

# THREE: APPENDICES

## MISCELLANEOUS ASSUMPTIONS

*continued*

### ***Military Service Credit Load***

#### **What is the Military Service Credit Load Assumption and How Do We Use it?**

Under specific conditions, members may receive retirement system service credit for time served in the military. Based on discussions with the plan administrator, many members wait to apply for military service credits until they retire. The Military Service Credit Load assumption represents the increase in member benefits due to unexpected service credit earned at no cost to qualifying members.

In accordance with state law, military service credit is categorized as interruptive (during state employment) or non-interruptive (before state employment). Interruptive service credit may be earned by eligible members of all retirement systems, whereas non-interruptive service credit may be earned only by eligible members of PERS and WSPRS Plans 1.

When members of PERS and WSPRS Plans 1 have non-interruptive military service credit and attain 25 years of service, they may receive up to five years of additional no-cost service credit equivalent to the time served in the military.

The Military Service Credit Load assumption applies to non-interruptive military service only. We discuss analysis of interruptive military service credit in the **Methods and Format of Assumptions** section.

#### **High Level Takeaways**

For non-interruptive service credit, we observed a divergence in recent experience between PERS 1 and WSPRS 1. Experience in PERS 1 shows a small decrease in the load and a consistent downward trend over the study period. This is mostly due to fewer eligible retirees earning non-interruptive service credit. Whereas experience in WSPRS 1 shows an increase in the load and a steady trend over the study period, with an upward increase in recent years. More retirees are earning non-interruptive service credit and for longer periods of service. Based on these observations, we retained our assumption in PERS 1 and increased the load in WSPRS 1 to align with what recent experience suggests.

For interruptive service credit, we have historically not applied a load assumption in our valuation to estimate the potential impact of this type of service credit. Interruptive service credit is provided at the time a member returns to work, which means that service is already included in member data and valued in our valuation. As part of this study, we reviewed recent data and believe the impact of unexpected future interruptive service credit is immaterial.

#### **Data**

We looked at 18 years of experience study records, from 2001-2018. No special data were added for this assumption, and no data were excluded.

#### **General Methodology**

For PERS and WSPRS Plans 1, we analyzed the military service credit load by determining the impact the unexpected service credit had on retired member benefits. Using retiree data, we examined both the percent of members with non-interruptive military service and at least 25 years of service, and the number of years of military service for those members. Using historical retiree data, we calculated annual loads, and weighted average loads corresponding to aggregated experience over different time periods. We considered the results of each method and relied on professional judgment to set the final loads.

The load represents the average increase in service earned by members who reach 25 years of service. We then apply a load (an average increase) to all active members who have reached or could reach 25 years of service at retirement.

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For example, over the period 2013-2018, about 39.4 percent of WSPRS 1 male retirees with 25 years of service had, on average, 3.8 years of non-interruptive military service, leading to an average increase of 1.5 years of service across all male retirees (39.4 percent x 3.8 = 1.5). Of all male retirees with at least 25 years of service, retirees had 28.0 years of service on average (which includes military service), producing a load of about 5.6 percent.

$$\text{Non Interruptive Military Service Credit Load} = \frac{(28.0 \text{ years of service})}{(28.0 \text{ years of service} - (39.4\% \times 3.8 \text{ years of service}))} - 1 = 5.6\%$$

### Law Changes

The law listed below expanded the number of conflicts eligible for interruptive military service. We do not set an assumption for interruptive military service credit and the estimated impact of this law did not produce material results. This law has no impact on the non-interruptive military service credit load assumption.

- ❖ **ESHB 2701 (2018)** – Expanded eligibility for no-cost interruptive military service credit by adding newly eligible conflicts and by allowing military service credit to be earned by members for multiple deployments within the same qualifying conflict.

### Analysis and Results

#### *Analysis*

#### *Past Experience*

The following tables show the calculated loads based on the percent of retirees with non-interruptive military service and at least 25 years of service, as well as the number of years of military service for those members over several time periods. The time periods chosen for the weighted average loads correspond to the current experience study (2013-2018), the prior experience study (1996-2012), and the entire study period (1996-2018). Similarly, tables with annual information follow the weighted average tables.

Experience in PERS 1 shows a decrease in the percentage of eligible retirees with non-interruptive military service and a small decrease in the average number of service years earned. In WSPRS 1, we see both an increase in the percentage of eligible retirees with non-interruptive military service and a large increase in the average number of service years earned. This generally resulted in decreasing loads for PERS 1 and increasing loads for WSPRS 1.

This table shows the calculated weighted percent of members with non-interruptive military service, by gender and plan, over different time periods.

	Percentage of Members with Non-Interruptive Military Service			
	PERS 1		WSPRS 1	
	Male	Female	Male	Female
<b>2001-12</b>	31.20%	0.70%	32.60%	16.70%
<b>2013-18</b>	14.60%	0.40%	39.40%	0.00%
<b>2001-18</b>	28.80%	0.60%	35.60%	11.10%

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This table shows the calculated weighted number of years of non-interruptive military service credit earned, by gender and plan, over different time periods.

Non-Interruptive Military Service				
	PERS 1		WSPRS 1	
	Male	Female	Male	Female
2001-12	2.78	2.52	3.14	4.36
2013-18	2.75	2.70	3.76	0.00
2001-18	2.78	2.55	3.44	4.36

This table shows the weighted average years of membership service, including military service, of retirees who attained at least 25 years of plan service credit, by gender and plan, over different time periods.

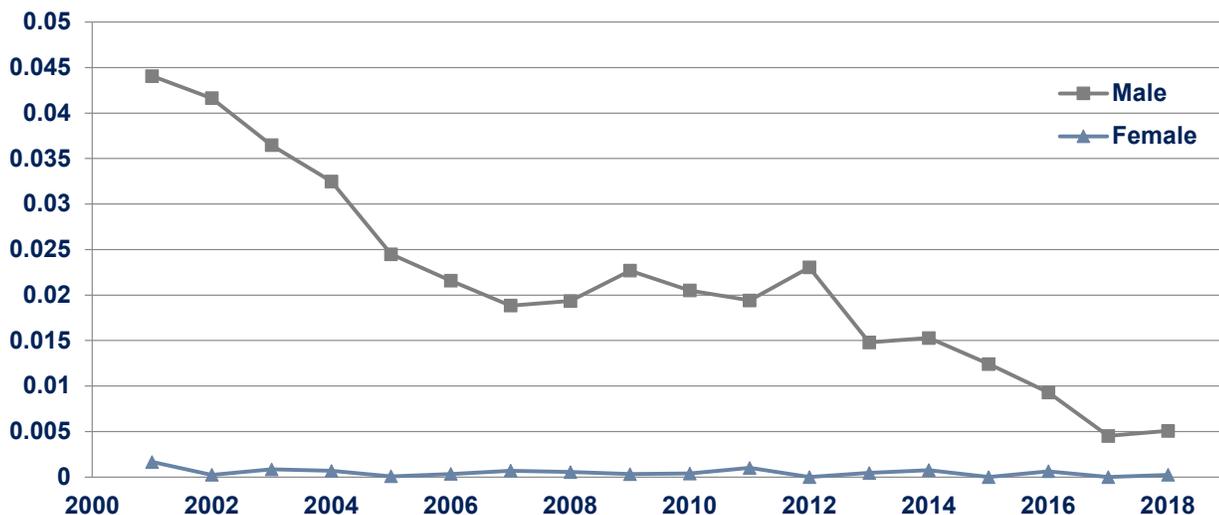
Retiree Membership Service with at least 25 Years of Service				
	PERS 1		WSPRS 1	
	Male	Female	Male	Female
2001-12	31.72	30.26	28.98	26.58
2013-18	36.25	33.54	28.03	26.26
2001-18	32.35	30.91	28.57	26.47

This table shows the calculated weighted average loads, by gender and plan, over different time periods.

Weighted Average Non-Interruptive Military Service Credit Loads				
	PERS 1		WSPRS 1	
	Male	Female	Male	Female
2001-12	2.80%	0.10%	3.70%	2.80%
2013-18	1.10%	0.00%	5.60%	0.00%
2001-18	2.50%	0.10%	4.50%	1.90%

The following graphs show similar information to that of the weighted average tables, but on an annual basis.

**PERS 1 - Calculated Annual Military Service Credit Load**

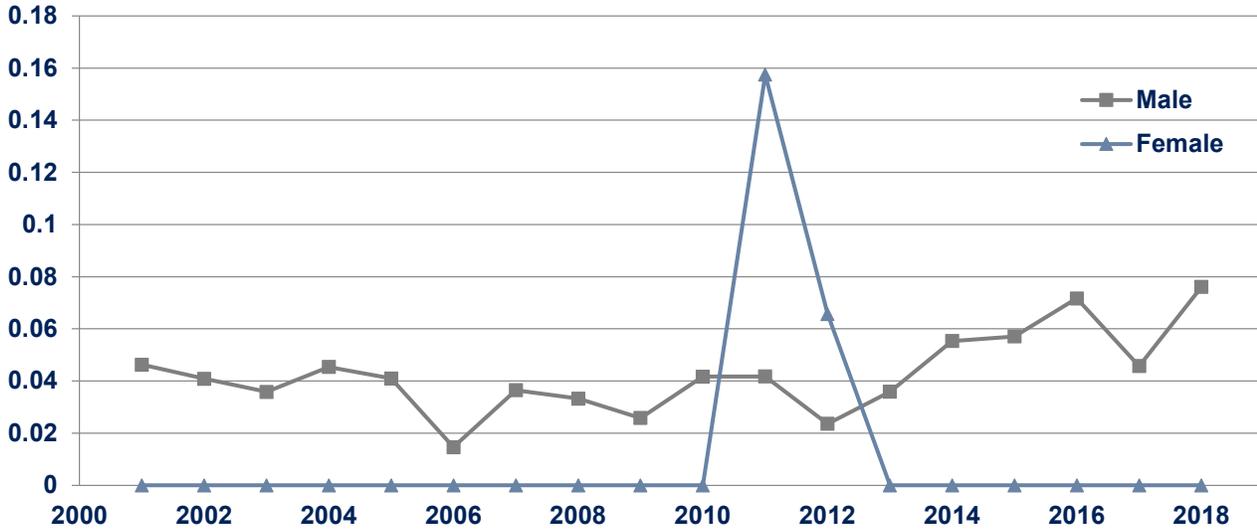


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WSPRS 1 - Calculated Annual Military Service Credit Load



### Methods and Format of Assumptions

We considered alternate formats for the assumption and, ultimately, decided to retain our approach to studying and applying this assumption. For reference, we considered, but did not select:

❖ **Assumptions that do not vary by gender.**

We considered setting this assumption with a single load for each plan applied equally to males and females. While this approach would simplify the assumption, we observed significant differences in the number of members that served in the military between males and females, and therefore set separate assumptions.

❖ **Interruptive Military Service Credit.**

We considered adding an assumption for interruptive military service credit to our model. This service differs from non-interruptive service in that it applies to all systems and plans, and members are not required to reach a specific state service threshold to receive this credit. However, interruptive service may only be earned for specific conflicts listed in [RCW 41.04.005](#), most of which have ended, and is provided when a member returns to state service. Therefore, we assume most of the free interruptive service for named conflicts is already reflected in our census data. While interruptive service may be earned in future conflicts not yet added to the above RCW, our valuation assumptions reflect current law.

### Results

Experience shows declining loads for PERS 1 and increasing loads for WSPRS 1. We considered the materiality of this assumption and future expectations, given the relatively few remaining actives in PERS 1 and the small change the recent experience suggests for the load. We applied professional judgement and retained our old assumptions in PERS 1. WSPRS 1 is a closed plan, but its closure occurred more recently and has approximately equal number of active members to inactive members. In the prior experience study, we reduced our load assumption for WSPRS 1 as it appeared to be trending downward. Since then, experience has supported a higher load. While we do not believe the recent experience is indicative of a long-term trend, we increased the WSPRS 1 load assumption.

Military Service Credit Load				
	Old Assumptions		New Assumptions	
	Male	Female	Male	Female
<b>PERS 1</b>	1.50%	0.10%	1.50%	0.10%
<b>WSPRS 1</b>	3.00%	1.00%	4.00%	1.00%