



June 19, 2018

Dennis Lawson, Chair  
Law Enforcement Officers' & Firefighters' Plan 2 Retirement Board  
P.O. Box 40918  
Olympia, Washington 98504-0918

Re: Actuarial Review of SSB 6214 Fiscal Note

Chair Lawson and Members of the Board:

There follow the results of our actuarial review of the above fiscal note.

**Background**

Historically PTSD was only considered an occupational disability if it was due to a single traumatic event (including 1 event out of a series of events).

With certain restrictions, SHB 6214 added a prima facie presumption that post-traumatic stress disorder is an occupational disease. The restrictions include:

- The disorder must “develop or manifest itself after 10 years of service”
- If provided by the employer, in order to potentially be able to receive the presumption, those hired after the effective date of the legislation must submit to a psychological test that rules out PTSD at hire.

Based on data supplied by DRS and research from a variety of sources including The Badge of Life<sup>1</sup> the Office of the State Actuary (OSA) assumed the following increases in occupational disabilities and duty deaths:

<u>Assumed Changes in Annual Deaths and Disabilities</u>		
	<u>Before</u>	<u>After</u>
Death:		
Duty	6	8
Non-Duty	<u>21</u>	<u>19</u>
Total	27	27
Disability:		
Duty		
Catastrophic	4	4
Occupational	30	33
Non-Duty	<u>5</u>	<u>4</u>
Total	39	41

<sup>1</sup> A nonprofit organization that addresses stress and suicide among police officers, including compiling statistics regarding the incidence of suicides



The increases in contribution rates calculated by OSA for contribution rates are shown below.

Employee	0.05%
Employer	0.03%
<u>State</u>	<u>0.02%</u>
Total	0.10%

## **Results of Review**

### *Assumptions*

#### Duty Deaths

Based on opinions from L&I and DRS that suicides would be considered to qualify for PTSD, OSA used statistics on law enforcement officer suicides to increase the duty death rate. No similar reliable data was available for firefighters so the same duty death rate was assumed for firefighters. This is a reasonable process given the data constraints.

#### Occupational Disability

DRS supplied OSA with counts of PTSD-related claims and dispositions over the last 5 calendar years. On average 6.4 claims for duty and non-duty disablement were received each year. Of these, approximately 1.6 were not approved. Based on this data OSA assumed that 2.0 additional claims for occupational disablement would be approved each year under the new statute.

Of the 4.8 PTSD-related claims that were approved over the 5-year period, an average of 1 per year was approved for non-duty. It was assumed that under the new presumption, these claims would be approved as occupational. Based on this data OSA assumed that occupational disability claims would be increased by 1 claim per year and non-duty claims would be decreased by 1 claim per year.

#### Catastrophic Disability

No change in assumptions regarding catastrophic disablements was assumed.

#### Economic Assumptions

The economic assumptions adopted by the Board in November 2017 (7.40% discount rate, 2.75% inflation, and 3.50% salary increase) were used. Other assumptions (including demographic assumptions and the medical trend assumptions) were those used in the June 30, 2016 actuarial valuation of the retirement system.



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**Summary**

We reviewed the supplemental contribution rate increases shown in the Office of the State Actuary February 23, 2018 Fiscal Note for SSB 6214.

Prediction of post-traumatic stress disorder rates for firefighters, EMTs, and law enforcement officers is difficult. However, we agree that these supplemental rates represent reasonable estimates of the costs and that the assumptions used by OSA are reasonable. Rates in the future may be significantly higher or lower as actual experience emerges and is recognized as gains and losses and incorporated in actuarial assumptions.

The undersigned are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Sincerely,

Handwritten signature of Marilyn M. Oliver in black ink.

Marilyn M. Oliver, F.S.A., M.A.A.A.  
Vice President  
Bartel Associates, LLC

Handwritten signature of John E. Bartel in black ink.

John E. Bartel, A.S.A., M.A.A.A.  
President  
Bartel Associates, LLC

Cc. Steve Nelsen, Executive Director; Tim Valencia, Deputy Director; Matthew M. Smith, State Actuary

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