Termination Rates

By System

Please note that the following termination rates are set by system. In other words, there will only be one set of rates for all plans within a system, rather than separate rates for Plan 1 and Plans 2/3. However, we will continue to study and review each plan individually and may calculate plan-specific rates in a future study.

PERS

Past Experience

The table to the right shows the year-by-year Actual and Expected terminations using the old termination rate assumptions for the Public Employees' Retirement System (PERS).

PERS Termination Experience by Year			
Year	Actual	Expected	Ratio
1995	8,872	9,555	0.93
1996	8,348	9,233	0.90
1997	9,007	9,266	0.97
1998	9,103	9,379	0.97
1999	10,033	9,956	1.01
2000	11,423	10,201	1.12
2001	9,032	10,415	0.87
2002	8,972	10,330	0.87
2003	8,904	10,027	0.89
2004	8,833	9,752	0.91
2005	10,554	9,827	1.07
2006	11,823	9,627	1.23
2007	7,706	9,715	0.79
2008	10,523	10,167	1.04
2009	9,791	10,467	0.94
2010	8,763	9,359	0.94
Total	**151,687**	**157,275**	**0.96**

The following table shows, by service level, the Actual-to-Expected (A/E) ratios for PERS after we removed the data described in the Data section. As a result, the total Actual and Expected counts will not match the prior table.

PERS Termination Experience by Service Level						
	Males			Females		
Service	Actual	Expected	Ratio	Actual	Expected	Ratio
0	12,551	12,609	1.00	15,497	16,404	0.94
1	11,799	12,291	0.96	15,919	16,757	0.95
2	6,217	6,480	0.96	9,176	9,415	0.97
3	4,157	4,347	0.96	6,466	6,569	0.98
4	3,270	3,397	0.96	4,684	4,867	0.96
5	2,673	2,688	0.99	3,873	3,910	0.99
6-9	6,887	6,953	0.99	10,268	10,547	0.97
10-14	4,632	4,981	0.93	6,381	6,381	1.00
15-19	2,552	2,784	0.92	3,155	3,254	0.97
20-24	1,124	948	1.19	1,317	1,087	1.21
25-29	312	273	1.14	277	183	1.52
30+	14	12	1.17	22	6	3.62
Total	**56,188**	**57,763**	**0.97**	**77,035**	**79,381**	**0.97**

Totals and ratios may not agree due to rounding.

Preliminary

Methods and Format of Assumptions

We found that the early service years have the largest termination rates. We also found that terminations spike beginning at 20 years of service.

	Males		Females	
Service Levels	Old Ratio	New Ratio	Old Ratio	New Ratio
0-5	97%	97%	96%	97%
6-19	96%	98%	98%	99%
20-30	118%	107%	126%	110%

In light of this information, we reviewed the trends in the actual termination rates using three service-based cohorts:

- **0-5.**
  The actual terminations fit expected terminations, so very little adjustment to the old termination rates were needed.
- **6-19.**
  We fit the actual terminations to exponential trend lines and used our professional judgment to create new rates.
- **20-30.**
  We fit the actual terminations to exponential trend lines and used our professional judgment to create new rates.

We considered alternate formats for the assumptions and, ultimately, decided not to make any changes. For reference, we considered, but did not adopt:

- **Separate rates for each plan.**
  We will consider separate termination rates for Plan 2 and Plan 3 in the future if we have enough experience data for each plan and find that the experience for each plan is materially different. We did not consider separate termination rates for Plan 1 due to the shrinking size of the population and the fact that the majority of the active Plan 1 population is retirement eligible.
- **Unisex rates for the system.**
  We considered creating unisex rates for all plans. However, we found that male and female rates are materially different and ultimately chose to continue to distinguish rates by gender.
- **Rates by age.**
  We believe termination rates are more strongly tied to service than to age, so we chose not to use age-based assumptions.

Best Estimate PERS Termination Rates

The table on the following page shows the Old, Actual (1995-2010 experience, excluding the years we removed), and New termination rates for PERS.

Preliminary

PERS Termination Rates*						
	Males			Females		
Service	Old Rates	Actual	New Rates	Old Rates	Actual	New Rates
0	0.262	0.261	0.262	0.268	0.253	0.262
1	0.155	0.148	0.155	0.168	0.159	0.168
2	0.101	0.097	0.101	0.117	0.114	0.117
3	0.075	0.072	0.075	0.093	0.091	0.093
4	0.063	0.061	0.063	0.076	0.073	0.076
5	0.054	0.054	0.054	0.067	0.066	0.067
6	0.046	0.046	0.045	0.061	0.058	0.058
7	0.043	0.043	0.042	0.055	0.054	0.053
8	0.038	0.037	0.039	0.050	0.048	0.049
9	0.036	0.036	0.036	0.045	0.044	0.045
10	0.034	0.033	0.034	0.041	0.040	0.042
11	0.031	0.029	0.031	0.037	0.037	0.038
12	0.030	0.028	0.029	0.034	0.035	0.035
13	0.029	0.026	0.027	0.032	0.031	0.033
14	0.028	0.026	0.025	0.031	0.032	0.030
15	0.027	0.023	0.024	0.030	0.029	0.028
16	0.024	0.023	0.022	0.027	0.027	0.025
17	0.022	0.020	0.020	0.024	0.025	0.023
18	0.020	0.018	0.019	0.022	0.021	0.022
19	0.017	0.016	0.018	0.020	0.017	0.020
20	0.014	0.017	0.015	0.017	0.021	0.018
21	0.012	0.013	0.013	0.014	0.017	0.016
22	0.010	0.010	0.011	0.012	0.014	0.014
23	0.008	0.011	0.010	0.011	0.012	0.012
24	0.008	0.009	0.009	0.008	0.012	0.011
25	0.007	0.009	0.007	0.007	0.013	0.009
26	0.006	0.009	0.006	0.006	0.010	0.008
27	0.007	0.006	0.006	0.006	0.006	0.007
28	0.006	0.005	0.005	0.005	0.006	0.006
29	0.005	0.004	0.004	0.004	0.003	0.006
30	0.005	0.006	0.004	0.004	0.012	0.005

For display purposes, rates have been rounded.

The table below shows the Actual and Expected terminations for PERS by service, using the new termination rate assumptions for experience from 1995-2010, excluding the years we removed.

PERS Under New Assumptions						
	Males			Females		
Service	Actual	Expected	Ratio	Actual	Expected	Ratio
0	12,551	12,609	1.00	15,497	16,079	0.96
1	11,799	12,291	0.96	15,919	16,757	0.95
2	6,217	6,480	0.96	9,176	9,415	0.97
3	4,157	4,347	0.96	6,466	6,569	0.98
4	3,270	3,397	0.96	4,684	4,867	0.96
5	2,673	2,688	0.99	3,873	3,910	0.99
6-9	6,887	6,877	1.00	10,268	10,312	1.00
10-14	4,632	4,821	0.96	6,381	6,502	0.98
15-19	2,552	2,612	0.98	3,155	3,118	1.01
20-24	1,124	1,077	1.04	1,317	1,208	1.09
25-29	312	265	1.18	277	251	1.10
30+	14	10	1.47	22	8	2.85
Total	**56,188**	**57,473**	**0.98**	**77,035**	**78,997**	**0.98**

Totals and ratios may not agree due to rounding.

Preliminary

TRS

Past Experience

The next table shows the year-by-year Actual and Expected terminations using the old termination rate assumptions for the Teachers' Retirement System (TRS).

TRS Termination Experience by Year			
Year	Actual	Expected	Ratio
1995	1,600	1,857	0.86
1996	1,766	1,869	0.95
1997	1,635	1,812	0.90
1998	1,817	1,856	0.98
1999	2,027	1,882	1.08
2000	2,233	1,920	1.16
2001	3,591	1,987	1.81
2002	2,780	2,424	1.15
2003	2,289	2,392	0.96
2004	2,258	2,288	0.99
2005	2,609	2,274	1.15
2006	2,691	2,305	1.17
2007	1,448	2,318	0.62
2008	2,543	1,990	1.28
2009	2,158	1,989	1.09
2010	2,099	1,946	1.08
Total	35,544	33,108	1.07

The following table shows, by service level, the A/E ratios for TRS after we removed the data described in the Data section. As a result, the total Actual and Expected counts will not match the prior table.

TRS Termination Experience by Service Level						
	Males			Females		
Service	Actual	Expected	Ratio	Actual	Expected	Ratio
0	692	655	1.06	2,087	1,996	1.05
1	1,292	1,364	0.95	3,885	4,102	0.95
2	839	838	1.00	2,846	2,878	0.99
3	629	577	1.09	2,392	2,232	1.07
4	526	525	1.00	1,971	1,777	1.11
5	444	437	1.01	1,610	1,482	1.09
6-9	1,112	1,053	1.06	4,052	3,630	1.12
10-14	761	705	1.08	2,268	2,059	1.10
15-19	427	369	1.16	1,205	1,087	1.11
20-24	310	235	1.32	679	459	1.48
25-29	199	151	1.32	251	184	1.37
30+	17	3	4.89	11	3	3.33
Total	7,248	6,914	1.05	23,257	21,889	1.06

Totals and ratios may not agree due to rounding.

Preliminary

Methods and Format of Assumptions

We found that the early service years have the largest termination rates. We also found that terminations spike beginning at 20 years of service.

	Males		Females	
Service Levels	Old Ratio	New Ratio	Old Ratio	New Ratio
0-5	101%	100%	102%	101%
6-19	108%	101%	111%	101%
20-30	135%	109%	146%	101%

In light of this information, we chose to study the actual termination rates as three service-based cohorts similar to PERS.

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.

Best Estimate TRS Termination Rates

The table to the right shows the Old, Actual (1995-2010 experience, excluding the years we removed), and New termination rates for TRS.

TRS Termination Rates*						
	Males			Females		
Service	Old Rates	Actual	New Rates	Old Rates	Actual	New Rates
0	0.108	0.114	0.111	0.109	0.114	0.111
1	0.093	0.088	0.090	0.097	0.092	0.095
2	0.060	0.060	0.060	0.072	0.071	0.072
3	0.043	0.047	0.045	0.059	0.063	0.061
4	0.041	0.041	0.041	0.050	0.056	0.053
5	0.037	0.037	0.037	0.045	0.049	0.047
6	0.032	0.031	0.030	0.040	0.044	0.041
7	0.025	0.028	0.027	0.034	0.039	0.037
8	0.022	0.022	0.025	0.030	0.032	0.033
9	0.021	0.025	0.023	0.024	0.028	0.030
10	0.020	0.019	0.021	0.023	0.027	0.027
11	0.019	0.021	0.020	0.022	0.023	0.024
12	0.019	0.019	0.018	0.020	0.023	0.021
13	0.014	0.016	0.017	0.017	0.018	0.019
14	0.013	0.018	0.015	0.017	0.018	0.017
15	0.012	0.015	0.014	0.016	0.015	0.016
16	0.012	0.014	0.013	0.015	0.019	0.016
17	0.011	0.012	0.012	0.013	0.016	0.015
18	0.010	0.010	0.012	0.012	0.012	0.015
19	0.009	0.012	0.011	0.011	0.014	0.014
20	0.009	0.014	0.010	0.011	0.015	0.013
21	0.007	0.010	0.010	0.008	0.014	0.013
22	0.007	0.009	0.009	0.008	0.011	0.012
23	0.007	0.008	0.009	0.007	0.010	0.011
24	0.007	0.008	0.009	0.007	0.009	0.010
25	0.007	0.011	0.008	0.007	0.010	0.010
26	0.007	0.010	0.008	0.007	0.010	0.009
27	0.006	0.009	0.007	0.006	0.009	0.009
28	0.005	0.006	0.007	0.005	0.005	0.008
29	0.005	0.003	0.006	0.005	0.005	0.008
30	0.004	0.024	0.006	0.004	0.014	0.007

**For display purposes, rates have been rounded.*

Preliminary

The following table shows the Actual and Expected terminations for TRS by service, using the new termination rate assumptions for experience from 1995-2010, excluding the years we removed.

TRS Under New Assumptions						
	Males			Females		
Service	Actual	Expected	Ratio	Actual	Expected	Ratio
0	692	674	1.03	2,087	2,042	1.02
1	1,292	1,328	0.97	3,885	3,993	0.97
2	839	838	1.00	2,846	2,862	0.99
3	629	603	1.04	2,392	2,312	1.03
4	526	526	1.00	1,971	1,874	1.05
5	444	441	1.01	1,610	1,546	1.04
6-9	1,112	1,099	1.01	4,052	3,954	1.02
10-14	761	753	1.01	2,268	2,278	1.00
15-19	427	421	1.01	1,205	1,189	1.01
20-24	310	297	1.04	679	666	1.02
25-29	199	180	1.10	251	263	0.95
30+	17	5	3.34	11	6	1.78
Total	**7,248**	**7,165**	**1.01**	**23,257**	**22,985**	**1.01**

Totals and ratios may not agree due to rounding.

SERS

Past Experience

The table to the right shows the year-by-year Actual and Expected terminations using the old termination rate assumptions for the School Employees' Retirement System (SERS).

SERS Termination Experience by Year			
Year	Actual	Expected	Ratio
1995	3,329	3,535	0.94
1996	3,205	3,422	0.94
1997	3,578	3,509	1.02
1998	3,811	3,699	1.03
1999	4,107	3,726	1.10
2000	1,161	3,883	0.30
2001	3,565	3,998	0.89
2002	3,759	3,948	0.95
2003	4,055	3,921	1.03
2004	3,633	3,635	1.00
2005	3,998	3,612	1.11
2006	4,002	3,597	1.11
2007	2,716	3,596	0.76
2008	3,743	3,357	1.11
2009	3,078	3,397	0.91
2010	2,936	3,304	0.89
Total	**54,676**	**58,139**	**0.94**

Preliminary

The table below shows, by service level, the A/E ratios for SERS after we removed the data described in the Data section. As a result, the total Actual and Expected counts will not match the prior table.

SERS Termination Experience by Service Level						
	Males			Females		
Service	Actual	Expected	Ratio	Actual	Expected	Ratio
0	2,207	2,402	0.92	7,088	7,131	0.99
1	2,076	2,176	0.95	6,602	6,345	1.04
2	1,386	1,357	1.02	4,391	4,283	1.03
3	973	1,009	0.96	3,228	2,959	1.09
4	698	724	0.96	2,608	2,351	1.11
5-9	1,781	1,841	0.97	7,416	7,070	1.05
10-14	739	786	0.94	3,531	3,627	0.97
15-19	315	342	0.92	1,471	1,705	0.86
20-24	149	102	1.46	457	385	1.19
25-29	36	21	1.74	78	42	1.84
30+	2	2	1.28	2	2	1.04
Total	**10,362**	**10,762**	**0.96**	**36,872**	**35,900**	**1.03**

Totals and ratios may not agree due to rounding.

Methods and Format of Assumptions

We found that the early service years have the largest termination rates. We also found that terminations spike beginning at 20 years of service.

	Males		Females	
Service Levels	Old Ratio	New Ratio	Old Ratio	New Ratio
0-4	96%	97%	104%	104%
5-19	95%	99%	100%	100%
20-30	151%	113%	125%	108%

In light of this information, we chose to study the actual termination rates as three service-based cohorts similar to PERS.

For SERS, when applicable, 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.

Best Estimate SERS Termination Rates

The table on the following page shows the Old, Actual (1995-2010 experience, excluding the years we removed), and New termination rates for SERS.

Preliminary

SERS Termination Rates*						
	Males			Females		
Service	Old	Actual	New	Old	Actual	New
0	0.256	0.235	0.245	0.199	0.198	0.199
1	0.159	0.151	0.159	0.131	0.137	0.131
2	0.117	0.119	0.117	0.103	0.106	0.103
3	0.100	0.096	0.100	0.079	0.086	0.079
4	0.081	0.078	0.081	0.068	0.075	0.068
5	0.070	0.065	0.066	0.062	0.067	0.062
6	0.061	0.063	0.061	0.056	0.059	0.056
7	0.056	0.055	0.056	0.053	0.055	0.053
8	0.050	0.047	0.051	0.050	0.051	0.050
9	0.048	0.046	0.047	0.047	0.047	0.047
10	0.044	0.042	0.043	0.046	0.045	0.046
11	0.041	0.042	0.039	0.045	0.044	0.045
12	0.039	0.036	0.036	0.044	0.042	0.044
13	0.037	0.031	0.033	0.044	0.044	0.044
14	0.033	0.030	0.030	0.043	0.039	0.043
15	0.031	0.029	0.027	0.043	0.037	0.043
16	0.028	0.025	0.025	0.039	0.034	0.039
17	0.026	0.026	0.025	0.036	0.032	0.036
18	0.023	0.020	0.024	0.035	0.031	0.035
19	0.020	0.017	0.024	0.032	0.026	0.032
20	0.018	0.030	0.023	0.029	0.032	0.030
21	0.017	0.028	0.023	0.027	0.032	0.028
22	0.016	0.022	0.022	0.025	0.027	0.027
23	0.015	0.019	0.021	0.021	0.028	0.026
24	0.015	0.016	0.018	0.019	0.030	0.025
25	0.012	0.019	0.016	0.016	0.023	0.023
26	0.010	0.016	0.014	0.012	0.026	0.021
27	0.008	0.019	0.012	0.009	0.017	0.019
28	0.005	0.013	0.011	0.007	0.019	0.017
29	0.005	0.004	0.009	0.007	0.016	0.015
30	0.005	0.010	0.008	0.007	0.011	0.014

**For display purposes, rates have been rounded.*

The table below shows the Actual and Expected terminations for SERS by service, using the new termination rate assumptions for experience from 1995-2010, excluding the years we removed.

SERS Under New Assumptions						
	Males			Females		
Service	Actual	Expected	Ratio	Actual	Expected	Ratio
0	2,207	2,296	0.96	7,088	7,131	0.99
1	2,076	2,176	0.95	6,602	6,345	1.04
2	1,386	1,357	1.02	4,391	4,283	1.03
3	973	1,009	0.96	3,228	2,959	1.09
4	698	724	0.96	2,608	2,351	1.11
5-9	1,781	1,806	0.99	7,416	7,070	1.05
10-14	739	733	1.01	3,531	3,627	0.97
15-19	315	328	0.96	1,471	1,705	0.86
20-24	149	133	1.12	457	421	1.09
25-29	36	30	1.18	78	72	1.08
30+	2	3	0.79	2	4	0.54
Total	10,362	10,596	0.98	36,872	35,968	1.03

Totals and ratios may not agree due to rounding.

Preliminary

PSERS

The Public Safety Employees' Retirement System (PSERS) Plan 2 opened in 2006 and did not have enough experience data to develop plan-specific assumptions in the prior study. Thus, in the prior study we used the rates that were established when the plan was created (PERS termination rates).

We will continue to assume PERS termination rates for PSERS active employees. However, we will continue to monitor the appropriateness of these termination rates for PSERS 2. Please see **PERS** for Old and New termination rates.

LEOFF

Past Experience

The table to the right shows the year-by-year Actual and Expected terminations using the old termination rate assumptions for the Law Enforcement Officers' and Fire Fighters' Retirement System (LEOFF) .

LEOFF Termination Experience by Year

Year	Actual	Expected	Ratio
1995	209	240	0.87
1996	223	247	0.90
1997	224	252	0.89
1998	251	255	0.98
1999	295	254	1.16
2000	302	275	1.10
2001	239	264	0.91
2002	241	276	0.87
2003	237	268	0.89
2004	265	276	0.96
2005	263	258	1.02
2006	262	268	0.98
2007	211	284	0.74
2008	266	293	0.91
2009	235	295	0.80
2010	200	277	0.72
Total	**3,923**	**4,282**	**0.92**

The table to the right shows, by service level, the A/E ratios for LEOFF after we removed the data described in the Data section. As a result, the total Actual and Expected counts will not match the prior table.

LEOFF Termination Experience by Service Level

Service	Actual	Expected	Ratio
0	578	574	1.01
1	547	564	0.97
2	261	270	0.97
3	202	227	0.89
4	164	211	0.78
5-9	796	879	0.91
10-14	512	544	0.94
15-19	267	277	0.96
20-24	123	148	0.83
25-29	23	40	0.57
30+	0	0	0.00
Total	**3,473**	**3,734**	**0.93**

Totals and ratios may not agree due to rounding.

Methods and Format of Assumptions

We found that the early service years have the largest termination rates. We also found that termination rates decrease at an approximate linear trend after the second level of service.

Males and Females

Service Levels	Old Ratio	New Ratio
0-2	98%	98%
3-30	90%	97%

In light of this information, we chose to study the actual termination rates as two service based cohorts:

- **0-2.**
  We decided to keep the old termination rates.
- **3-30.**
  We fit the actual terminations to a linear trend line and used our professional judgment to create new rates.

Preliminary

We considered alternate formats for this assumption and, ultimately, decided not to make any changes. For reference, we considered, but did not adopt:

- **Separate rates by gender.**
  Since female members comprise a small minority of total LEOFF members we chose to keep rates gender-neutral.
- **Separate rates by occupation.**
  We chose not to make this change since the higher terminations (law enforcement) for one group offset the lower terminations in the other (fire fighters). Additionally, the benefits are basically the same for both groups, and we felt that splitting an already small system into separate occupation classifications would reduce the credibility of those separate rates.

Best Estimate LEOFF Termination Rates

The table on the right shows the Old, Actual (1995-2010 experience, excluding the years we removed), and New termination rates for LEOFF.

LEOFF Termination Rates*

Service	Old Rates	Actual	New Rates
0	0.107	0.108	0.107
1	0.048	0.047	0.048
2	0.024	0.024	0.024
3	0.022	0.019	0.019
4	0.020	0.016	0.019
5	0.020	0.018	0.018
6	0.019	0.018	0.017
7	0.019	0.017	0.017
8	0.018	0.015	0.016
9	0.017	0.016	0.015
10	0.017	0.017	0.015
11	0.015	0.015	0.014
12	0.015	0.013	0.014
13	0.014	0.012	0.013
14	0.011	0.011	0.012
15	0.011	0.012	0.012
16	0.010	0.010	0.011
17	0.008	0.007	0.010
18	0.009	0.008	0.010
19	0.009	0.008	0.009
20	0.009	0.009	0.008
21	0.008	0.007	0.008
22	0.008	0.006	0.007
23	0.007	0.006	0.006
24	0.007	0.004	0.006
25	0.007	0.005	0.005
26	0.008	0.005	0.004
27	0.007	0.000	0.004
28	0.006	0.003	0.003
29	0.002	0.003	0.002
30	0.002	0.000	0.002

**For display purposes, rates have been rounded.*

Preliminary

LEOFF Under New Assumptions			
Service	Actual	Expected	Ratio
0	578	574	1.01
1	547	564	0.97
2	261	270	0.97
3	202	203	1.00
4	164	193	0.85
5-9	796	788	1.01
10-14	512	501	1.02
15-19	267	304	0.88
20-24	123	131	0.94
25-29	23	26	0.88
30+	0	0	0.00
Total	**3,473**	**3,556**	**0.98**

Totals and ratios may not agree due to rounding.

The table to the left shows the Actual and Expected terminations for LEOFF by service, using the new termination rate assumptions for experience from 1995-2010, excluding the years we removed.

WSPRS

Past Experience

The table to the right shows the year-by-year Actual and Expected terminations using the old termination rate assumptions for the Washington State Patrol Retirement System (WSPRS).

WSPRS Termination Experience by Year			
Year	Actual	Expected	Ratio
1995	9	11	0.84
1996	9	9	1.00
1997	8	10	0.81
1998	10	10	1.00
1999	10	10	0.99
2000	13	11	1.18
2001	9	12	0.74
2002	16	13	1.26
2003	8	12	0.65
2004	17	13	1.32
2005	17	12	1.44
2006	17	11	1.56
2007	12	10	1.16
2008	18	10	1.74
2009	11	12	0.93
2010	8	11	0.71
Total	**192**	**177**	**1.08**

Preliminary

The table on the right shows, by service level, the A/E ratios for WSPRS after we removed the data described in the Data section. As a result, the total Actual and Expected counts will not match the prior table.

WSPRS Termination Experience by Service Level

Service	Actual	Expected	Ratio
0	9	7	1.36
1	4	7	0.54
2	7	13	0.56
3	17	15	1.10
4	13	16	0.82
5	19	11	1.67
6	18	11	1.59
7	10	10	0.97
8	17	10	1.75
9	10	8	1.18
10-14	26	26	1.00
15-19	15	15	1.03
20-24	6	5	1.22
Total	**171**	**155**	**1.11**

Totals and ratios may not agree due to rounding.

Methods and Format of Assumptions

Males and Females

Service Levels	Old Ratio	New Ratio
0-4	86%	99%
5-24	125%	107%

In the WSPRS Termination Experience by Service Level table we can see that WSPRS terminations are unique from other systems. WSPRS terminations do not steadily decline as the member's service level increases. WSPRS terminations seem to jump from higher-than-expected to lower-than-expected in the subsequent year.

In light of this information, we chose to study the actual termination rates as two service based cohorts:

- **0-4.**
  We used our professional judgment to fit a trend line to the actual data.
- **5-24.**
  We fit the actual terminations to a natural log trend line and used our professional judgment to create new rates.

We considered alternate formats for this assumption and, ultimately, decided not to make any changes. For reference, we considered, but did not adopt:

- **Separate rates by gender.**
  Since female members comprise a small minority of total WSPRS members we chose to keep rates gender-neutral.
- **Separate rates by plan.**
  At this time, Plan 2 does not have enough experience data with which to develop a credible rate.

Preliminary

Best Estimate WSPRS Retirement Rates

WSPRS Termination Rates*			
Service	Rates	Actual	Rates
0	0.033	0.045	0.042
1	0.029	0.016	0.020
2	0.026	0.014	0.020
3	0.024	0.026	0.020
4	0.023	0.019	0.020
5	0.016	0.026	0.020
6	0.015	0.024	0.019
7	0.014	0.014	0.017
8	0.014	0.024	0.016
9	0.013	0.016	0.015
10	0.010	0.008	0.013
11	0.010	0.009	0.012
12	0.009	0.012	0.011
13	0.009	0.002	0.010
14	0.009	0.017	0.009
15	0.007	0.009	0.008
16	0.007	0.002	0.007
17	0.006	0.006	0.006
18	0.006	0.011	0.006
19	0.006	0.005	0.005
20	0.003	0.000	0.004
21	0.003	0.003	0.004
22	0.003	0.006	0.003
23	0.003	0.005	0.003
24	0.002	0.003	0.002
25	0.000	0.000	0.000

**For display purposes, rates have been rounded.*

The table on the left shows the Old, Actual (1995-2010 experience, excluding the years we removed), and New termination rates for WSPRS.

The table to the right shows the Actual and Expected terminations for WSPRS by service, using the new termination rate assumptions for experience from 1995-2010, excluding the years we removed

WSPRS Under New Assumptions			
Service	Actual	Expected	Ratio
0	9	8	1.07
1	4	5	0.78
2	7	10	0.72
3	17	13	1.31
4	13	14	0.93
5	19	14	1.32
6	18	14	1.26
7	10	12	0.82
8	17	11	1.51
9	10	10	1.04
10-14	26	31	0.84
15-19	15	14	1.05
20-24	6	6	1.06
Total	**171**	**163**	**1.05**

Totals and ratios may not agree due to rounding.

Preliminary