MISCELLANEOUS ASSUMPTIONS *continued*

Salary Limits and Defaults

What are the Salary Limits and Defaults Assumptions and How Do We Use them?

Each year, we review the salaries reported in the valuation data for reasonableness and make a number of salary adjustments when we determine it is necessary. Below is a list of the adjustments we may make, which are studied as part of this assumption.

- **Maximum Salary Limit (for Active Members)** – If an active member's salary is higher than is reasonably expected, we reset the salary to a predetermined maximum compensation.
- **Minimum Salary Limit (for Active Members Who Earned a Full Year of Service Credit During the Valuation Period)** – If an active member met their respective plan's requirements to earn a full year of service credit during the valuation period, but their salary is lower than is reasonably expected, we reset the salary to a predetermined minimum compensation. Unreasonably low salaries could result from circumstances such as employers reporting incomplete salaries for certain members, and these salaries were not corrected before the valuation data was prepared.
- **Adjusted Salaries (for Active Members Who Earned Less than a Year of Service Credit During the Valuation Period)** – Our valuation model projects service and salaries based on full-time employment, so we must adjust the salaries of any active members with less than a full year of service credit earned during the valuation period.
- **Default Salaries (for Terminated Vested and TRS 1 Members with Temporary Disabilities)** – Terminated vested members and TRS Plan 1 members with temporary disabilities are inactive members who will eventually be entitled to a pension benefit. As such, we need to model the future payment of these benefits. However, salaries are not always provided for these members in the valuation data. We therefore develop and apply default salaries for those members with missing salary data.
- **Default Average Final Compensation (for WSPRS Members with Disabilities)** – The disability benefits for WSPRS members are paid from a fund outside the pension system. However, if a member with disabilities dies and their spouse receives a survivor benefit, that benefit is paid out of the pension fund. According to RCW 43.43.270, the Average Final Compensation (AFC) used in the calculation of this survivor benefit must be the same as the AFC for a currently active WSPRS member who holds the same rank that the member held at the time of their disablement. To value this future survivor benefit, our valuation model requires that we supply a salary for current members with disabilities.

High Level Takeaways

We study these assumptions by system. Overall, our current Salary Limits and Defaults assumptions are reasonable for all systems. However, we made several improvements to our methodologies behind these assumptions for the purposes of consistency and simplification. The Salary Limits and Defaults assumptions that resulted from these new methodologies closely modeled our current assumptions.

Data and Assumptions

We studied final 2017 valuation data and preliminary 2018 valuation data by system to develop these assumptions.

We assume that active members will become full-time employees in the future, even if they are not reported as full-time in any given valuation period.

Law Changes

During the 2016 Legislative Session, a law was passed which requires future WSPRS salaries remain competitive with other law enforcement agencies in the state (C 28 L 16). This law had an effective year of 2016.

MISCELLANEOUS ASSUMPTIONS *continued*

General Methodology, Analysis, and Results

Maximum Salary Limit (for Active Members)

For all systems, we currently limit salaries to the projected Internal Revenue Code 401(a)(17) maximum compensation level. This limit in the 2018 calendar year was $275,000, and it has historically risen by $5,000 each year. We continue to find this to be an appropriate and reasonable method and are not making any changes to this assumption.

Minimum Salary Limit (for Active Members Who Earned a Full Year of Service Credit during the Valuation Period)

- **PERS**
  - We determine the minimum salary for PERS members based on the Washington State minimum wage. Each valuation year, we set the minimum PERS salary equal to the minimum hourly wage in effect on January 1 of the valuation year, multiplied by 2,080 hours (or 40 hours a week times 52 weeks a year). We round the resulting annual salary to the nearest thousand dollars. This process is consistent with our old method.
  - For example, in 2017, the Washington State minimum wage was $11.00. Therefore, we set the 2017 PERS minimum salary as $23,000 ($11.00 per hour x 2,080 hours = $22,880 which rounds to $23,000).
- **TRS**
  - We determine the minimum salary for TRS members in accordance with RCW 28A.400.200, which states that "beginning with the 2018-19 school year…salaries for full-time certificated instructional staff must not be less than forty thousand dollars" and that an annual inflationary adjustment is to be applied to this salary. We will then round the resulting salary to the nearest thousand dollars. This process is a change from our old method, which set the TRS minimum salary as the compensation provided to a teacher with a Bachelor of Arts degree and zero years of experience, rounded down to the nearest thousand dollars. This old method utilized the Washington State teachers' pay schedule, which will no longer be produced in the future.
- **SERS**
  - We determine the minimum salary for SERS members based on the Washington State minimum wage. Each valuation year, we set the minimum SERS salary equal to the minimum hourly wage in effect on January 1 of the valuation year, multiplied by 1,440 hours (or 40 hours a week times 36 weeks a year). We round the resulting annual salary to the nearest thousand dollars. This is meant to reflect the fact that SERS members are employed by school districts and educational service districts, and the school year typically runs nine months or 36 weeks. This process is consistent with our old method.
  - For example, in 2017, the Washington State minimum wage was $11.00. Therefore, we set the 2017 SERS minimum salary as $16,000 ($11.00 per hour x 1,440 hours = $15,840 which rounds to $16,000).
- **PSERS, LEOFF, and WSPRS**
  - We determine the minimum salaries for these three public safety systems based on the Washington State average annual wage. We set the minimum salaries for LEOFF and WSPRS equal to 75 percent of the Washington State average annual wage, rounded to the nearest thousand dollars. Since PSERS salaries have historically been less than LEOFF and WSPRS salaries, we set the minimum salaries for PSERS equal to 50 percent of the Washington State average annual wage, rounded to the nearest thousand dollars. This process is a change from our old method and provides simplicity since the minimum now adjusts automatically. Our old method set minimum salaries based on the first percentile of all active member salaries in the most recent actuarial valuation and retained this minimum salary until the next experience study. Below is a comparison of the minimum salaries under both methods as of the 2017 valuation.

MISCELLANEOUS ASSUMPTIONS *continued*

	PSERS	LEOFF	WSPRS
Old Method	$36,000	$51,000	$52,000
New Method	$31,000	$46,000	$46,000

- For example, in 2017, the Washington State average annual wage was $61,893. Therefore, we set the 2017 LEOFF and WSPRS minimum salaries as $46,000 ($61,893 x 75% = $46,420 which rounds to $46,000). We set the 2017 PSERS minimum salary as $31,000 ($61,893 x 50% = $30,947 which rounds to $31,000).

Adjusted Salaries (for Active Members Who Earned Less than a Year of Service Credit during the Valuation Period)

For all systems, we adjust the salaries of active members who earned less than a year of service credit during the valuation period, so that their salaries are reflective of a full-time employee. We do this because our valuation model projects service and salaries based on full-time employment. We divide this group into two categories: those members with less than two months of service during the valuation period, and those members with at least two months of service but less than one full year of service during the valuation period. We set a two-month threshold to avoid annualizing a salary that may have incomplete or missing data due to the short time period for employer reporting.

❖ **Members with Less Than Two Months of Service During the Valuation Period**

- We adjust the salaries for members with less than two months of service during the valuation year according to their system's average new entrant profile salary,[1] rounded to the nearest thousand dollars. Below are the adjusted salaries by system for 2017. For the Plans 2/3, the adjusted salaries were derived by taking the weighted average new entrant profile salary by plan, based on the assumed new entrant plan split. This process is a change from our old method, made for purposes of simplicity and consistency with assumptions used in other models. Under our old method, we set a default salary based on an average active member's salary and used assumed salary growth to adjust the salary to the defaulted member's service level. We observed minor changes to default salaries when simplifying our method.

	PERS	TRS	SERS	PSERS	LEOFF	WSPRS
Old Method	$45,000	$59,000	$29,000	$46,000	$65,000	$60,000
New Method	$45,000	$60,000	$23,000	$46,000	$68,000	$60,000

❖ **Members with at Least Two Months of Service but Less Than One Year of Service During the Valuation Period**

- We adjust the salaries for members with at least two months of service but less than one year of service during the valuation period to estimate their projected full-time annual salaries. We do this by dividing their actual reported compensation by the amount of service credit they received during the valuation period. For example, if a member earned $45,000 and received 0.75 years of service during the year, we would annualize their salary to $60,000. This process is consistent with our old method for all systems except SERS. The prior SERS method created different salary adjustments based on when a member was hired. If a member was hired before November 15, we divided salary by earned service. While if hired after this date, we relied on the greater of the default salary for service less than two months and the member's actual reported salary. In general, the new method for SERS produces adjusted salaries greater than the prior method.

[1] *In order to project the membership makeup of the retirement systems, our office makes assumptions on the demographics of future entrants to the system. To do this, we develop new entrant demographic profiles and determine average salaries for these members. These salaries are set during our [Risk Assessment Assumptions Study] and increased with assumed general salary growth between studies.*

MISCELLANEOUS ASSUMPTIONS *continued*

- o We make one additional salary adjustment for new hires of TRS and SERS. New hires of these systems usually start their employment at the beginning of the school year in September. This means that during our July to June valuation period, these members typically only work 10 out of the 12 months (or 83.3 percent) of the year. We also found that DRS reports these members' salaries based on 10 months being the full-time equivalent in these particular cases. For this reason, when we adjust the salaries for new entrants to TRS and SERS who have at least two months of service but less than one year of service, we only project their salary based on 10 months of employment. If a new entrant is reported as having worked more than 10 months during the valuation period, we make no adjustment to the salary.

Default Salaries (for Terminated Vested and TRS 1 Members with Temporary Disabilities)

- ❖ For terminated vested members who are reported without a salary, we first determine if the member was reported with a salary in the prior year's data. If so, we copy the salary over to the current year's data. If a salary is not found in the prior year's data, then we assign a default salary. We base the default salary on the average salary of an active member in the same system from the prior year's valuation, increased by one year of assumed general salary growth, and rounded to the nearest thousand dollars. Below are the default salaries by system for 2017. This process is generally consistent with our old method, except that our old method made an additional adjustment based on the member's years of service.

	PERS	TRS	SERS	PSERS	LEOFF	WSPRS
Default Salaries	$64,000	$75,000	$33,000	$62,000	$108,000	$89,000

- ❖ For TRS 1 members with temporary disabilities who are reported without a salary, we set their salary equal to the default salary developed above for TRS terminated vested members. This process is consistent with our old method.
- ❖ It is worth noting that we do not apply these default salaries often. For example, in 2017 we applied the salary default to less than 0.5 percent of all terminated vested records across all retirement systems. We have not applied the salary default for a TRS 1 temporary disability member to anyone in the last five years.

Default Average Final Compensation (for WSPRS Members with Disabilities)

- ❖ We set the AFC for the WSPRS disability survivor benefit at $95,000, as of the 2017 valuation. This AFC will increase by the general salary growth assumption, rounded to the nearest thousand dollars, for each year after the 2017 base year. We determined this base AFC by taking a weighted average of active member's AFCs, by plan, as of the 2017 valuation. We placed a 75 percent weight on active Plan 1 members' AFC, and a 25 percent weight on active Plan 2 members' AFC. We placed a greater weight on Plan 1 because all current WSPRS members with disabilities are from Plan 1. However, Plan 1 is closed to new entrants and we expect future WSPRS members with disabilities will increasingly be from Plan 2. This process is a change from our old method, where we set this AFC equal to the average AFC of active Plan 1 members only. For our new method, we want to start trending away from Plan 1 data, since the Plan 1 population is aging and maturing in service rank, which can inflate the estimated salary for this assumption. The default AFC would be $101,000 if based solely on WSPRS 1. We believe that over time the Plan 2 AFC will become a better approximation for this assumption.