

Actuarial Notes

U.S. Railroad Retirement Board

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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-Second Actuarial Valuation of the railroad retirement system, which was made as of December 31, 2001. These studies have been conducted for male and female age annuitants, disability annuitants, spouses and widows. Comparisons with studies done for the twentieth and the twenty-first 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 16.1 years or approximately 193 months; while one retiring at age 62 may expect to receive his annuity for 18.5 years or approximately 222 months. At age 65, female railroad retirement age annuitants have a life expectancy of 19.4 years, which is 3.3 years longer than males at the same age. Females at age 65 in the U.S. population as a whole live 3.2 years longer on the average than males. While a female age annuitant or spouse at age 65 may expect to live about 19.4 and 19.8 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	24.9	25.8
50	21.4	22.1
55	18.1	18.5
60	14.9	15.1
65		12.3
70		9.8
75		7.6
80		5.9

^a Based on experience between 1997 and 2000 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 18.1 years on average, while one disabled 5 or more years ago has a life expectancy of 18.5 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, 905 will survive at least 5 years, 752 at least 10 years, 555 at least 15 years, and 329 at least 20 years. Of female age annuitants at age 65, 502 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>	Railroad Retirement ^a					U.S. Population ^b	
	<u>Age annuitants</u>	<u>Disability</u>				<u>Males</u>	<u>Females</u>
	<u>Males</u>	<u>Females</u>	<u>Annuitants</u>	<u>Spouses^d</u>	<u>Widows</u>		
60	20.1	24.1	15.1	23.9	21.9	19.6	23.2
61	19.2	23.1	14.5	23.1	21.2	18.8	22.3
62	18.5	22.2	13.9	22.2	20.4	18.1	21.5
63	17.7	21.2	13.4	21.4	19.6	17.4	20.8
64	16.9	20.3	12.9	20.6	18.9	16.7	20.0
65	16.1	19.4	12.3	19.8	18.1	16.0	19.2
66	15.4	18.6	11.7	19.1	17.4	15.3	18.4
67	14.6	17.8	11.2	18.3	16.7	14.7	17.7
68	13.9	17.0	10.7	17.5	16.1	14.0	17.0
69	13.2	16.3	10.2	16.8	15.4	13.4	16.2
70	12.5	15.6	9.8	16.0	14.7	12.8	15.5
71	11.9	14.8	9.3	15.3	14.0	12.2	14.8
72	11.3	14.1	8.9	14.6	13.4	11.6	14.2
73	10.7	13.4	8.5	13.9	12.8	11.1	13.5
74	10.1	12.7	8.0	13.3	12.2	10.5	12.8
75	9.5	12.0	7.6	12.6	11.6	10.0	12.2
76	9.0	11.4	7.2	12.0	11.0	9.5	11.6
77	8.5	10.8	6.9	11.3	10.4	9.0	10.9
78	7.9	10.1	6.6	10.7	9.8	8.5	10.3
79	7.5	9.5	6.2	10.1	9.3	8.0	9.8
80	7.0	9.0	5.9	9.5	8.8	7.5	9.2
81	6.6	8.4	5.6	8.9	8.3	7.0	8.6
82	6.1	7.9	5.3	8.4	7.8	6.6	8.1
83	5.8	7.4	5.0	7.9	7.3	6.2	7.6
84	5.4	6.9	4.8	7.4	6.8	5.9	7.2
85	5.1	6.4	4.5	6.9	6.4	5.5	6.7

^a Based on experience between anniversaries of retirement in 1997 and 2000 for all annuitants.

^b U.S. Life Tables for 1998 from Tables 2 and 3, National Vital Statistics Reports, Vol. 48, No. 18, Feb. 7, 2001, 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 96 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	944	855	710	524	984	921	829	686
65	905	752	555	329	936	842	697	502
70	830	614	363	157	900	745	536	299
75	739	438	189	52	828	596	333	125
	<u>Spouses</u>				<u>Widows</u>			
60	958	895	801	674	943	857	741	595
65	934	836	703	521	909	786	631	444
70	895	753	557	336	865	694	489	270
75	841	622	376	151	803	565	312	119
	<u>All disability annuitants</u>							
60	850	678	488	296				
65	798	574	348	172				
70	719	437	216	82				
75	607	300	113	28				
	<u>Disability annuitants at retirement</u>				<u>Disabled annuitants disabled 5 or more years</u>			
45	914	853	771	659	948	884	799	683
50	905	818	699	557	933	843	721	574
55	885	757	603	433	904	773	616	443
60	843	672	483	293	855	681	490	297
65	b	b	b	b	797	573	348	172
70	b	b	b	b	719	437	216	82
75	b	b	b	b	607	300	113	28

^a Age nearest birthday approximates exact age.

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