AFC Load

Overall Summary

What is the AFC Load Assumption and how is it Used?

We apply a "load" to a given benefit provision to estimate the additional cost of another, related benefit provision. In application, a load is a percentage increase applied to an existing benefit in our valuation software where the increase represents the cost of another benefit provision.

The Average Final Compensation (AFC) Load assumption is used to estimate the expected cost of certain increases to member benefits near retirement.

Specifically, members of the Public Employees' Retirement System (PERS) Plan 1, the Teachers' Retirement System (TRS) Plan 1, the Law Enforcement Officers' and Fire Fighters' Retirement System (LEOFF) Plan 1, and the Washington State Patrol Retirement System (WSPRS) Plan 1 are eligible for payments that could increase their AFC. This in turn would increase the members' retirement benefit. Since these payments are unknown at the valuation date, we must make an assumption about the future cost.

Some of these payments are covered by the employer, while others are not. The AFC Load assumption only estimates the expected cost of increases not covered by the employer.

This is a new assumption for LEOFF 1 and did not appear in the prior study.

We set a single assumption for each of the affected plans.

High-Level Takeaways

In general, we are observing declining rates in PERS, TRS, and WSPRS Plans 1. Initial calculations for LEOFF 1 suggested a higher load; however, after outliers were removed and the study period was restricted to more recent experience, the calculated load decreased.

Assumptions

Except as noted, all assumptions used in the development of the AFC loads match those disclosed in the *2012 Actuarial Valuation Report*.

General Methodology

Calculation Method

We used different calculation methods for LEOFF than for PERS, TRS, and WSPRS.

PERS, TRS, and WSPRS

For PERS 1, TRS 1, and WSPRS 1 we analyzed the AFC load under three methods.

1. **Aggregate average method.**
   We calculate the overall average cost/load throughout the study period.

2. **Year-to-year average method.**
   We calculate the load for each year in the study period and then set a trend line to the results.

3. **Three-year rolling average method.**
   We calculate the three-year rolling average at each year in the study period and then set a trend line to the results.

LEOFF

Since this is the first time we set an AFC load assumption for LEOFF 1, we considered several possible methods and data sets. For example, we considered using different data, such as:

- Including all years of data.
- Including/excluding various groups of data.
- Including part-time members.

We also considered setting this assumption under different methods, such as:

- Studying the assumption based on year-to-year salary increases.
- Using a different base year to compare with the AFC.

To determine the load in LEOFF 1, we compare the AFC used for the member's actual retirement benefit to the AFC. This method is different than the method used to analyze and set the loads for PERS 1, TRS 1, and WSPRS 1 because the data used for LEOFF 1 does not contain the same type of information found for the other plans.

Specifically, we used the actual AFC and the expected AFC based on general AFC growth to calculate an aggregate average increase. We also calculated year-to-year average trends and then projected these trends to 2015. Finally, the load was selected based on the aggregate average and the percentage difference between the year-to-year average projected trends.

Data

PERS 1, TRS 1, WSPRS 1

We began with 17 years of experience study records, from 1996-2012 for all plans. No special data was added for this assumption, and no data was excluded.

LEOFF 1

For LEOFF 1, we began from 1989-2012. No special data was added, but we decided to limit the data to the last 15 years (1998-2012) to catch more recent trends in the data.

Law changes

No law changes impacted our study of AFC loads.

Results

All-Plan Summary

Best Estimate AFC Load Assumption

AFC Load		
	Old Assumptions	New Assumptions
PERS 1	4.50%	4.00%
TRS 1	1.00%	0.75%
LEOFF 1	0.00%	4.50%
WSPRS 1	7.50%	7.00%

The table to the left shows both the new and old AFC Load assumptions for PERS 1, TRS 1, WSPRS 1, and LEOFF 1.

In general, we saw a downward trend for PERS and TRS, while we saw a fairly steady trend for WSPRS.

PERS 1, TRS 1, and WSPRS 1 Rates						
	PERS 1		TRS 1		WSPRS 1	
	Year-to-Year Average	3-Year Rolling Average	Year-to-Year Average	3-Year Rolling Average	Year-to-Year Average	3-Year Rolling Average
1996	5.43%	0.00%	0.91%	0.00%	1.73%	0.00%
1997	5.04%	0.00%	1.54%	0.00%	2.77%	0.00%
1998	5.11%	5.20%	0.98%	1.14%	4.73%	3.08%
1999	4.99%	5.05%	1.02%	1.18%	4.77%	4.09%
2000	5.43%	5.18%	1.14%	1.05%	7.19%	5.56%
2001	5.71%	5.38%	1.07%	1.08%	7.45%	6.47%
2002	4.79%	5.31%	0.99%	1.07%	6.16%	6.93%
2003	4.94%	5.15%	0.82%	0.96%	7.06%	6.89%
2004	4.31%	4.68%	0.91%	0.91%	7.06%	6.76%
2005	4.69%	4.65%	0.73%	0.82%	7.06%	7.06%
2006	4.61%	4.54%	0.75%	0.80%	7.60%	7.24%
2007	4.43%	4.58%	0.70%	0.73%	5.95%	6.87%
2008	4.36%	4.47%	0.98%	0.81%	7.18%	6.91%
2009	4.06%	4.28%	1.06%	0.92%	7.54%	6.89%
2010	4.31%	4.24%	0.84%	0.96%	6.77%	7.16%
2011	3.66%	4.01%	0.58%	0.83%	6.23%	6.84%
2012	3.10%	3.69%	0.54%	0.65%	6.30%	6.43%

For LEOFF 1, we observed salary growth during the AFC period above the assumed general salary growth.

LEOFF 1 Salary Averages					
	LEOFF 1				
	Adjusted Expected AFC	Actual AFC	Adjusted Expected AFC Trend	Actual AFC Trend	Year-to-Year Rate*
1998	$62,417	$63,353	$59,355	$60,581	2.07%
1999	$62,387	$64,381	$62,609	$64,150	2.46%
2000	$67,665	$69,536	$65,864	$67,718	2.81%
2001	$68,419	$70,548	$69,118	$71,287	3.14%
2002	$72,116	$75,530	$72,373	$74,855	3.43%
2003	$76,314	$78,360	$75,628	$78,424	3.70%
2004	$75,825	$78,066	$78,882	$81,992	3.94%
2005	$81,263	$83,067	$82,137	$85,561	4.17%
2006	$84,680	$88,121	$85,391	$89,129	4.38%
2007	$86,200	$88,712	$88,646	$92,698	4.57%
2008	$86,755	$94,092	$91,900	$96,267	4.75%
2009	$94,177	$101,595	$95,155	$99,835	4.92%
2010	$102,977	$110,083	$98,410	$103,404	5.07%
2011	$105,607	$110,203	$101,664	$106,972	5.22%
2012	$105,248	$107,766	$104,919	$110,541	5.36%
2013	-	-	$108,173	$114,109	5.49%
2014	-	-	$111,428	$117,678	5.61%
2015	-	-	$114,682	$121,246	5.72%

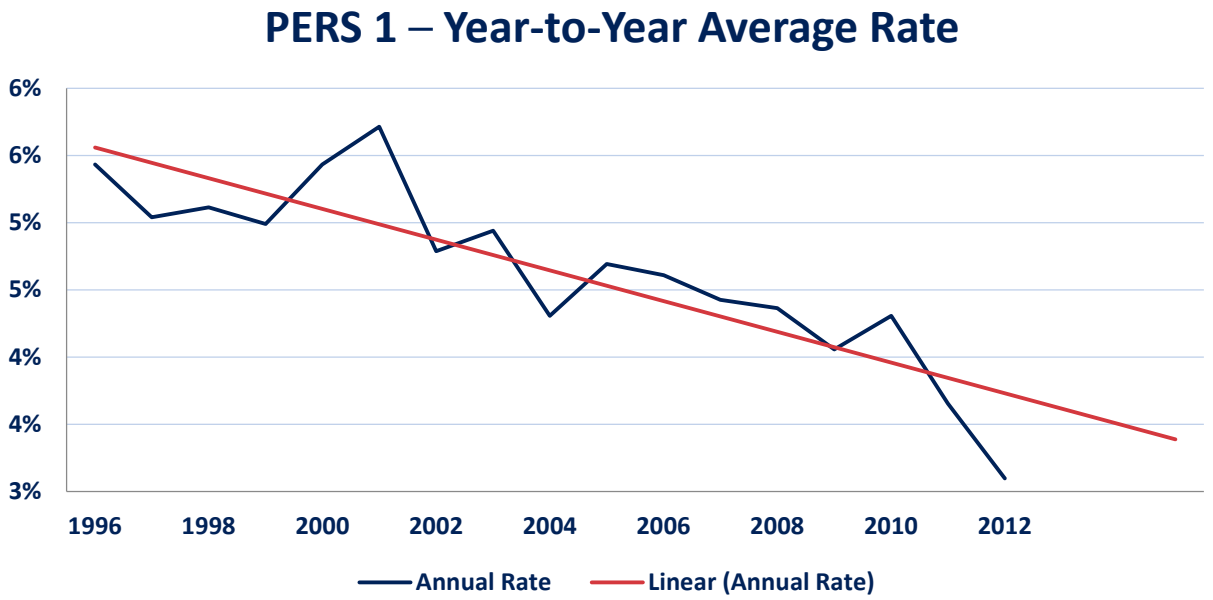
**Rates are the percentage difference between the Actual AFC Trend and the Adjusted Expected AFC*

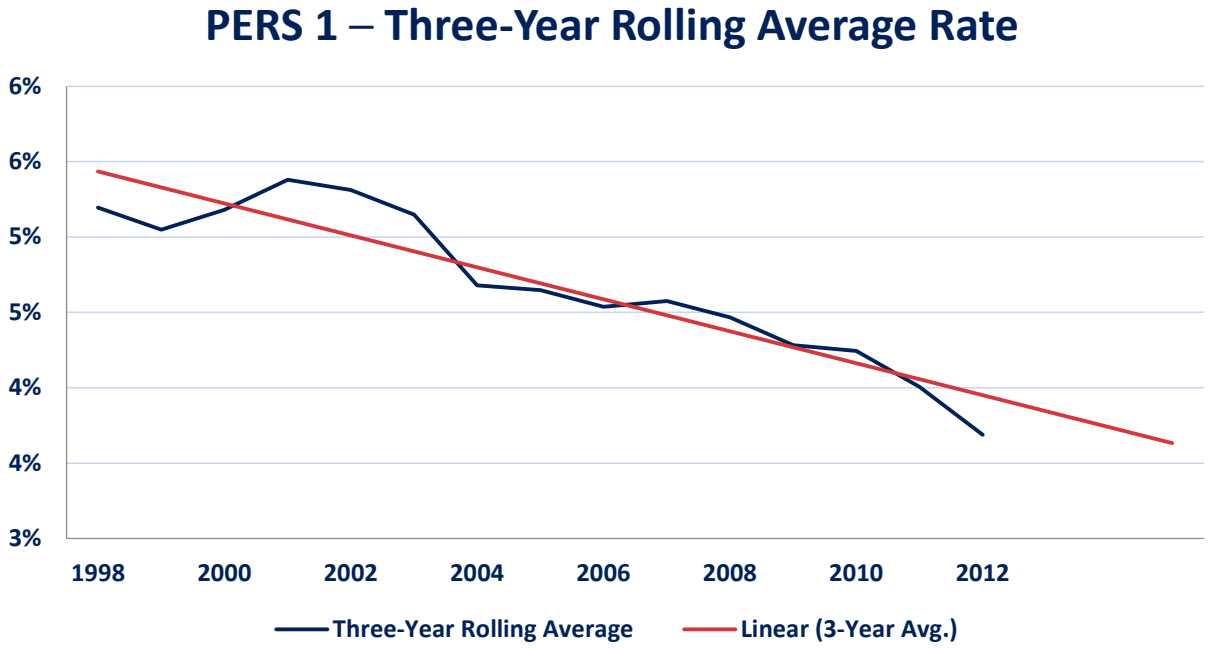
By Plan

PERS 1

Past Experience

The following two charts show PERS 1 AFC load calculated under two of the three methods mentioned in the Calculation Method section.





General Methodology

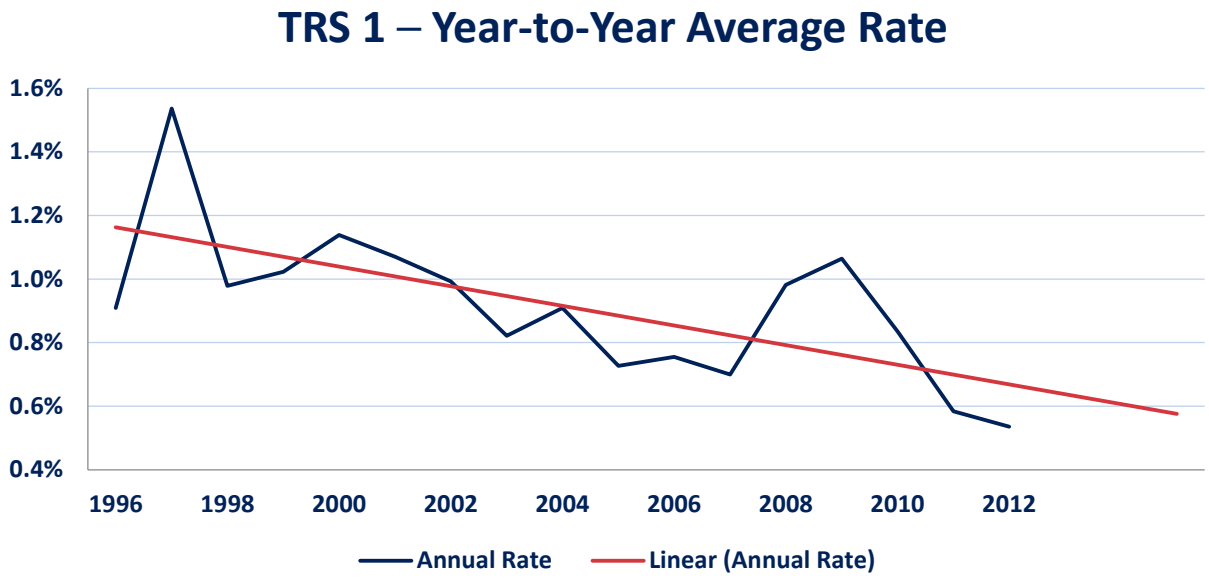
We considered, but did not adopt an alternate study period from 2002-2012.

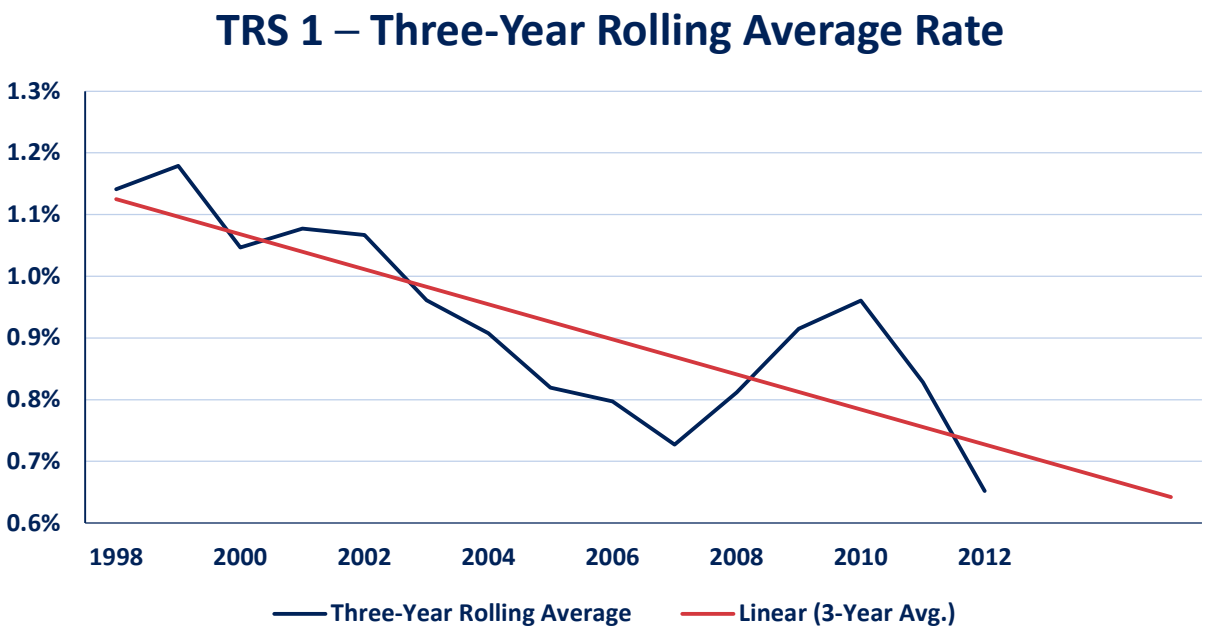
Since the previous study looked at the period from 1996-2006, we considered rolling this six-year data window forward. However, we found that the calculated loads are similar for both time periods, so we chose to use all the data available.

TRS 1

Past Experience

The next two charts show TRS 1 AFC load calculated under two of the three methods mentioned in the Calculation Method section.





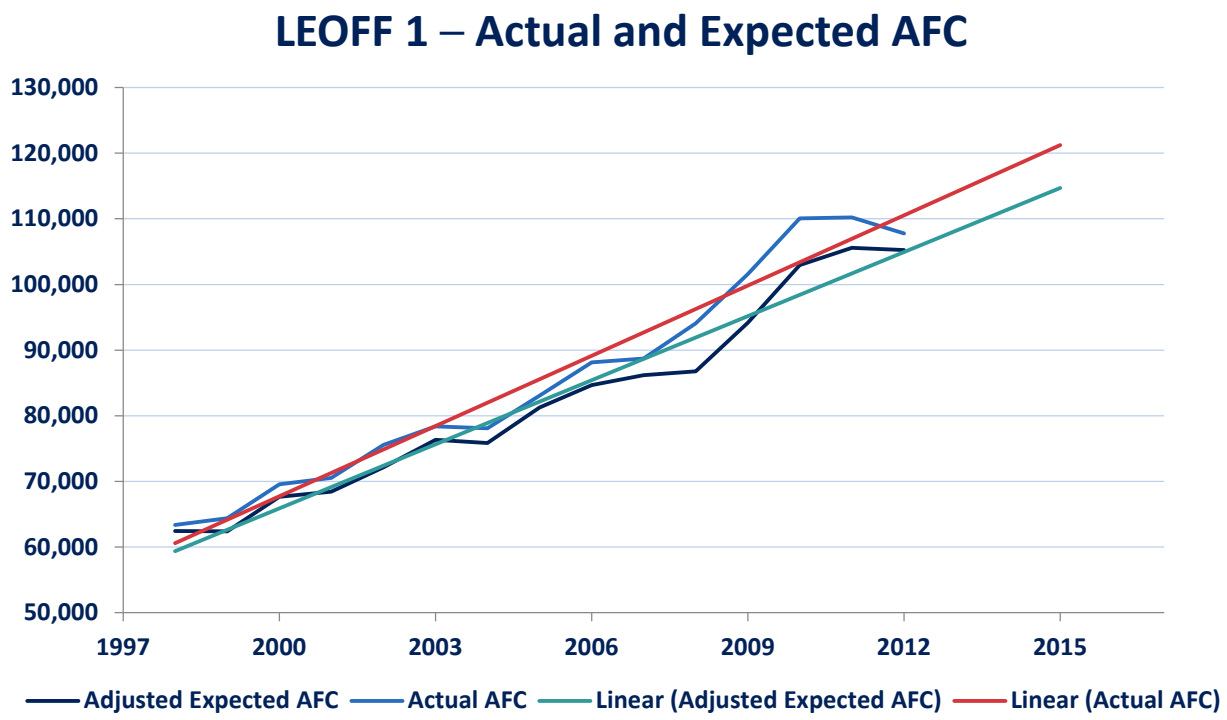
General Methodology

For TRS, we considered the same alternatives, and made the same relative changes as in PERS. Please see the **PERS – Methods and Format of Assumptions** section above for more information.

LEOFF 1

Past Experience

The following charts show LEOFF 1 Actual and Expected AFC calculated under one of the two methods mentioned in the Calculation Method section.



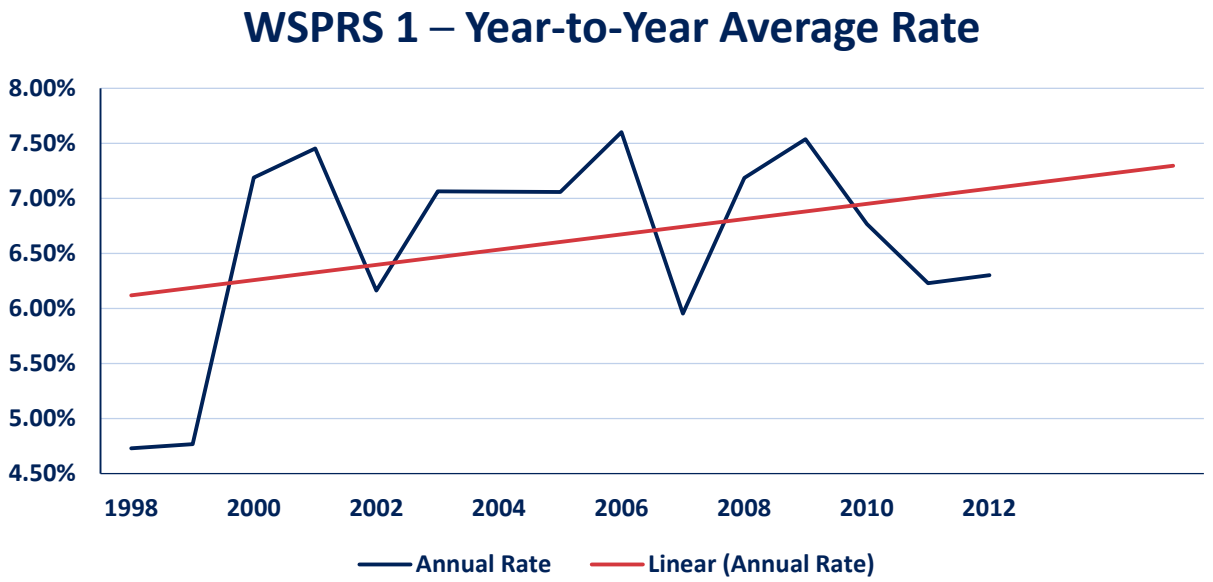
General Methodology

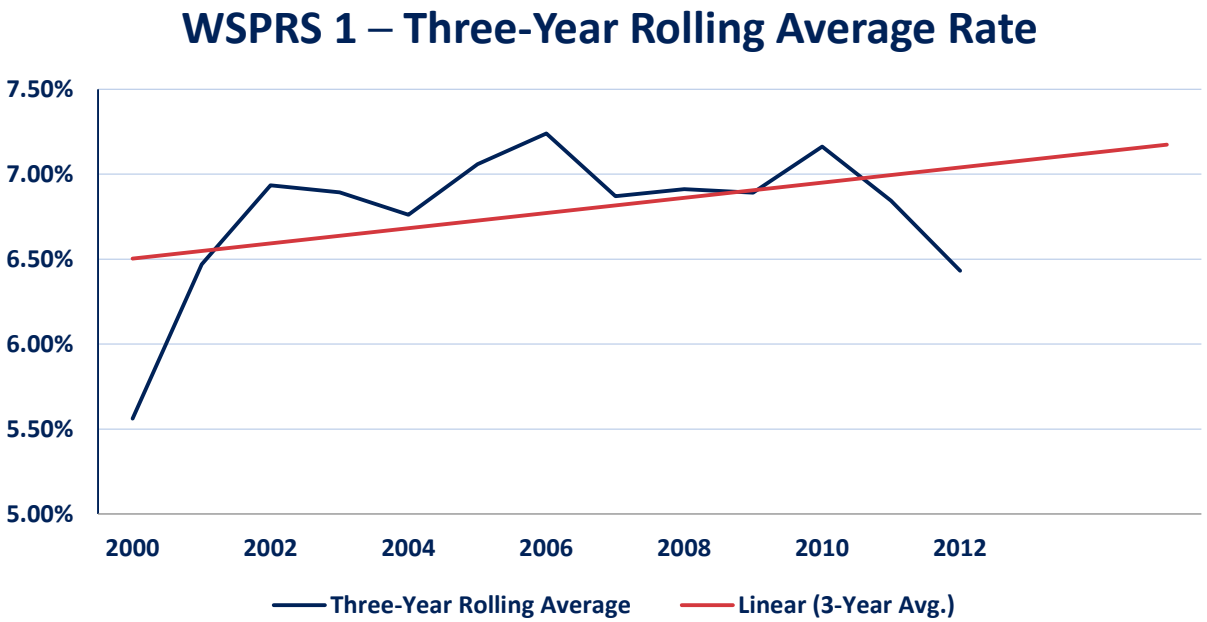
For more information, please see the **Calculation Method** section.

WSPRS 1

Past Experience

The following two charts show WSPRS 1 AFC load calculated under two of the three methods mentioned in the Calculation Method section.





General Methodology

For WSPRS, we considered the same alternatives, and made the same relative changes as in PERS. Please see the **PERS – Methods and Format of Assumptions** section above for more information.