit
April 1965	1.5 x Monthly Benefit
April 1966, April 1967	2 x Monthly Benefit
April 1968, April 1969, April 1970, April 1971	3 x Monthly Benefit
December 1971	3.5 x Monthly Benefit

In addition, retirees and beneficiaries have been granted ad hoc benefit increases that resulted in increased monthly benefits going forward. A summary of the ad hoc increases granted by legislation is shown below, with the graded increases shown on Attachment B.

Effective Date	Ad Hoc Increase Granted by Legislation
January 1972	25% if retired prior to January 1968 12% if retired after December 1967 and prior to January 1972
January 1974	25% if retired prior to January 1968 20% if retired after December 1967 and prior to January 1972 12% if retired after December 1971 and prior to January 1974
October 1977	25% on first \$50 of monthly benefit 15% on next \$100 10% on next \$100 5% on next \$100 and 1% on monthly benefit over \$350
July 1979	2% for all retirees
July 1980	2% for all retirees
August 1981	Graded table by year of retirement to 11.40%
July 1982	Graded table by year of retirement to 11.40%
July 1985	Graded table by year of retirement to 7.28%
July 1986	Graded table by year of retirement to 7.28%
July 1989	Graded table by year of retirement to produce a 95% replacement of original purchasing power

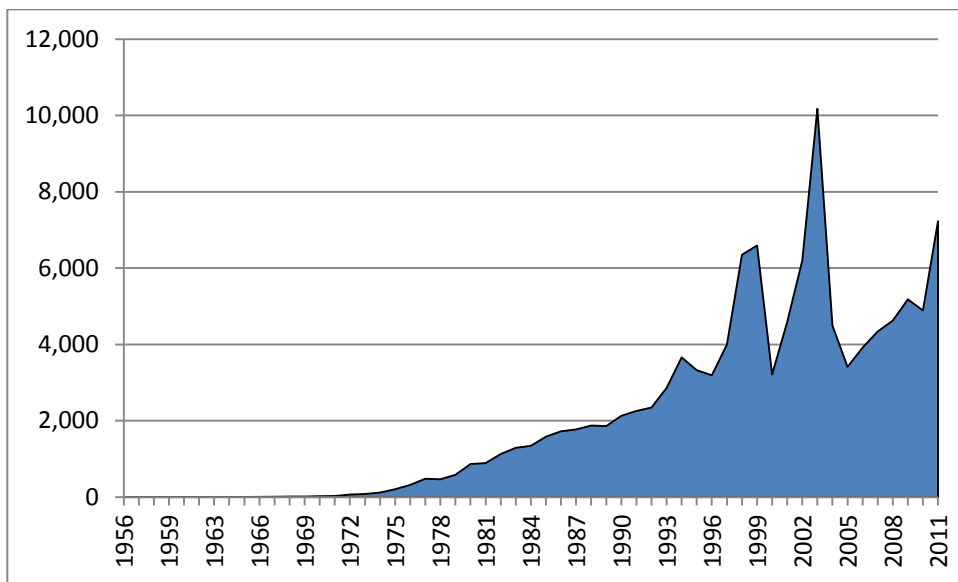
Current Purchasing Power

The current purchasing power of retirees depends on both the automatic COLA increases and the ad hoc increases granted, compared to the growth in the CPI over the same time period. The graph below shows the cumulative effects of increases granted as a percentage of a benefit adjusted by CPI by year of retirement.



As shown in the graph above, for long-time retired members, the majority of the increases in their benefits since retirement have come from ad hoc increases. Retirees who retired within the past 27 years have not received any ad hoc increases. However, inflation has been significantly lower than in the late 1970's, and the automatic COLA increases have tracked changes in CPI more closely. Purchasing power for retirees since 1993 has remained within 90 percent of their original purchasing power.

The following graph shows the distribution of retirees and beneficiaries, from the December 31, 2011 actuarial valuation, by year of retirement. As shown in the graph below, a vast majority of retirees and beneficiaries have retired within the last 27 years and have not received any ad hoc increases. However, as their COLAs have tracked more closely with CPI, their purchasing power has remained higher than long-time retired members who have received ad hoc increases. For retirees/beneficiaries retired in the last 27 years, the average purchasing power is 94.5% compared to the average purchasing power of 78.6% for those retired more than 27 years ago.



Attachment C compares the cumulative post-retirement benefit increases in Tier 1/Tier 2 benefits to the cumulative CPI increases for the last 43 years. The middle columns show the level to which an initial benefit of \$100 per month would have risen, based on CPI increases and increases granted through PERS. The columns on the right show the percentage of the original \$100 benefit and the PERS-adjusted benefit as a percentage of the CPI-adjusted benefit.

For example, a 1969 retiree with an original benefit of \$100 per month would need to be receiving \$635.45 per month now to have kept pace with inflation. Benefit increases granted through PERS increased the \$100 per month benefit to \$486.16 per month. The original benefit of \$100 per month is 15.7% of the CPI-adjusted benefit and the PERS-adjusted benefit of \$486.16 is 76.5% of the CPI-adjusted benefit.

Ms. Debra Hembree
November 20, 2012
Page 6

Our analysis and conclusions are based on the data, methods and assumptions described above. Differences in the methods and assumptions may produce different results.

If you have any questions about the purchasing power report or need any additional information, please let us know

Sincerely,

Matt Larrabee, FSA, EA, MAAA
Consulting Actuary

MRL:sdp
encl.

cc: Steve Rodeman
Scott Preppernau

ATTACHMENT A

History of Consumer Price Index — Portland

Year	CPI 1967 Basis	CPI 1982-84 Basis	Annual Percentage Increase	Year	CPI 1982-84 Basis	Annual Percentage Increase
1962	88.5			1987	110.9	2.50%
1963	90.2		1.92%	1988	114.7	3.43%
1964	92.2		2.22%	1989	120.4	4.97%
1965	94.6		2.60%	1990	127.4	5.81%
1966	97.5		3.07%	1991	133.9	5.10%
1967	100.0		2.56%	1992	139.8	4.41%
1968	103.5		3.50%	1993	144.7	3.51%
1969	108.6		4.93%	1994	148.9	2.90%
1970	113.2		4.24%	1995	153.2	2.89%
1971	116.1		2.56%	1996	158.6	3.52%
1972	119.5		2.93%	1997	164.0	3.40%
1973	127.3		6.53%	1998	167.1	1.89%
1974	142.8		12.18%	1999	172.6	3.29%
1975	156.5		9.59%	2000	178.0	3.13%
1976	167.0		6.71%	2001	182.4	2.47%
1977	180.2		7.90%	2002	183.8	0.77%
1978	198.4		10.10%	2003	186.3	1.36%
1979	225.4		13.61%	2004	191.1	2.58%
1980	255.4		13.31%	2005	196.0	2.56%
1981	278.2		8.93%	2006	201.1	2.60%
1982	287.0		3.16%	2007	208.6	3.71%
1983	290.1		1.08%	2008	215.4	3.28%
1984	301.0		3.76%	2009	215.6	0.12%
1985	312.4		3.79%	2010	218.3	1.25%
1986	316.8	108.2	1.41%	2011	224.6	2.86%

Source: U.S. Department of Labor, Bureau of Labor Statistics
 Consumer Price Index, All Items, All Urban Consumers, Portland-Salem, OR-WA, Annual Average

ATTACHMENT B

Year Retired	Ad Hoc Adjustments by Effective Year				
	1981	1982	1985	1986	1989
1950	11.40	11.40	7.28	7.28	18.00
1951	10.64	10.64	7.28	7.28	19.00
1952	10.56	10.56	7.28	7.28	10.00
1953	10.16	10.16	7.28	7.28	8.00
1954	10.04	10.04	7.28	7.28	8.00
1955	10.00	10.00	7.25	7.25	7.00
1956	9.68	9.68	7.06	7.06	9.00
1957	9.28	9.28	6.82	6.82	9.00
1958	9.08	9.08	6.70	6.70	5.00
1959	8.96	8.96	6.62	6.62	3.00
1960	8.76	8.76	6.50	6.50	3.00
1961	8.64	8.64	6.42	6.42	2.00
1962	8.56	8.56	6.37	6.37	1.00
1963	8.32	8.32	6.22	6.22	1.00
1964	8.12	8.12	6.09	6.09	–
1965	7.88	7.88	5.94	5.94	–
1966	7.56	7.56	5.73	5.73	–
1967	7.36	7.36	5.60	5.60	–
1968	7.20	7.20	5.49	5.49	7.00
1969	6.88	6.88	5.28	5.28	4.00
1970	6.60	6.60	5.09	5.09	–
1971	6.36	6.36	4.93	4.93	–
1972	6.20	6.20	4.82	4.82	15.00
1973	5.92	5.92	4.63	4.63	14.00
1974	5.28	5.28	4.17	4.17	25.00
1975	4.92	4.92	3.92	3.92	15.00
1976	4.72	4.72	3.77	3.77	7.00
1977	4.44	4.44	3.57	3.57	3.00
1978	4.76	4.76	3.80	3.80	16.00
1979	4.32	4.32	3.48	3.48	11.00
1980	4.00	4.00	3.24	3.24	3.00
1981	–	4.00	3.09	3.09	–
1982		–	3.01	3.01	–
1983			3.00	3.00	–
1984			–	3.00	–
1985			–	–	–
1986				–	–
1987					–
1988					–
1989					–

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ATTACHMENT C

Comparison of Tier 1/Tier 2 Benefits to CPI at August, 2012

Year Retired	Number of Years	Cumulative Increase		Purchasing Power	
		CPI	Tier 1/Tier 2	Initial	Tier 1/Tier 2
8/1/1969-7/1/1970	43	635.45	486.16	15.7%	76.5%
8/1/1970-7/1/1971	42	605.59	463.32	16.5%	76.5%
8/1/1971-7/1/1972	41	580.96	444.48	17.2%	76.5%
8/1/1972-7/1/1973	40	566.46	433.38	17.7%	76.5%
8/1/1973-7/1/1974	39	550.33	421.04	18.2%	76.5%
8/1/1974-7/1/1975	38	516.60	395.24	19.4%	76.5%
8/1/1975-7/1/1976	37	460.51	352.32	21.7%	76.5%
8/1/1976-7/1/1977	36	420.21	321.49	23.8%	76.5%
8/1/1977-7/1/1978	35	393.79	301.28	25.4%	76.5%
8/1/1978-7/1/1979	34	364.96	279.22	27.4%	76.5%
8/1/1979-7/1/1980	33	331.48	253.60	30.2%	76.5%
8/1/1980-7/1/1981	32	291.77	223.22	34.3%	76.5%
8/1/1981-7/1/1982	31	257.50	203.85	38.8%	79.2%
8/1/1982-7/1/1983	30	236.39	191.89	42.3%	81.2%
8/1/1983-7/1/1984	29	229.15	186.38	43.6%	81.3%
8/1/1984-7/1/1985	28	226.70	179.28	44.1%	79.1%
8/1/1985-7/1/1986	27	218.48	170.67	45.8%	78.1%
8/1/1986-7/1/1987	26	210.50	166.31	47.5%	79.0%
8/1/1987-7/1/1988	25	207.58	163.99	48.2%	79.0%
8/1/1988-7/1/1989	24	202.51	160.81	49.4%	79.4%
8/1/1989-7/1/1990	23	195.80	157.68	51.1%	80.5%
8/1/1990-7/1/1991	22	186.53	154.59	53.6%	82.9%
8/1/1991-7/1/1992	21	176.29	151.57	56.7%	86.0%
8/1/1992-7/1/1993	20	167.73	148.60	59.6%	88.6%
8/1/1993-7/1/1994	19	160.65	145.68	62.2%	90.7%
8/1/1994-7/1/1995	18	155.20	142.81	64.4%	92.0%
8/1/1995-7/1/1996	17	150.83	140.02	66.3%	92.8%
8/1/1996-7/1/1997	16	146.59	137.27	68.2%	93.6%
8/1/1997-7/1/1998	15	141.60	134.58	70.6%	95.0%
8/1/1998-7/1/1999	14	136.95	131.81	73.0%	96.2%
8/1/1999-7/1/2000	13	134.41	129.36	74.4%	96.2%
8/1/2000-7/1/2001	12	130.13	126.49	76.8%	97.2%
8/1/2001-7/1/2002	11	126.18	122.64	79.3%	97.2%
8/1/2002-7/1/2003	10	123.14	119.68	81.2%	97.2%
8/1/2003-7/1/2004	9	122.20	118.76	81.8%	97.2%
8/1/2004-7/1/2005	8	120.56	117.17	82.9%	97.2%
8/1/2005-7/1/2006	7	117.52	114.87	85.1%	97.7%
8/1/2006-7/1/2007	6	114.59	112.62	87.3%	98.3%
8/1/2007-7/1/2008	5	111.69	110.41	89.5%	98.9%
8/1/2008-7/1/2009	4	107.69	106.82	92.9%	99.2%
8/1/2009-7/1/2010	3	104.27	103.40	95.9%	99.2%
8/1/2010-7/1/2011	2	104.15	103.27	96.0%	99.2%
8/1/2011-7/1/2012	1	102.86	102.00	97.2%	99.2%
8/1/2012-7/1/2013	0	100.00	100.00	100.0%	100.0%

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