

Actuarial Notes

U.S. Railroad Retirement Board

Bureau of the Actuary

No. 1 - 06

December 2006

Longevity of Railroad Retirement Beneficiaries

Calculations of the life expectancies of railroad retirement beneficiaries have recently been made from studies of data compiled for the Twenty-Third Actuarial Valuation of the railroad retirement system, which was made as of December 31, 2004. These studies have been conducted for male and female age annuitants, disability annuitants, spouses and widows. Comparisons with studies done for the twenty-first and the twenty-second valuations show a general improvement in life expectancies for age and disability annuitants. Other major results of the studies are contained in the following discussion and the two attached tables.

Life expectancies may help provide an indication of the amount that will be paid out in benefits in individual situations, since a benefit is generally payable until the individual beneficiary dies. In the case of spouses and widows, another event, such as death of the employee or remarriage of the widow, may terminate all or a portion of the benefit.

Table 1 illustrates the differences in longevity among the categories of railroad retirement beneficiaries and also shows life expectancy figures for the total U.S. population. The figures for railroad retirement beneficiaries show age and disability retirements separately, while those for the U.S. population do not segregate disabled lives.

As indicated in table 1, a male railroad worker retiring at age 65 may expect, on the average, to receive his annuity for 16.6 years or approximately 199 months; while one retiring at age 62 may expect to receive his annuity for 19.0 years or approximately 228 months. At age 65, female railroad retirement age annuitants have a life expectancy of 19.8 years, which is 3.2 years longer than males at the same age. Females at age 65 in the U.S. population as a whole live 3.0 years longer on the average than males. While a female age annuitant or spouse at age 65 may expect to live about 19.8 and 20.0 years, respectively, a widow at the same age is expected to live 18.1 years. One reason for the difference in longevity may be that a widow's life expectancy is affected by a change in financial and social position and the intangible effect of bereavement brought on by the employee's death.

Life expectancies for disability beneficiaries are shown below. Both those disabled from performing their regular occupation and those totally disabled from performing any occupation are included. Total disabilities are those which meet the more restrictive disability standards of social security.

Life expectancies^a at selected ages for railroad disability annuitants at retirement and 5 or more years after retirement

<u>Age^b</u>	<u>At retirement</u>	<u>5 or more years after retirement</u>
45 ^c	25.8	25.8
50	22.5	22.7
55	18.9	19.2
60	15.3	15.8
65		12.9
70		10.2
75		7.8
80		5.9

^a Based on experience between 2000 and 2003 anniversaries of retirement.

^b Age nearest birthday.

^c Data not statistically significant.

This table indicates that the life expectancy of a person newly disabled is somewhat lower than that of a person disabled a number of years earlier. At age 55, for example, a recently disabled person may expect to live 18.9 years on average, while one disabled 5 or more years ago has a life expectancy of 19.2 years.

The data used to calculate life expectancy figures also provide a basis for estimating what proportion of the retired population may be expected to remain alive at the end of a particular number of years in the future. The chances of survival for 5, 10, 15 and 20 years for retired individuals are given in table 2. According to these figures, from a group of 1,000 retired male employees at age 65, 915 will survive at least 5 years, 774 at least 10 years, 579 at least 15 years and 352 at least 20 years. Of female age annuitants at age 65, 519 will be alive 20 years later.

Life expectancy figures are averages for large groups. The future lifetime of a particular individual may be longer or shorter than the life expectancy for his age group. Under the railroad retirement system, there have been many who have received benefits for 25 years or more.

Table 1

Life expectancies at ages 60-85 for railroad
retirement beneficiaries and for the general population

<u>Age^c</u>	<u>Railroad Retirement^a</u>					<u>U.S. Population^b</u>	
	<u>Age annuitants</u>	<u>Disability</u>	<u>Annuitants</u>	<u>Spouses^d</u>	<u>Widows</u>	<u>Males</u>	<u>Females</u>
60	20.7	24.2	15.8	24.1	22.0	20.1	23.4
61	19.9	23.4	15.2	23.2	21.2	19.3	22.6
62	19.0	22.4	14.6	22.5	20.4	18.6	21.8
63	18.2	21.6	14.1	21.6	19.6	17.8	21.0
64	17.4	20.7	13.5	20.8	18.8	17.1	20.2
65	16.6	19.8	13.0	20.0	18.1	16.4	19.4
66	15.8	19.0	12.3	19.2	17.3	15.7	18.7
67	15.0	18.1	11.8	18.5	16.7	15.1	17.9
68	14.3	17.3	11.2	17.7	15.9	14.4	17.2
69	13.6	16.6	10.7	16.9	15.2	13.8	16.5
70	12.9	15.9	10.2	16.2	14.6	13.1	15.7
71	12.2	15.0	9.7	15.4	14.0	12.5	15.0
72	11.6	14.3	9.2	14.7	13.3	11.9	14.3
73	10.9	13.5	8.7	14.0	12.7	11.3	13.7
74	10.3	12.9	8.2	13.3	12.0	10.8	13.0
75	9.7	12.1	7.8	12.7	11.4	10.2	12.4
76	9.2	11.5	7.4	12.0	10.8	9.7	11.7
77	8.6	10.8	7.0	11.3	10.2	9.2	11.1
78	8.1	10.2	6.6	10.7	9.7	8.7	10.5
79	7.6	9.6	6.2	10.1	9.1	8.2	9.9
80	7.1	9.0	5.9	9.5	8.6	7.7	9.4
81	6.7	8.5	5.6	8.9	8.1	7.3	8.8
82	6.3	8.0	5.3	8.3	7.6	6.9	8.3
83	5.9	7.5	5.0	7.8	7.1	6.4	7.8
84	5.5	7.0	4.7	7.3	6.6	6.1	7.3
85	5.1	6.5	4.5	6.8	6.2	5.7	6.9

^a Based on experience between anniversaries of retirement in 2000 and 2003 for all annuitants.

^b U.S. Life Tables for 2001 from Tables 2 and 3, National Vital Statistics Reports, Vol. 52, No. 14, Feb. 18, 2004, United States Public Health Service, U.S. Department of Health and Human Services.

^c For railroad retirement data, age basis is age nearest birthday at beginning of policy year; for U.S. population data, age basis is exact age.

^d About 95 percent of spouses are female.

Table 2

Chances of survival for specified periods,
by age and category of railroad retirement beneficiary

<u>Age^a</u>	<u>Number alive per 1,000 after</u>				<u>Number alive per 1,000 after</u>			
	<u>5 years</u>	<u>10 years</u>	<u>15 years</u>	<u>20 years</u>	<u>5 years</u>	<u>10 years</u>	<u>15 years</u>	<u>20 years</u>
	<u>Male age annuitants</u>				<u>Female age annuitants</u>			
60	956	874	740	553	972	916	835	695
65	915	774	579	352	943	859	715	519
70	847	633	385	168	912	759	550	313
75	747	455	199	53	832	603	343	134
	<u>Spouses</u>				<u>Widows</u>			
60	958	897	809	683	949	863	749	601
65	937	845	714	536	909	788	633	442
70	902	761	572	341	867	696	486	266
75	844	634	378	143	803	560	306	109
	<u>All disability annuitants</u>							
60	859	707	525	332				
65	824	611	386	193				
70	742	469	234	88				
75	632	315	118	25				
	<u>Disability annuitants at retirement</u>				<u>Disabled annuitants disabled 5 or more years</u>			
45	922	860	785	675	926	863	788	677
50	922	842	724	595	933	851	732	602
55	899	773	635	472	913	785	645	479
60	833	685	508	321	860	707	525	332
65	b	b	b	b	822	610	386	192
70	b	b	b	b	742	469	234	88
75	b	b	b	b	632	315	118	25

^a Age nearest birthday approximates exact age.

^b Not applicable. Disability annuities not awarded on or after 65th birthday.