

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-Fifth Actuarial Valuation of the railroad retirement system, which was made as of December 31, 2010. These studies have been conducted for male and female age annuitants, disability annuitants, spouses and widows. Comparisons with studies done for the twenty-third and the twenty-fourth 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 17.7 years or approximately 212 months; while one retiring at age 62 may expect to receive his annuity for 20.1 years or approximately 241 months. At age 65, female railroad retirement age annuitants have a life expectancy of 20.5 years, which is 2.8 years longer than males at the same age. Females at age 65 in the U.S. population as a whole live 2.7 years longer on the average than males. While a female age annuitant or spouse at age 65 may expect to live about 20.5 and 20.7 years, respectively, a widow at the same age is expected to live 18.7 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	26.2	28.1
50	23.8	24.6
55	20.4	20.8
60	16.5	17.3
65		14.1
70		11.1
75		8.5
80		6.4

^a Based on experience between 2006 and 2009 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 20.4 years on average, while one disabled 5 or more years ago has a life expectancy of 20.8 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, 927 will survive at least 5 years, 809 at least 10 years, 631 at least 15 years, and 414 at least 20 years. Of female age annuitants at age 65, 560 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	21.9	25.1	17.2	25.0	22.8	20.9	23.9
61	21.0	24.1	16.6	24.1	21.9	20.1	23.1
62	20.1	23.2	15.9	23.2	21.1	19.4	22.3
63	19.3	22.3	15.3	22.3	20.3	18.6	21.5
64	18.5	21.4	14.7	21.5	19.5	17.9	20.7
65	17.7	20.5	14.1	20.7	18.7	17.2	19.9
66	16.9	19.7	13.5	19.9	17.9	16.5	19.1
67	16.1	18.9	12.9	19.1	17.2	15.8	18.3
68	15.4	18.1	12.3	18.4	16.5	15.1	17.5
69	14.6	17.4	11.7	17.6	15.8	14.4	16.8
70	13.9	16.5	11.1	16.9	15.2	13.7	16.0
71	13.2	15.8	10.5	16.2	14.6	13.1	15.3
72	12.5	15.0	10.0	15.4	13.9	12.4	14.5
73	11.8	14.2	9.5	14.7	13.3	11.8	13.8
74	11.2	13.5	9.0	14.0	12.6	11.2	13.1
75	10.5	12.8	8.5	13.3	12.0	10.6	12.5
76	9.9	12.1	8.1	12.6	11.4	10.0	11.8
77	9.4	11.5	7.6	11.9	10.8	9.5	11.2
78	8.8	10.8	7.2	11.2	10.2	8.9	10.5
79	8.3	10.2	6.8	10.6	9.6	8.4	10.0
80	7.7	9.5	6.4	10.0	9.1	7.9	9.4
81	7.2	8.9	6.0	9.4	8.5	7.5	8.8
82	6.8	8.3	5.7	8.8	8.0	7.0	8.3
83	6.3	7.8	5.3	8.2	7.5	6.6	7.8
84	5.9	7.3	5.0	7.7	7.0	6.2	7.3
85	5.5	6.8	4.7	7.1	6.5	5.8	6.8

^a Based on experience between anniversaries of retirement in 2006 and 2009 for all annuitants.

^b U.S. Life Tables for 2007 from Tables 2 and 3, National Vital Statistics Reports, Vol. 59, No. 9, Sept. 28, 2011, 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	959	889	776	606	979	927	851	729
65	927	809	631	414	947	869	745	560
70	873	681	447	213	918	786	591	352
75	780	512	244	71	857	644	383	152
	<u>Spouses</u>				<u>Widows</u>			
60	967	907	826	713	955	875	766	628
65	938	854	737	569	917	802	657	477
70	911	786	607	380	875	717	521	296
75	863	667	418	171	820	595	338	129
	<u>All disability annuitants</u>							
60	886	757	587	396				
65	854	662	447	243				
70	775	523	284	114				
75	675	367	147	37				
	<u>Disability annuitants at retirement</u>				<u>Disabled annuitants disabled 5 or more years</u>			
45	878	831	766	684	947	896	827	739
50	915	844	754	644	946	873	780	666
55	906	809	691	536	922	824	704	546
60	846	723	560	378	893	763	591	399
65	b	b	b	b	854	662	447	243
70	b	b	b	b	775	523	284	114
75	b	b	b	b	675	367	147	37

^a Age nearest birthday approximates exact age.

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