

PENNSYLVANIA COMPENSATION RATING BUREAU

Indicated Change in Loss Costs

Page 1 presents the overall indicated change in loss costs.

Derivation of the indemnity and medical trend factors and trended loss ratios shown on Page 1 is presented on Page 2.

Page 3 provides the calculation of Statewide Average Weekly Wage (SAWW) trends. The selection of the 4-point exponential trend fit for Policy Years 2019-2022 was used in the calculation of the indemnity and medical severity trends on Page 2.

Page 4 shows the derivation of overall frequency trend factors for each of the latest three policy years.

## EXHIBIT I

### INDICATED CHANGE IN LOSS COSTS

	<u>Indemnity</u>	<u>Medical</u>	<u>Total</u>
(1) Policy Year 2020 Ratio of Loss to Expected Loss	0.5403	0.5662	1.1065
(2) Policy Year 2021 Ratio of Loss to Expected Loss	0.5064	0.5273	1.0337
(3) Policy Year 2022 Ratio of Loss to Expected Loss	0.5083	0.5213	1.0296
(4) Weighted Average (2020 - 33%; 2021 - 33%; 2022 - 33%)	0.5183	0.5383	1.0566
(5) Policy Year 2020 Ratio Trended to 4/1/2026 +	0.4557	0.4689	0.9246
(6) Policy Year 2021 Ratio Trended to 4/1/2026 +	0.4412	0.4526	0.8938
(7) Policy Year 2022 Ratio Trended to 4/1/2026 +	0.4575	0.4639	0.9214
(8) Weighted Average (2020 - 33%; 2021 - 33%; 2022 - 33%)	0.4515	0.4618	0.9133
(9) Indicated Change in Loss Costs	0.4515	0.4618	0.9133
			<b>-8.67%</b>

### CHANGES IN MANUAL LOSS COST LEVEL BY INDUSTRY GROUP

	<u>Mfg.</u>	<u>Cont.</u>	<u>Office.</u>	<u>Goods.</u>	<u>Other</u>	<u>Total</u>
(10) Current Collectible Premium Ratio	1.0732	1.1889	1.0264	1.0018	1.0488	
(11) Anticipated Collectible Premium Ratio	1.0562	1.1725	1.0237	0.9861	1.0344	
(12) Final Indicated Change in Manual Loss Cost Level (9T) * (11) / (10)	0.8988	0.9007	0.9109	0.8990	0.9008	0.9012

+ Refer to pages 20 and 21

**DETERMINATION OF TREND**

**INDEMNITY**

Policy Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Actual Loss Ratio	0.8600	0.8162	0.7422	0.6757	0.6612	0.6582	0.5914	0.5403	0.5064	0.5083
Normalized Frequency	1.0000	0.9147	0.8438	0.7889	0.7469	0.7185	0.6523	0.6277	0.5962	0.5276
Severity Loss Ratio	0.8600	0.8923	0.8795	0.8565	0.8853	0.9161	0.9067	0.8607	0.8494	0.9633
<b>x</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>y</b>	0.8600	0.8923	0.8795	0.8565	0.8853	0.9161	0.9067	0.8607	0.8494	0.9633

Trend Selection	Severity Loss Ratio Trend	SAWW Trend
3 pt	5.8%	2.7%
4 pt	<b>1.7%</b>	3.7%
5 pt	0.4%	4.5%
6 pt	0.4%	<b>4.7%</b>
7 pt	0.7%	4.6%
10 pt	0.5%	3.8%

4 Point Exponential Regression = 1.7% (y = 0.774669 \* 1.016987 ^ x)  
 SAWW 6 Point Exponential Regression = 4.7% \*  
**Selected Annual Trend Factor = 3.2%**

Policy Year	Annual Severity Trend Factor (1)	Trend Period # of Years to 4/1/2024 (2)	Severity Trend Factor (3) = (1) ^ (2)	Frequency Trend Factor (4) **
2020	1.0321	5.2500	1.1804	0.7146
2021	1.0321	4.2500	1.1437	0.7618
2022	1.0321	3.2500	1.1081	0.8122

**Trended Loss Ratio**

Policy Year	Actual Loss Ratio (5)	Combined Trend Factor (6) = (3) * (4)	Trended Loss Ratio (7) = (5) * (6)
2020	0.5403	0.8435	0.4557
2021	0.5064	0.8713	0.4412
2022	0.5083	0.9000	0.4575

**MEDICAL**

Policy Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Actual Loss Ratio	0.8628	0.8307	0.7216	0.6967	0.6892	0.7283	0.6198	0.5662	0.5273	0.5213
Normalized Frequency	1.0000	0.9147	0.8438	0.7889	0.7469	0.7185	0.6523	0.6277	0.5962	0.5276
Severity Loss Ratio	0.8628	0.9081	0.8551	0.8831	0.9228	1.0137	0.9502	0.9020	0.8845	0.9880
<b>x</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
<b>y</b>	0.8628	0.9081	0.8551	0.8831	0.9228	1.0137	0.9502	0.9020	0.8845	0.9880

Trend Selection	Severity Loss Ratio Trend	SAWW Trend
3 pt	4.7%	2.7%
4 pt	<b>1.0%</b>	3.7%
5 pt	-1.2%	4.5%
6 pt	-0.3%	<b>4.7%</b>
7 pt	0.5%	4.6%
10 pt	1.0%	3.8%

4 Point Exponential Regression = 1.0% (y = 0.856347 \* 1.009791 ^ x)  
 SAWW 6 Point Exponential Regression = 4.7% \*  
**Selected Annual Trend Factor = 2.8%**

Policy Year	Annual Severity Trend Factor (1)	Trend Period # of Years to 4/1/2024 (2)	Severity Trend Factor (3) = (1) ^ (2)	Frequency Trend Factor (4) **
2020	1.0285	5.2500	1.1589	0.7146
2021	1.0285	4.2500	1.1268	0.7618
2022	1.0285	3.2500	1.0956	0.8122

**Trended Loss Ratio**

Policy Year	Actual Loss Ratio (5)	Combined Trend Factor (6) = (3) * (4)	Trended Loss Ratio (7) = (5) * (6)
2020	0.5662	0.8281	0.4689
2021	0.5273	0.8584	0.4526
2022	0.5213	0.8898	0.4639

\* See page 1.3  
 \*\* See page 1.4

### SAWW Trend Calculation

Policy Year	Official SAWW	Annual Percent Change	Period	SAWW Exp Fit Trend
2000	662.00		2013-2023	3.8% 11 pt
2001	675.00	2.0%	2014-2023	4.0% 10 pt
2002	690.00	2.2%	2015-2023	4.2% 9 pt
2003	716.00	3.8%	2016-2023	4.4% 8 pt
2004	745.00	4.1%	2017-2023	4.6% 7 pt
2005	779.00	4.6%	<b>2018-2023</b>	<b>4.7%</b> 6 pt
2006	807.00	3.6%	2019-2023	4.5% 5 pt
2007	836.00	3.6%	2020-2023	3.7% 4 pt
2008	845.00	1.1%	2021-2023	2.7% 3 pt
2009	858.00	1.5%		
2010	888.00	3.5%		
2011	917.00	3.3%	2009-2019	2.6% 11 pt
2012	932.00	1.6%	2010-2019	2.5% 10 pt
2013	951.00	2.0%	2011-2019	2.6% 9 pt
2014	978.00	2.8%	2012-2019	2.7% 8 pt
2015	995.00	1.7%	2013-2019	2.8% 7 pt
2016	1025.00	3.0%	2014-2019	2.9% 6 pt
2017	1049.00	2.3%	2015-2019	3.1% 5 pt
2018	1081.00	3.1%	2016-2019	3.3% 4 pt
2019	1130.00	4.5%	2017-2019	3.8% 3 pt
2020	1205.00	6.6%		
2021	1273.00	5.6%		
2022	1325.00	4.1%		
2023*	1342.00	1.3%		

\* Estimated

**DETERMINATION OF TREND**

**CLAIM FREQUENCY**

Policy Year Frequency per \$1 million of Expected Losses

Policy Year	Claim Frequency	Normalized Frequency
2012	26.20	1.0000
2013	25.68	0.9802
2014	23.49	0.8966
2015	21.67	0.8271
2016	20.26	0.7733
2017	19.18	0.7321
2018	18.45	0.7042
2019	16.75	0.6393
2020	16.12	0.6153
2021	15.31	0.5844
2022	13.55	0.5172

Policy Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>x</b>	1	2	3	4	5	6	7	8	9	10
<b>y</b>	0.9802	0.8966	0.8271	0.7733	0.7321	0.7042	0.6393	0.6153	0.5844	0.5172

Trend Seletion	Frequency Trend
3 pt	-8.3%
4 pt	-6.6%
5 pt	-6.8%
6 pt	-6.5%
7 pt	<b>-6.2%</b>
8 pt	-6.1%
9 pt	-6.2%
10 pt	-6.4%

**Selected Annual Frequency Trend Factor:**  
**7 Point Exponential Regression =** -6.2%  $(y = 0.835644 * 0.937988 ^ x)$

Policy Year	Annual Frequency Trend Factor (1)	Trend Period # of Years to 4/1/2024 (2)	Frequency Trend Factor (3) = (1) ^ (2)
2020	0.9380	5.2500	0.7146
2021	0.9380	4.2500	0.7618
2022	0.9380	3.2500	0.8122