

# **Twenty-Ninth Actuarial Valuation**

**of the Assets and Liabilities  
under the Railroad Retirement Acts  
as of December 31, 2022**



**U.S. Railroad Retirement Board  
Bureau of the Actuary and Research  
June 2024**



UNITED STATES OF AMERICA  
RAILROAD RETIREMENT BOARD  
844 NORTH RUSH STREET  
CHICAGO, ILLINOIS 60611-1275

BOARD MEMBERS:

ERHARD R. CHORLÉ, CHAIRMAN  
JOHN BRAGG, LABOR MEMBER  
THOMAS JAYNE, MANAGEMENT MEMBER

STATEMENT OF THE RAILROAD RETIREMENT BOARD

Section 15(g) of the Railroad Retirement Act of 1974 requires that the Railroad Retirement Board, at intervals not longer than three years, estimate the liabilities created by the Act and include the estimate in its annual report. Section 22 of the Railroad Retirement Act of 1974 requires that the Board submit to the President and the Congress, by July 1 of each year, a report containing a five-year projection of the revenues to and payments from the Railroad Retirement Account.

Section 502 of the Railroad Retirement Solvency Act of 1983, Public Law 98-76, requires that the Board submit to the Congress, by July 1 of each year, a report on the actuarial status of the railroad retirement system. The 29<sup>th</sup> valuation was prepared by the Board's Chief Actuary and meets these requirements. The Actuarial Advisory Committee reviewed the valuation as to assumptions and methods as required by Section 15(f) of the Railroad Retirement Act.

The Chief Actuary's report describes the results of three valuations, each valuation differing from the others as to the employment assumption on which it is based. The system is sustainable with no cash flow problems and with a stable or improving funded status at the end of the 75-year projection period under all employment assumptions.

Section 502 of the Solvency Act requires recommendations with respect to tax rates and whether any part of the taxes on employers should be diverted to the Railroad Unemployment Insurance Account to aid in the repayment of any debt to the Railroad Retirement Account. The Chief Actuary's report does not recommend a change in the tax rate, nor does it recommend a diversion of taxes from the Railroad Retirement Account to the Railroad Unemployment Insurance Account.

The Board Members believe that the 29<sup>th</sup> valuation presents a fair picture of the financial condition of the railroad retirement system, and we support the conclusions reached in the report.

The Railroad Retirement Board wishes to thank the members of the Actuarial Advisory Committee for their assistance in this important project.



FOR THE BOARD  
Stephanie Hillyard  
Secretary to the Board

STATEMENT OF THE ACTUARIAL ADVISORY COMMITTEE  
June 4, 2024

This statement sets forth the Committee's conclusions from their review of the twenty-ninth actuarial valuation of the railroad retirement system. This valuation, performed as of the triennial period ending December 31, 2022, was completed in the spring of 2024 by Mr. Keith T. Sartain, Chief Actuary of the Railroad Retirement Board, and his staff. In both the planning and carrying out of the valuation, the Committee has consulted with the Chief Actuary as to the structure, data, actuarial methods, actuarial assumptions, and procedures applied in the performance of the valuation and as to the scope and content of this report. In all, the Committee has met with the Chief Actuary and their staff on February 24, 2023, January 19, 2024, May 10, 2024, and June 4, 2024, for the purpose of reviewing and discussing the significant elements of the twenty-ninth valuation.

The Committee believes that the actuarial assumptions and methods are reasonable along with the applicable modeling of future events and likely outcomes, that the valuation results present a fair picture of the financial conditions of the railroad retirement system, and that Mr. Sartain and his staff's work conforms to all the applicable Actuarial Standards of Practice as promulgated by the Actuarial Standards Board.

Section 502 of the Railroad Retirement Solvency Act requires the Board to report to Congress on the actuarial status of the railroad retirement system each year. The report must include recommendations for any appropriate financing changes. The Chief Actuary recommends no change in the payroll tax rates structure under the railroad retirement system at this time based on the results presented in this report. The Actuarial Advisory Committee concurs with the recommendations of the Chief Actuary.

The Chief Actuary's report indicates that the average cost of the program over the projection period as measured by the excess of the present value of tier 2 payroll taxes over the actuarial surplus or (deficiency) ranges from 15.71% to 18.39% of tier 2 payroll based on three projected future employment levels as support for the Chief Actuary's recommendation. These results compare to a range of 16.57% to 21.01% of tier 2 payroll in the twenty-eighth valuation.

The Committee gratefully acknowledges the valuable help of the Board, the Chief Actuary, and his staff in assisting the Committee's review of this valuation.


To the best of our knowledge, this report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board.

Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion expressed here regarding the valuation process and contents of this report.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Ken A Kent".

Kenneth A. Kent, FSA, FCA, MAAA, EA  
Chair

A handwritten signature in black ink, appearing to read "Janet M Barr".

Janet M. Barr, ASA, MAAA

A handwritten signature in black ink, appearing to read "Tonya Manning".

Tonya Manning, FSA, FCA, MAAA, EA

## REPORT OF THE ACTUARY

### STATEMENT OF ACTUARIAL OPINION

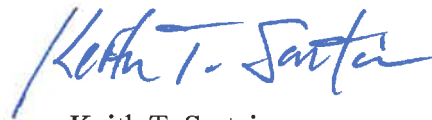
It is my opinion that this report reasonably presents the financial and actuarial status of the Railroad Retirement System in accordance with statutory requirements and actuarial standards of practice. The valuation results reflect the census data, actuarial assumptions and methods, benefit provisions and financial operations as more fully described in the following sections, the Appendix and Technical Supplement.

It is my opinion that (1) the techniques and methodology used herein are generally accepted within the actuarial profession; (2) the assumptions used and the resulting actuarial estimates are, individually and in the aggregate, reasonable for this valuation, taking into consideration the experience and expectations of the program; and (3) the benefit provisions and financial operations of the Railroad Retirement System are appropriately reflected.

Experience different from anticipated could have a material impact on the valuation results and financial status of the system. Future valuations are likely to produce different results as experience develops and actuarial assumptions and methods change. In addition, changes in benefit provisions and applicable laws could have a significant impact on the cost.

This valuation uses a projection model built and maintained by the Railroad Retirement Board's Bureau of the Actuary and Research. This model and its procedures are well documented, tested, reviewed, and updated annually. It includes sufficient quality checks and management controls to assure it produces appropriate results.

I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.



Keith T. Sartain  
Chief Actuary, Railroad Retirement Board  
Fellow of the Society of Actuaries  
Member of the American Academy of Actuaries  
Enrolled Actuary #23-05002

## **I. INTRODUCTION**

Section 15 of the Railroad Retirement Act of 1974 requires that the Railroad Retirement Board, at intervals of not more than three years, prepare actuarial valuations of the railroad retirement system.

Section 22 of the Railroad Retirement Act of 1974 requires the Railroad Retirement Board to prepare an annual report containing a five-year projection of revenues to and payments from the Railroad Retirement Account and to submit the report to the President and the Congress by July 1. This report must also contain a five-year projection of the account benefits ratio and average account benefits ratio. If the five-year projection indicates that funds in the Railroad Retirement Account will be insufficient to pay full benefits, (1) representatives of railroad employees, railroad carriers and the President must submit proposals to the Congress to preserve the financial solvency of the Railroad Retirement Account, and (2) the Railroad Retirement Board must issue regulations to reduce annuity levels during any fiscal year in which there would be insufficient funds to make full payments.

Section 502 of the Railroad Retirement Solvency Act of 1983 requires the Railroad Retirement Board to prepare an annual report on the actuarial status of the railroad retirement system and to submit the report to the Congress by July 1. The report must contain recommendations for any financing changes which might be advisable, including (1) changes in the tax rates, and (2) whether any part of the taxes on employers should be diverted to the Railroad Unemployment Insurance Account to aid in the repayment of any debt to the Railroad Retirement Account.

This 29<sup>th</sup> actuarial valuation report is intended to meet these requirements for 2024. The recommendations required by Section 502 are presented below:

1. No change in the rate of tax imposed on employers and employees is recommended. The tier 2 tax rate schedule maintains a close balance between the present value of future income and expenditures. The projected cash flows show no problems for 75 years, indicating that an immediate change in the tax rate schedule is not required.
2. No diversion of taxes from the Railroad Retirement Account to the Railroad Unemployment Insurance Account is recommended at this time. There are currently no outstanding loans.

## **II. SUMMARY OF RECENT DEVELOPMENTS AND RESULTS**

Recent actuarial reports have discussed in detail the importance of the level of railroad employment to the railroad retirement system's financial stability. The payroll tax on railroad employment has been the major source of income to the system since its establishment in the 1930s. It is clear that with a fixed tax rate the fewer railroad workers there are, the less money the retirement account collects in payroll taxes, and the more likely the system is to need additional funds. Declines in railroad employment over a long period, coupled with inflation and subsequent benefit increases, required legislation to strengthen the system's financial condition in 1974, 1981, 1983, and 1987. With the introduction of the average account benefits ratio (Appendix item 36) to automatically adjust the payroll tax rates in 2004 and later, there is less need for corrective legislation.

Key results from the 29<sup>th</sup> valuation (2024 actuarial report) and the prior 28<sup>th</sup> valuation (2021 actuarial report) under the moderate employment assumption are summarized in the table below:

	<b>29<sup>th</sup> Valuation</b>	<b>28<sup>th</sup> Valuation</b>
Valuation Date	12/31/2022	12/31/2019
Reporting Year	2024	2021
Actuarial Surplus (in millions)	\$2,016	\$1,372
Actuarial Surplus as a % of Tier 2 payroll	0.43%	0.33%
Average Projected Tier 2 tax rate	17.28%	18.92%
<b>Cost of the System</b> (tax rate less surplus)	<b>16.85%</b>	<b>18.59%</b>
Tier 2 tax rates:		
• Current (1 <sup>st</sup> year)	18%	18%
• In 10 <sup>th</sup> year	18%	18%
• Highest	18%	23%
• At final year	14%	18%

The cost of the system significantly improved because of higher expected railroad employment and related tier 2 payroll. The combined effect of a decrease in projected tier 2 tax rates by 1.64 percent and an increase in projected surplus by 0.10 percent results in a decrease in system cost of 1.74 percent of tier 2 payroll.

The average tier 2 tax rate is calculated by dividing the present value of tier 2 payroll taxes by the present value of tier 2 payroll as of January 1, 2023. The surplus figures given above and illustrated in Table 6 represent the change in the average tier 2 tax rate which would produce a balance of zero in the combined National Railroad Retirement Investment Trust, Railroad Retirement Account and Social Security Equivalent Benefit Account at the end of the 75-year projection period.

The current valuation increases the expected future investment return to 7.0% compared to 6.5% in the prior valuation. This change decreases the projected system cost by about 0.31 percent of tier 2 payroll under the moderate employment assumption. At the same time, we slightly increased long-term inflation and base wage increases by 0.1% to 2.5% and 3.5% respectively.

Railroad employment has recovered following the pandemic and has recently stabilized. This valuation adjusts the employment scenario assumptions to project more stable long-term employment levels. Under the moderate employment assumption shown above, ultimate employment stabilizes at 161,700 after 40 years of declines for the 29<sup>th</sup> valuation compared to 137,200 after 50 years of declines for the 28<sup>th</sup> valuation. This change improves the projected tier 2 payroll tax base.

The 29<sup>th</sup> valuation has been prepared under three assumptions as to the future behavior of railroad employment. Employment assumptions I and II assume stable passenger employment and different rates of decline in freight employment. Employment assumption III follows the structure of assumptions I and II, except that it has declines in passenger employment and steeper declines in freight employment than employment assumptions I and II. This approach is like the 28<sup>th</sup> valuation, but this year's valuation begins with slightly lower rates of decline which then become smaller linearly over the next 40 years.

See Section V for more information on assumptions.



Employment assumptions I, II and III are intended to provide an optimistic, moderate and pessimistic outlook, respectively. The results of the projections made in this report of the railroad retirement system's financial condition are as follows:

	<b>Employment Assumption</b>		
	<b>I</b>	<b>II</b>	<b>III</b>
Ultimate employment (in thousands)	194.1	161.7	128.1
Actuarial Surplus as a % of Tier 2 payroll	0.46%	0.43%	0.41%
Average Projected Tier 2 tax rate	16.17%	17.28%	18.80%
<b>Cost of the System</b> (tax rate less surplus)	<b>15.71%</b>	<b>16.85%</b>	<b>18.39%</b>
Tier 2 tax rates:			
• Current (1 <sup>st</sup> year)	18%	18%	18%
• In 10 <sup>th</sup> year	18%	18%	18%
• Highest	18%	18%	23%
• At final year	14%	14%	14%

Under employment assumption I (optimistic), assumption II (moderate), and assumption III (pessimistic), there are no cash flow problems during the 75-year projection period. The tier 2 tax rates are adequate to maintain system solvency. Under employment assumption III (pessimistic), the tier 2 tax rate increases to 23% in 2053-2067 but then declines as the system funded status improves.

The system is sustainable with no cash flow problems and with a stable or improving funded status at the end of the projection period under all employment assumptions.

The conclusion is that, barring a sudden, unanticipated, large drop in railroad employment or substantial investment losses, the railroad retirement system with its automatically adjusting tier 2 tax rate mechanism will experience no cash flow problems. The long-term stability of the system, however, is not guaranteed. Under the current financing structure, actual levels of railroad employment and investment return over the coming years will determine whether future corrective action is necessary.

Section V of this report presents details of the valuations under the three employment assumptions.

### **III. REGULAR AND SUPPLEMENTAL BENEFITS AND THEIR FINANCING**

The Appendix contains a detailed description of the provisions of the current law. Sections III and IV provide a more general summary of the law.

Amounts available for payment of railroad retirement benefits are held in four Accounts: the National Railroad Retirement Investment Trust (NRRIT), the Railroad Retirement (RR) Account, the Social Security Equivalent Benefit (SSEB) Account, and the Dual Benefits Payments Account. Because of their intertwined nature, the NRRIT, RR Account and SSEB Account are discussed together in this Section III. Dual benefits and the Dual Benefits Payments Account are discussed in a separate Section IV.

Amounts held in the NRRIT, RR Account and SSEB Account are mainly used to pay monthly benefits to retired or disabled employees, their spouses, and survivors. The various types of benefits and their eligibility requirements are described in the Appendix. The Accounts also pay out relatively small amounts in lump sums to employees and their survivors in certain cases. The monthly benefits consist of three components, known as tier 1, tier 2 and supplemental annuity.

For all categories of recipients, the gross tier 1 benefit is generally equivalent to the benefit that the social security system would pay if all the employee's earnings (railroad and non-railroad) had been covered under the Social Security Act. Any benefit actually received from social security is subtracted to determine the net tier 1 benefit payable. Section IV explains the logic behind this determination. The cost-of-living increase paid to social security beneficiaries automatically carries over to the tier 1 component of railroad retirement annuities.

There are some differences between social security benefits and tier 1 benefits. The most significant are as follows:

1. An employee may not retire before age 62 under the social security system. Under the railroad retirement system, an employee may retire as early as age 60 with 30 years of service. A spouse of a 30-year employee may also retire as early as age 60. If the employee retired after 2001, there is no age reduction to the tier 1 benefit and tier 2 benefit.
2. Railroad retirement pays an occupational disability benefit under tier 1 and tier 2. Social security requires total and permanent disability. A five-month waiting period applies under both systems.
3. Widow(er)s who retire at age 60 or 61 under railroad retirement are deemed age 62 in the computation of the tier 1 benefit, resulting in a smaller age reduction than under social security.
4. From the start of the railroad retirement system through 1984, earnings up to a monthly maximum amount were taxed and credited for benefit computation purposes. Social security has always used an annual earnings limit. The 1983 Solvency Act changed railroad retirement to an annual earnings limit for 1985 and later years, but benefit computations for new beneficiaries continue to reflect the pre-1985 use of a monthly limit primarily because it is necessary for integrating the full career of pays in the highest 35 years of indexed earnings in the tier 1 benefit formula.

The formula used to compute the tier 2 component of railroad retirement is comparable to a private pension formula. Under the formula adopted in 1981, the employee tier 2 benefit is equal to 0.7 percent of the employee's average monthly railroad earnings for the 60 months of highest earnings, multiplied by the number of years of railroad service, less 25 percent of any vested dual benefit. Unlike many private pensions, tier 2 benefits (1) provide automatic cost-of-living increases, and (2) are paid to spouses and survivors without any reduction in employee benefit for the payment of these auxiliary benefits.

Before applicable reductions, the tier 2 benefit for spouses and survivors is a specified percentage of the employee's tier 2 benefit. The Appendix lists the percentages and also describes the initial minimum widow(er)'s amount which became payable beginning in calendar year 2002.

The tier 2 cost-of-living increases for employees, spouses and survivors are equal to 32.5 percent of the percentage increase which is used in computing social security increases (and tier 1 increases). The increase is paid at the same time as the tier 1 cost-of-living increase.

The portion of tier 1 benefits which is considered equivalent to social security benefits is subject to Federal income tax under the rules that apply to social security benefits. Tier 2 benefits, the portion of tier 1 benefits in excess of social security benefits, supplemental annuity benefits, and vested dual benefits are subject to Federal income tax under the rules that apply to private pensions.

A railroad retiree may receive a supplemental annuity in addition to his regular annuity if (1) the retiree has a "current connection" with the railroad industry at the time of retirement, and (2) the retiree has attained age 65 with 25 years of railroad service, or attained age 60 with 30 years of railroad service. A current connection is generally defined as at least 12 months of railroad service in the 30 months preceding retirement.

The monthly supplemental annuity benefit is \$23, plus \$4 for each year of service in excess of 25, with a maximum benefit of \$43. No cost-of-living increases are applied. Spouses and survivors do not receive a supplemental annuity.

If the recipient of a supplemental annuity receives a private pension from his railroad employer, the supplemental annuity is reduced by the portion of the private pension that is attributable to the employer's contributions. This reduction is not made if the private pension is reduced for receipt of the supplemental annuity.

The 1981 amendments added the requirement that an employee must have worked in the railroad industry before October 1, 1981, to receive a supplemental annuity. This provision results in phasing out the supplemental annuity over a long period. The last supplemental annuity check will probably be paid after 2065.

Benefits paid from the NRRIT, RR Account and SSEB Account are financed by the following sources of income:

1. Payroll tax. Employees and employers pay a tax at the social security rate on earnings in a year up to the social security, or tier 1, earnings limit. There is no limit to earnings subject to the hospital insurance portion of the tier 1 tax rate. Beginning in 2013, employees pay an additional 0.9 percent on earnings above \$200,000 (for those who file an individual return) or \$250,000 (for those who file a joint return).

Related to the COVID-19 pandemic, legislation and an executive order provided for certain credits and deferrals of tier 1 payroll taxes during 2020. Many railroad employers availed themselves of this relief. In accordance with the legislation, Treasury provided a reimbursement from the general fund during 2021 to cover the shortfall in 2020 tax receipts. Employers repaid half of any deferred payroll taxes by December 31, 2021, and the remainder by December 31, 2022. These employer deferred repayments were transferred to the Treasury general fund in September 2022 and September 2023 to cover the earlier reimbursements.

In addition, employers and employees pay a tier 2 tax equal to a percentage of the employee's earnings up to the tier 2 earnings limit. The tier 2 earnings limit is what the social security limit would be if the 1977 social security amendments had not been enacted. The 2024 earnings limits are \$168,600 and \$125,100 for tier 1 and tier 2, respectively.

Tier 2 taxes on both employers and employees are automatically adjusted based on a 10-year average of the ratio of certain asset balances to the sum of benefits and administrative expenses (the average account benefits ratio). Depending on the average account benefits ratio, the tier 2 tax rate for employers will range between 8.2 percent and 22.1 percent (currently 13.1 percent), while the tier 2 tax rate for employees will be between 0 percent and 4.9 percent (currently 4.9 percent). This calculation is described in the Appendix.

2. Income tax. The tax on tier 1 benefits up to the social security level is credited to the SSEB Account and then sent to social security administration through the financial interchange. Revenue derived from taxing certain RR Account benefits (tier 2 and the excess of tier 1 over the social security level) is transferred to the RR Account.
3. Investment income. The majority of assets are managed and invested in a diversified portfolio by the NRRIT Board of Trustees. The RR Account and SSEB Account are invested in special issue Treasury obligations.
4. The financial interchange with the social security system. This extremely important arrangement, which will be discussed in detail in Section IV, has resulted in the large annual lump sum transfers of money from social security to railroad retirement. As shown in Table 10, the social security system transferred \$5.9 billion to the SSEB Account in 2024. At the same time, hospital insurance (HI) taxes are transferred to Center for Medicare and Medicaid Services.

5. Advances from general revenues related to certain features of the financial interchange. Financial interchange transfers are made in a lump sum for a whole fiscal year in the June following the end of that fiscal year. For example, the transfer reflecting transactions which occurred from October 2021 through September 2022 (fiscal year 2022) took place in June 2023. At any time, therefore, there are between 9 and 21 months' worth of financial interchange transfers that are, in a sense, owed to the railroad retirement system. Railroad retirement receives interest on this money, so this practice does no long-term harm to the financial condition of the railroad retirement system. The lag in the transfers, however, could cause short-term cash flow problems.

To avoid any cash flow problems caused by this lag, the 1983 Solvency Act provided for monthly loans to railroad retirement from U.S. Treasury general funds. Each loan is equal to the transfer the Railroad Retirement Board estimates railroad retirement would have received in the preceding month, with interest, if the financial interchange with social security were on an up-to-date basis. Railroad retirement must repay these loans when it receives the transfer from social security against which the money was advanced.

The 1983 Solvency Act created the SSEB Account, effective October 1, 1984. Before that date, all tier 1 benefits, tier 2 benefits, lump sums and administrative expenses had been paid from the RR Account, and all the income described above had been credited to the RR Account. Since then, the SSEB Account has paid the social security level of benefits and the administrative expenses allocable to that level of benefits. The tier 1 portion of the payroll tax, the income taxes on the social security level of benefits, the income from the financial interchange, and the advances from general revenues are credited to the SSEB Account. Repayment of the advances is made from the SSEB Account.

In order to maximize investment returns to the Railroad Retirement system, the Railroad Retirement and Survivors' Improvement Act of 2001 created the National Railroad Retirement Investment Trust (NRRIT) to manage and invest amounts collected in the RR Account and SSEB Account. Since the initial transfer of assets to the NRRIT during calendar years 2002-2004, the NRRIT has been transferring funds back to the RR Account as needed for the payment of benefits. The balance of the SSEB Account not needed to pay current benefits and administrative expenses has generally been transferred annually to the RR Account, reducing the amount needed from the NRRIT.

#### **IV. THE FINANCIAL INTERCHANGE AND DUAL BENEFITS**

In the early 1950s, an arrangement known as the financial interchange was established between the railroad retirement and social security systems. The purpose of the financial interchange is to place the social security trust funds in the same financial position they would have been if railroad employment had always been covered under social security. If railroad employment had been covered under social security, social security would have collected taxes on railroad employment, and it would have paid benefits based on railroad employment. Under the financial interchange, the railroad retirement system gives the social security system the taxes social security would have collected, and the social security system gives the railroad retirement system the additional benefits social security would have paid to railroad workers and their families over what it actually pays them.

The word "additional" in the preceding sentence is important, because it is possible for a railroad employee to be covered under both railroad retirement and social security. The social security coverage may be based on earnings from another job while also in a railroad job or from coverage under the two systems at different times. Fulfilling the purpose of the financial interchange requires deducting from social security's fund only the difference between what social security would have paid had it covered railroad employment and what it actually pays the person based on his non-railroad employment. Under the financial interchange, therefore, social security subtracts an employee's social security benefit from the amount it would otherwise give to the railroad retirement system.

This arrangement gave rise to problems that became acute in the early 1970s. The problems arose from the weighting in the social security formula in favor of low-earning, short-service workers. A railroad employee's non-railroad earnings usually added little to the benefit social security would have paid on combined railroad and non-railroad earnings (called gross tier 1 today). However, the employee might qualify for the minimum social security benefit, receiving much more from social security than his non-railroad earnings added to his gross tier 1 benefit.

In order to improve the system's financial condition, the Railroad Retirement Act of 1974 provided that the tier 1 component of the railroad retirement annuity be reduced by any social security benefit. This essentially integrated the two systems and eliminated most of the advantage of qualifying for benefits under both systems.

It was generally considered unfair to eliminate this advantage entirely for those already retired or close to retirement when the 1974 Act became effective. The 1974 Act, therefore, provided for a restoration of social security benefits that were considered vested at the end of 1974. The restored amount is known as the "vested dual benefit."

Spouses and survivors were not awarded vested dual benefits after August 13, 1981, though they continue to receive these benefits if they were awarded before that date.

Since October 1981, vested dual benefits have been paid from a segregated Dual Benefits Payments Account, and appropriations have been made to that account. This means that, starting in fiscal year 1982, each annual appropriation is to be sufficient to pay the benefits for that year. If the appropriation for a fiscal year is less than required for full funding, the Railroad Retirement Board must reduce benefits to a level that the amount appropriated will cover.

The appropriation for vested dual benefits in fiscal years 1982, 1986 and 1988 were less than required for full funding, resulting in a cutback in benefits during those years. Benefits were cut back in January 1996 due to a lapse in government funding and then restored later that same month. Full benefits have been paid for all other years.

Vested dual benefits have been phasing out over a long period, and the last vested dual benefit payment will probably be made after 2040.

## V. ASSUMPTIONS, METHODOLOGY, AND VALUATION RESULTS

### A. Assumptions and Methodology

Average railroad employment begins with 198,200 in 2023 under each of the three employment assumptions, which is the estimated average for the year (subject to later adjustment). This value is close to the prior 28<sup>th</sup> valuation's projected railroad employment under the moderate assumption, which had assumed a rebound in railroad employment following the COVID-19 pandemic. Currently, railroad employment has recovered and has stabilized at about 200,000 employees since mid-2023.

A condensed history of 5-year average railroad employment from 1945 through 2019 is shown in the following table:

5-Year Period	Average employment for the period (in thousands)	Average annual rate of decline from the prior period
1945-1949	1,572,000	
1950-1954	1,396,000	2.3%
1955-1959	1,108,000	4.5%
1960-1964	825,000	5.7%
1965-1969	710,000	3.0%
1970-1974	603,000	3.2%
1975-1979	546,000	2.0%
1980-1984	453,000	3.7%
1985-1989	331,000	6.1%
1990-1994	279,000	3.4%
1995-1999	257,000	1.6%
2000-2004	233,000	1.9%
2005-2009	233,000	0.0%
2010-2014	233,000	0.0%
2015-2019	229,000	0.3%

This history shows that railroad employment has generally declined over a long period of years but less quickly since the early 2000s. Railroad employment may vary more dramatically year to year and was particularly affected by the COVID-19 pandemic in 2020 and 2021, but steadily recovered during 2022 and 2023, assisted by Amtrak hiring supported by the Infrastructure Investment and Jobs Act, as shown below:

Year	Average employment for the year (in hundreds)	Annual rate of decline from the prior year
2015	246,900	(2.0)%
2016	230,600	6.6%
2017	224,900	2.5%
2018	224,300	0.3%
2019	217,300	3.1%
2020	195,400	10.1%
2021	186,100	4.8%
2022	190,100	(2.1)%
2023	198,200	(4.3)%

The valuation includes three assumptions as to future expectations of railroad employment that are based on a model initially developed by the Association of American Railroads. This model was first adopted for the 19<sup>th</sup> valuation in 1994 and has been modified periodically in subsequent valuations based on actual experience and expectations. Employment assumptions I, II, and III are intended to provide optimistic, moderate, and pessimistic outlooks, respectively.

Employment assumptions I and II assume that (1) passenger employment will remain at the level of 46,000, and (2) the employment base excluding passenger employment will decline at a reducing annual rate for 40 years (initially 0.2 percent for assumption I and 1.4 percent for assumption II) and remain level thereafter.

Employment assumption III differs from employment assumptions I and II by assuming that (1) passenger employment will decline by 400 per year until a level of 38,000 is reached and then remain level, and (2) the employment base excluding passenger employment will decline at an initial annual rate of 2.6 percent reducing linearly for 40 years and remain level thereafter.

These assumptions were updated for the 29<sup>th</sup> valuation to reflect prior experience with slower declines in employment since 2001 and future expectation of more stable employment. This year's valuation reflects the following changes:

1. Reduce the initial rates of decline for non-passenger employment by 0.0%, 0.1% and 0.2% to 0.2%, 1.4%, and 2.6%, such that the spread is 1.2% for the optimistic, moderate, and pessimistic assumptions, respectively.
2. For the pessimistic employment assumption, reduce passenger employment by 400 per year instead of 500 per year until reaching a floor.
3. Start immediately reducing the initial rates of decline in non-passenger employment over the next 40 years. The prior valuation used a constant annual decline for 25 years and then a reducing decline for the next 25 years.

This update is consistent with reductions in the rates of decline since the model was adopted and with the model's premise that declines would become smaller in the future. This update increases expected future employment and reduces the range of outcomes between the assumptions.

To recognize the increasing employment trend to 200,000 in the first quarter of 2024, we added a 1.4 percent increase in non-passenger employment across all scenarios between 2023 and 2024. This upward adjust brings the projected 2024 employment under assumption I (optimistic) up to the actual preliminary employment estimate for the first quarter of 2024 and maintains projected 2024 employment under assumption II (moderate) at 198,200, which equals the initial 2023 average employment.



Because inflation is expected to stabilize, only one set of earnings and price inflation assumptions was used in this valuation. The ultimate base wage increase and cost-of-living increase assumptions were slightly increased to 3.5% and 2.5% in the 29<sup>th</sup> valuation from 3.4% and 2.4%, respectively, in the 28<sup>th</sup> valuation.

Consistent with higher inflation and considering capital market expectations, the long-term investment return assumption was increased to 7.0% in the 29<sup>th</sup> valuation from 6.5% in the 28<sup>th</sup> valuation. This investment return assumption reflects the combined average expected return for all accounts.

Select assumptions were applied during the first few years to reflect recent actual experience. The 2023 base wage increase is 11.4% based on preliminary data. This higher increase is due to union contracts with Class 1 railroads being ratified that include cumulative gross wage increases (GWI) and a one-time payout for prior period GWI and service bonuses. We are then assuming a lower increase of 1.5% in 2024, since the back-wages payments are inflating 2023 wages and will not reoccur. We use the ultimate 3.5% assumption thereafter.

Table 1. Employment and economic assumptions shows the assumptions used in the 29<sup>th</sup> valuation. A comparison of historical and projected employment is illustrated in Figure 1.

The valuation uses a single scenario for all other assumptions (for example, rates of mortality, disability, retirement, and withdrawal). These assumptions, many of which were changed from the 28<sup>th</sup> valuation to reflect recent experience, are discussed in the Technical Supplement to this report.

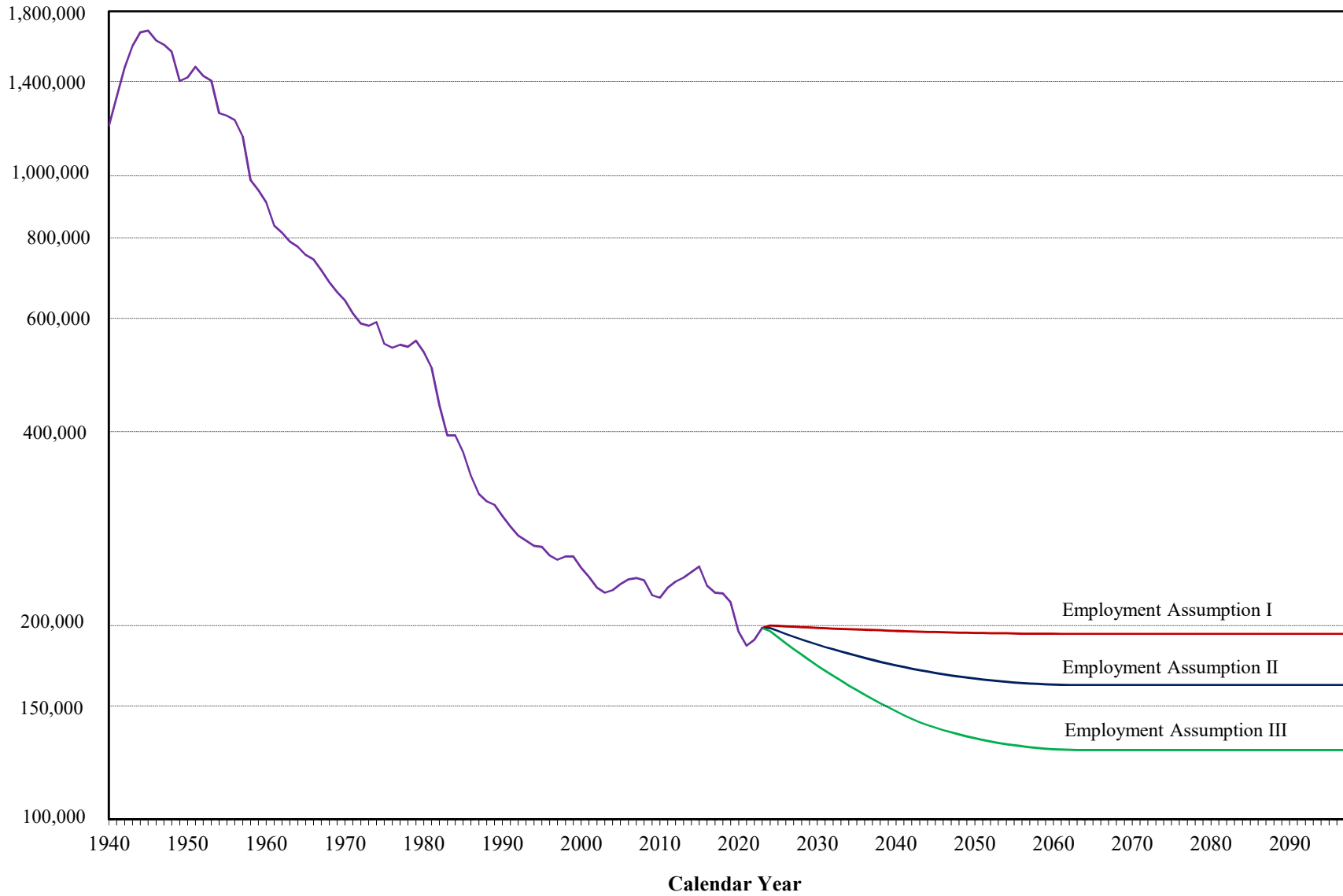
Table 1. Employment and economic assumptions

Calendar year	Average employment (thousands)			Percentage increase over prior year		Investment return
	I	II	III	Base Wages	Cost of living <sup>a</sup>	
2023	198.2 <sup>c</sup>	198.2 <sup>c</sup>	198.2 <sup>c</sup>	11.4% <sup>c</sup>	8.7% <sup>b</sup>	12.8% <sup>b</sup>
2024	200.0	198.2	195.9	1.5	3.2 <sup>b</sup>	7.0
2025	199.7	196.1	191.7	3.5	3.0	7.0
2026	199.4	194.1	187.7	3.5	2.8	7.0
2027	199.1	192.2	183.9	3.5	2.5	7.0
2028	198.9	190.3	180.2	3.5	2.5	7.0
2029	198.6	188.6	176.7	3.5	2.5	7.0
2030	198.3	186.9	173.3	3.5	2.5	7.0
2031	198.1	185.2	170.2	3.5	2.5	7.0
2032	197.8	183.7	167.1	3.5	2.5	7.0
2033	197.6	182.2	164.2	3.5	2.5	7.0
2034	197.4	180.8	161.4	3.5	2.5	7.0
2035	197.2	179.4	158.8	3.5	2.5	7.0
2036	197.0	178.1	156.2	3.5	2.5	7.0
2037	196.8	176.8	153.8	3.5	2.5	7.0
2038	196.6	175.6	151.5	3.5	2.5	7.0
2039	196.4	174.5	149.3	3.5	2.5	7.0
2040	196.2	173.4	147.2	3.5	2.5	7.0
2041	196.0	172.4	145.1	3.5	2.5	7.0
2042	195.8	171.4	143.2	3.5	2.5	7.0
2043	195.7	170.5	141.4	3.5	2.5	7.0
2044	195.5	169.6	140.0	3.5	2.5	7.0
2045	195.4	168.8	138.8	3.5	2.5	7.0
2046	195.3	168.0	137.6	3.5	2.5	7.0
2047	195.1	167.3	136.5	3.5	2.5	7.0
2048	195.0	166.6	135.5	3.5	2.5	7.0
2049	194.9	166.0	134.5	3.5	2.5	7.0
2050	194.8	165.4	133.6	3.5	2.5	7.0
2051	194.7	164.9	132.8	3.5	2.5	7.0
2052	194.6	164.4	132.1	3.5	2.5	7.0
2053	194.5	163.9	131.4	3.5	2.5	7.0
2054	194.5	163.5	130.8	3.5	2.5	7.0
2055	194.4	163.1	130.3	3.5	2.5	7.0
2056	194.3	162.8	129.8	3.5	2.5	7.0
2057	194.3	162.5	129.4	3.5	2.5	7.0
2058	194.2	162.3	129.0	3.5	2.5	7.0
2059	194.2	162.1	128.7	3.5	2.5	7.0
2060	194.2	161.9	128.5	3.5	2.5	7.0
2061	194.1	161.8	128.3	3.5	2.5	7.0
2062	194.1	161.7	128.2	3.5	2.5	7.0
2063 - 2097	194.1	161.7	128.1	3.5	2.5	7.0

<sup>a</sup> Cost-of-living adjustments are effective January 1 of each year. Actual Tier 1 COLA is the same as the actual social security increase. Tier 2 COLA is 32.5% of the Tier 1 COLA.

<sup>b</sup> Actual.

<sup>c</sup> Preliminary.

**Figure 1. Average Railroad Employment 1940-2097, Historical and Projected**

## B. Valuation Results

This section sets forth the results of the valuation in the form of a discussion of the tables in which the results appear. Because it is desirable for the discussion of a table to be reasonably self-contained, there is some repetition between tables and between this section and preceding sections of this report.

Table 2. Progress of the Combined National Railroad Retirement Investment Trust (NRRIT) and Railroad Retirement (RR) Account, and the Social Security Equivalent Benefit (SSEB) Account. Projections were made for the various components of income and outgo under each employment assumption for the 75 calendar years 2023-2097. The projections of these components were combined and the investment income calculated using a single rate to produce the projected balances in the combined NRRIT and RR Account, and the SSEB Account at the end of each projection year. The results are summarized in Table 2.

Table 2 consists of three tables, one for each of employment assumptions I, II, and III. The tables show, for the SSEB Account and the combined NRRIT and RR Account for each projection year, (1) the various elements of income and outgo, (2) the account balance on December 31, and (3) the account benefits ratio, average account benefits ratio and combined employer and employee tier 2 tax rate.

The balances of the RR Account and NRRIT are combined because amounts not needed to pay current benefit and administrative costs are invested by the NRRIT. The SSEB Account is assumed to maintain a target balance of approximately 1.5 months of benefit payments in order to meet benefit obligations and contingencies and to transfer any excess to the RR Account.

Legislation related to the pandemic provided employers tier 1 tax credits and deferrals during 2020. The projections reflect deferrals being repaid by employers by December 2022 and these repayments being transferred from the SSEB Account to Treasury in September 2022 and September 2023.

The projections assume that financial interchange income to the SSEB Account will continue as in prior years, recognizing full benefits, even if the social security system has inadequate funding in the future and must reduce annuities for its beneficiaries. This assumption is reasonable and supported by statute and written procedures.

Table 2 indicates that no cash-flow problems arise under employment assumptions I, II, or III.

Figure 2 shows historical and projected account benefits ratios under the three employment assumptions.

Table 2-I: Under employment assumption I (optimistic), the combined account balance increases throughout the 75-year projection period. The combined employer and employee tier 2 tax rate remains at 18.0% through 2045, decreases to 10.0% for 2061-2065, and then fluctuates between 12.0% and 14.0% thereafter. The system is sustainable with a stable or improving funded status at the end of the projection period.

Table 2-II: Under employment assumption II (moderate), the combined account balance increases throughout the 75-year projection period. The combined employer and employee tier 2 tax rate remains at 18.0% through 2061, decreases to as low as 12.0% for 2077-2092, and ends the projection at 14.0% in 2097. The system is sustainable with a stable or improving funded status at the end of the projection period.

Table 2-III: Under employment assumption III (pessimistic), the combined account balance slowly increases from 2025-2038, then decreases until 2052, and increases thereafter. The combined employer and employee tier 2 tax rate remains at 18.0% through 2043, increases to 23.0% for 2053-2067, but starts declining thereafter until reaching 14.0% towards the end of the projection period. The system is sustainable with a stable or improving funded status at the end of the projection period.

Under all employment assumptions, the average account benefits ratio mechanism successfully adjusted tier 2 tax rates upward and downward as needed to maintain solvency and system sustainability.

As shown in Figure 2, the account benefit ratios under each employment assumption begin to converge after about 35 years once the employee population stops declining. After another 10 to 20 years of constant employment, the account benefit ratios come together around 8.0.

Table 2-I. Progress of the Combined National Railroad Retirement Investment Trust (NRRIT) and Railroad Retirement (RR) Account, and the Social Security Equivalent Benefit (SSEB) Account under Employment Assumption I  
(Dollar amounts in millions)

Calendar year	Average			Combined NRRIT and RR Account				SSEB Account				Combined balance, end year
	Account benefits ratio <sup>a</sup>	account benefits ratio <sup>b</sup>	Tier 2 tax rate	Benefits and administration	Tax income <sup>c</sup>	Other income <sup>d</sup>	Balance, end year	Benefits and administration	Tax income <sup>c</sup>	Other income and expense <sup>e</sup>	Balance, end year	
2024	4.51	4.80	18.0%	\$5,950	\$4,154	\$1,965	\$26,632	\$8,751	\$3,822	\$4,908	\$1,091	\$27,723
2025	4.48	4.70	18.0%	6,010	4,280	1,855	26,756	8,954	3,967	5,013	1,116	27,872
2026	4.49	4.70	18.0%	6,069	4,504	1,924	27,114	9,140	4,166	4,998	1,140	28,254
2027	4.52	4.60	18.0%	6,126	4,643	1,957	27,588	9,306	4,322	5,004	1,160	28,748
2028	4.56	4.60	18.0%	6,201	4,784	1,994	28,166	9,478	4,480	5,019	1,182	29,348
2029	4.60	4.60	18.0%	6,294	4,927	2,039	28,839	9,648	4,637	5,033	1,203	30,042
2030	4.65	4.60	18.0%	6,393	5,073	2,090	29,609	9,824	4,797	5,049	1,225	30,834
2031	4.71	4.60	18.0%	6,494	5,223	2,118	30,456	10,006	4,962	5,067	1,247	31,703
2032	4.79	4.50	18.0%	6,588	5,378	2,211	31,457	10,199	5,134	5,089	1,271	32,728
2033	4.90	4.60	18.0%	6,666	5,539	2,285	32,615	10,407	5,315	5,118	1,297	33,912
2034	5.02	4.70	18.0%	6,761	5,706	2,372	33,932	10,615	5,501	5,140	1,323	35,255
2035	5.14	4.70	18.0%	6,888	5,878	2,469	35,392	10,818	5,669	5,174	1,348	36,740
2036	5.27	4.80	18.0%	7,022	6,057	2,567	36,994	11,029	5,843	5,212	1,375	38,369
2037	5.41	4.90	18.0%	7,162	6,242	2,691	38,764	11,248	6,023	5,252	1,402	40,166
2038	5.56	5.00	18.0%	7,315	6,433	2,819	40,701	11,468	6,208	5,287	1,429	42,130
2039	5.73	5.10	18.0%	7,466	6,631	2,959	42,825	11,692	6,401	5,319	1,457	44,282
2040	5.91	5.20	18.0%	7,618	6,838	3,112	45,157	11,920	6,603	5,345	1,485	46,642
2041	6.11	5.30	18.0%	7,788	7,053	3,277	47,700	12,155	6,813	5,370	1,514	49,214
2042	6.31	5.40	18.0%	7,983	7,276	3,460	50,452	12,405	7,030	5,407	1,546	51,998
2043	6.50	5.60	18.0%	8,199	7,505	3,654	53,413	12,679	7,253	5,461	1,580	54,993
2044	6.69	5.70	18.0%	8,436	7,744	3,862	56,582	12,977	7,484	5,530	1,617	58,199
2045	6.89	5.90	18.0%	8,694	7,992	4,086	59,966	13,292	7,725	5,607	1,656	61,622
2046	7.05	6.10	17.0%	8,954	7,836	4,309	63,157	13,629	7,975	5,696	1,698	64,855
2047	7.22	6.30	17.0%	9,207	8,093	4,534	66,577	13,995	8,242	5,798	1,743	68,320
2048	7.40	6.40	17.0%	9,471	8,356	4,776	70,238	14,386	8,518	5,917	1,792	72,030
2049	7.56	6.60	16.0%	9,743	8,175	5,018	73,688	14,797	8,804	6,044	1,843	75,531
2050	7.72	6.80	16.0%	10,007	8,442	5,264	77,387	15,227	9,104	6,176	1,897	79,284
2051	7.89	7.00	15.0%	10,245	8,235	5,510	80,887	15,677	9,422	6,311	1,953	82,840
2052	8.08	7.20	15.0%	10,465	8,511	5,760	84,694	16,154	9,761	6,452	2,012	86,706
2053	8.26	7.30	15.0%	10,732	8,797	6,031	88,790	16,663	10,110	6,616	2,075	90,865
2054	8.39	7.50	14.0%	11,037	8,550	6,300	92,602	17,210	10,462	6,816	2,144	94,746
2055	8.53	7.70	14.0%	11,319	8,837	6,572	96,691	17,781	10,837	7,015	2,215	98,906
2056	8.62	7.90	14.0%	11,736	9,138	6,865	100,957	18,331	11,211	7,188	2,283	103,240
2057	8.54	8.00	12.0%	12,259	8,262	7,121	104,081	18,867	11,583	7,351	2,350	106,431
2058	8.53	8.10	12.0%	12,620	8,540	7,328	107,329	19,537	11,995	7,625	2,433	109,762
2059	8.58	8.30	12.0%	12,926	8,825	7,557	110,786	20,270	12,430	7,931	2,525	113,311
2060	8.63	8.40	12.0%	13,291	9,130	7,814	114,439	20,950	12,883	8,152	2,609	117,048
2061	8.52	8.50	10.0%	13,801	8,087	8,023	116,748	21,625	13,333	8,376	2,693	119,441
2062	8.32	8.50	10.0%	14,421	8,373	8,182	118,882	22,298	13,785	8,597	2,777	121,659
2063	8.17	8.50	10.0%	14,901	8,662	8,318	120,960	23,106	14,275	8,931	2,878	123,838
2064	8.07	8.50	10.0%	15,330	8,956	8,462	123,048	23,986	14,790	9,305	2,987	126,035
2065	7.96	8.50	10.0%	15,821	9,267	8,619	125,113	24,825	15,322	9,608	3,092	128,205
2066	7.91	8.40	12.0%	16,353	11,204	8,825	128,788	25,687	15,870	9,925	3,199	131,987
2067	7.86	8.40	12.0%	16,937	11,595	9,085	132,531	26,571	16,433	10,248	3,309	135,840
2068	7.82	8.30	12.0%	17,526	12,000	9,347	136,352	27,499	17,018	10,597	3,425	139,777
2069	7.77	8.20	12.0%	18,129	12,418	9,617	140,257	28,468	17,624	10,965	3,546	143,803
2070	7.73	8.20	12.0%	18,761	12,851	9,894	144,241	29,462	18,250	11,335	3,669	147,910
2071	7.68	8.10	12.0%	19,414	13,300	10,175	148,302	30,496	18,900	11,725	3,798	152,100
2076	7.79	7.80	14.0%	23,109	18,074	12,235	179,492	36,227	22,509	13,871	4,512	184,004
2081	8.02	7.80	14.0%	27,566	21,477	15,013	220,498	43,090	26,806	16,467	5,367	225,865
2086	8.01	8.00	12.0%	32,775	22,312	17,898	261,381	51,309	31,934	19,594	6,391	267,772
2091	7.76	8.00	12.0%	38,967	26,512	20,629	300,811	61,141	38,026	23,378	7,615	308,426
2096	7.72	7.90	14.0%	46,483	36,036	24,404	357,839	72,911	45,252	27,975	9,081	366,920
2097	7.75	7.80	14.0%	48,156	37,300	25,391	372,375	75,549	46,854	29,024	9,410	381,785

<sup>a</sup> The fair market value of the assets in the RR Account and NRRIT as of the close of the fiscal year (September 30) divided by the total benefits and administrative expenses paid from the RR Account and NRRIT during the fiscal year.

<sup>b</sup> The average of the account benefits ratios for the 10 most recent fiscal years ending before the calendar year.

<sup>c</sup> Includes payroll taxes and income taxes on benefits.

<sup>d</sup> Includes investment income and transfers from SSEB Account.

<sup>e</sup> Other income includes financial interchange income, advances from general revenues, and interest income. Other expense includes repayment of advances from general revenues and transfers to the NRRIT or RRA.

Table 2-II. Progress of the Combined National Railroad Retirement Investment Trust (NRRIT) and Railroad Retirement (RR) Account, and the Social Security Equivalent Benefit (SSEB) Account under Employment Assumption II  
(Dollar amounts in millions)

Calendar year	Average			Combined NRRIT and RR Account				SSEB Account				Combined balance, end year
	Account benefits ratio <sup>a</sup>	account benefits ratio <sup>b</sup>	Tier 2 tax rate	Benefits and administration	Tax income <sup>c</sup>	Other income <sup>d</sup>	Balance, end year	Benefits and administration	Tax income <sup>c</sup>	Other income and expense <sup>e</sup>	Balance, end year	
2024	4.51	4.80	18.0%	\$5,950	\$4,137	\$1,964	\$26,614	\$8,751	\$3,807	\$4,922	\$1,091	\$27,705
2025	4.48	4.70	18.0%	6,010	4,232	1,852	26,689	8,954	3,926	5,054	1,116	27,805
2026	4.47	4.70	18.0%	6,069	4,426	1,916	26,962	9,140	4,097	5,067	1,140	28,102
2027	4.48	4.60	18.0%	6,125	4,532	1,942	27,310	9,306	4,223	5,103	1,160	28,470
2028	4.50	4.60	18.0%	6,200	4,639	1,970	27,719	9,478	4,350	5,149	1,182	28,901
2029	4.51	4.50	18.0%	6,292	4,745	2,002	28,174	9,648	4,474	5,195	1,203	29,377
2030	4.51	4.50	18.0%	6,391	4,854	2,036	28,672	9,824	4,600	5,245	1,225	29,897
2031	4.52	4.50	18.0%	6,492	4,965	2,044	29,190	10,005	4,729	5,299	1,247	30,437
2032	4.55	4.50	18.0%	6,584	5,080	2,112	29,798	10,197	4,864	5,356	1,271	31,069
2033	4.60	4.50	18.0%	6,660	5,200	2,157	30,495	10,404	5,006	5,423	1,297	31,792
2034	4.65	4.60	18.0%	6,754	5,322	2,210	31,274	10,609	5,152	5,483	1,322	32,596
2035	4.69	4.60	18.0%	6,879	5,450	2,269	32,114	10,809	5,278	5,556	1,347	33,461
2036	4.73	4.60	18.0%	7,010	5,582	2,322	33,008	11,015	5,408	5,633	1,373	34,381
2037	4.77	4.60	18.0%	7,147	5,719	2,394	33,975	11,229	5,542	5,713	1,399	35,374
2038	4.82	4.70	18.0%	7,296	5,861	2,465	35,005	11,442	5,681	5,788	1,426	36,431
2039	4.87	4.70	18.0%	7,443	6,009	2,540	36,111	11,658	5,826	5,859	1,453	37,564
2040	4.93	4.70	18.0%	7,589	6,165	2,620	37,307	11,876	5,978	5,924	1,480	38,787
2041	4.99	4.80	18.0%	7,754	6,328	2,704	38,586	12,099	6,138	5,988	1,507	40,093
2042	5.05	4.80	18.0%	7,942	6,496	2,797	39,937	12,336	6,301	6,064	1,537	41,474
2043	5.09	4.90	18.0%	8,150	6,670	2,891	41,348	12,594	6,470	6,157	1,569	42,917
2044	5.13	4.90	18.0%	8,377	6,851	2,989	42,811	12,874	6,645	6,264	1,604	44,415
2045	5.16	5.00	18.0%	8,623	7,039	3,092	44,319	13,168	6,827	6,377	1,640	45,959
2046	5.20	5.00	18.0%	8,870	7,235	3,197	45,881	13,480	7,017	6,502	1,679	47,560
2047	5.24	5.10	18.0%	9,108	7,444	3,307	47,524	13,818	7,224	6,636	1,721	49,245
2048	5.28	5.10	18.0%	9,356	7,658	3,424	49,250	14,177	7,436	6,786	1,766	51,016
2049	5.33	5.10	18.0%	9,609	7,880	3,547	51,068	14,551	7,657	6,941	1,812	52,880
2050	5.40	5.20	18.0%	9,852	8,112	3,677	53,006	14,939	7,891	7,096	1,861	54,867
2051	5.48	5.20	18.0%	10,067	8,356	3,818	55,113	15,343	8,141	7,252	1,911	57,024
2052	5.60	5.30	18.0%	10,263	8,614	3,971	57,435	15,769	8,410	7,412	1,964	59,399
2053	5.71	5.30	18.0%	10,504	8,881	4,137	59,950	16,221	8,687	7,591	2,020	61,970
2054	5.82	5.40	18.0%	10,778	9,149	4,316	62,638	16,704	8,963	7,801	2,080	64,718
2055	5.95	5.50	18.0%	11,025	9,437	4,511	65,561	17,201	9,262	8,001	2,142	67,703
2056	6.04	5.60	18.0%	11,398	9,737	4,724	68,624	17,667	9,558	8,167	2,200	70,824
2057	6.08	5.60	18.0%	11,853	10,046	4,942	71,759	18,114	9,853	8,317	2,256	74,015
2058	6.20	5.70	18.0%	12,120	10,368	5,155	75,161	18,691	10,190	8,573	2,328	77,489
2059	6.38	5.80	18.0%	12,332	10,700	5,401	78,930	19,310	10,545	8,842	2,405	81,335
2060	6.57	5.90	18.0%	12,611	11,060	5,685	83,064	19,854	10,915	9,007	2,472	85,536
2061	6.71	6.00	18.0%	13,030	11,430	5,982	87,447	20,386	11,281	9,171	2,539	89,986
2062	6.77	6.20	17.0%	13,544	11,226	6,271	91,400	20,910	11,648	9,327	2,604	94,004
2063	6.89	6.30	17.0%	13,888	11,602	6,541	95,655	21,563	12,055	9,590	2,685	98,340
2064	7.06	6.40	17.0%	14,178	11,990	6,846	100,312	22,269	12,483	9,874	2,773	103,085
2065	7.20	6.50	16.0%	14,539	11,749	7,167	104,689	22,912	12,923	10,069	2,853	107,542
2066	7.33	6.60	16.0%	14,934	12,150	7,481	109,386	23,568	13,376	10,274	2,934	112,320
2067	7.45	6.80	16.0%	15,370	12,564	7,817	114,397	24,238	13,841	10,480	3,018	117,415
2068	7.58	6.90	16.0%	15,804	12,993	8,173	119,760	24,941	14,324	10,705	3,105	122,865
2069	7.68	7.00	15.0%	16,248	12,690	8,528	124,730	25,676	14,824	10,943	3,197	127,927
2070	7.78	7.20	15.0%	16,718	13,124	8,883	130,020	26,425	15,341	11,177	3,290	133,310
2071	7.89	7.30	15.0%	17,206	13,573	9,259	135,645	27,205	15,876	11,426	3,387	139,032
2076	8.27	7.90	14.0%	20,013	15,126	11,278	165,326	31,551	18,850	12,817	3,928	169,254
2081	8.14	8.20	12.0%	23,470	15,685	13,039	190,187	36,859	22,397	14,605	4,588	194,775
2086	7.96	8.20	12.0%	27,603	18,613	14,996	218,683	43,364	26,642	16,897	5,397	224,080
2091	7.72	8.00	12.0%	32,633	22,100	17,211	250,759	51,307	31,699	19,823	6,386	257,145
2096	7.80	7.80	14.0%	38,824	30,028	20,595	302,026	60,955	37,709	23,507	7,587	309,613
2097	7.84	7.80	14.0%	40,201	31,080	21,429	314,334	63,134	39,043	24,363	7,858	322,192

<sup>a</sup> The fair market value of the assets in the RR Account and NRRIT as of the close of the fiscal year (September 30) divided by the total benefits and administrative expenses paid from the RR Account and NRRIT during the fiscal year.

<sup>b</sup> The average of the account benefits ratios for the 10 most recent fiscal years ending before the calendar year.

<sup>c</sup> Includes payroll taxes and income taxes on benefits.

<sup>d</sup> Includes investment income and transfers from SSEB Account.

<sup>e</sup> Other income includes financial interchange income, advances from general revenues, and interest income. Other expense includes repayment of advances from general revenues and transfers to the NRRIT or RRA.

Table 2-III. Progress of the Combined National Railroad Retirement Investment Trust (NRRIT) and Railroad Retirement (RR) Account, and the Social Security Equivalent Benefit (SSEB) Account under Employment Assumption III  
(Dollar amounts in millions)

Calendar year	Average			Combined NRRIT and RR Account				SSEB Account				Combined balance, end year
	Account benefits ratio <sup>a</sup>	account benefits ratio <sup>b</sup>	Tier 2 tax rate	Benefits and administration	Tax income <sup>c</sup>	Other income <sup>d</sup>	Balance, end year	Benefits and administration	Tax income <sup>c</sup>	Other income and expense <sup>e</sup>	Balance, end year	
2024	4.51	4.80	18.0%	\$5,950	\$4,117	\$1,964	\$26,593	\$8,751	\$3,789	\$4,940	\$1,091	\$27,684
2025	4.46	4.70	18.0%	6,010	4,175	1,848	26,607	8,954	3,875	5,105	1,116	27,723
2026	4.44	4.70	18.0%	6,069	4,332	1,907	26,777	9,140	4,014	5,150	1,140	27,917
2027	4.43	4.60	18.0%	6,125	4,399	1,925	26,976	9,306	4,106	5,221	1,160	28,136
2028	4.42	4.60	18.0%	6,199	4,466	1,940	27,183	9,478	4,196	5,303	1,182	28,365
2029	4.39	4.50	18.0%	6,291	4,529	1,957	27,378	9,648	4,281	5,388	1,203	28,581
2030	4.35	4.50	18.0%	6,389	4,595	1,971	27,556	9,823	4,368	5,477	1,225	28,781
2031	4.31	4.50	18.0%	6,488	4,661	1,955	27,685	10,004	4,455	5,571	1,247	28,932
2032	4.27	4.40	18.0%	6,579	4,730	1,995	27,830	10,194	4,547	5,671	1,271	29,101
2033	4.24	4.40	18.0%	6,654	4,801	2,006	27,984	10,399	4,645	5,780	1,296	29,280
2034	4.21	4.40	18.0%	6,745	4,875	2,020	28,133	10,602	4,744	5,883	1,321	29,454
2035	4.16	4.40	18.0%	6,868	4,952	2,032	28,250	10,797	4,822	5,999	1,346	29,596
2036	4.09	4.40	18.0%	6,996	5,032	2,033	28,319	10,999	4,903	6,121	1,371	29,690
2037	4.02	4.30	18.0%	7,129	5,115	2,046	28,352	11,206	4,987	6,245	1,396	29,748
2038	3.94	4.30	18.0%	7,274	5,202	2,050	28,330	11,411	5,073	6,364	1,422	29,752
2039	3.86	4.20	18.0%	7,415	5,293	2,049	28,257	11,617	5,163	6,480	1,448	29,705
2040	3.77	4.20	18.0%	7,556	5,389	2,045	28,136	11,823	5,258	6,591	1,473	29,609
2041	3.68	4.10	18.0%	7,713	5,491	2,035	27,949	12,032	5,358	6,700	1,499	29,448
2042	3.56	4.10	18.0%	7,893	5,595	2,023	27,675	12,254	5,460	6,822	1,527	29,202
2043	3.43	4.00	18.0%	8,092	5,707	2,002	27,292	12,495	5,567	6,957	1,557	28,849
2044	3.32	3.90	19.0%	8,308	6,110	1,983	27,077	12,753	5,684	7,101	1,589	28,666
2045	3.19	3.80	19.0%	8,541	6,246	1,967	26,749	13,021	5,808	7,247	1,622	28,371
2046	3.06	3.70	19.0%	8,773	6,389	1,943	26,308	13,306	5,940	7,401	1,657	27,965
2047	2.93	3.60	19.0%	8,994	6,547	1,912	25,773	13,611	6,087	7,562	1,695	27,468
2048	2.79	3.50	19.0%	9,222	6,707	1,874	25,132	13,933	6,237	7,736	1,735	26,867
2049	2.67	3.40	20.0%	9,452	7,190	1,842	24,712	14,264	6,396	7,910	1,777	26,489
2050	2.56	3.30	20.0%	9,671	7,375	1,816	24,233	14,603	6,564	8,081	1,819	26,052
2051	2.46	3.20	20.0%	9,858	7,572	1,786	23,733	14,954	6,749	8,249	1,862	25,595
2052	2.37	3.00	20.0%	10,022	7,785	1,756	23,252	15,321	6,951	8,416	1,908	25,160
2053	2.36	2.90	23.0%	10,229	9,060	1,765	23,848	15,708	7,158	8,598	1,956	25,804
2054	2.37	2.80	23.0%	10,468	9,309	1,810	24,500	16,117	7,364	8,804	2,007	26,507
2055	2.40	2.70	23.0%	10,671	9,582	1,864	25,275	16,529	7,589	8,991	2,058	27,333
2056	2.41	2.60	23.0%	10,991	9,863	1,928	26,074	16,898	7,809	9,135	2,104	28,178
2057	2.40	2.60	23.0%	11,364	10,150	1,989	26,849	17,245	8,028	9,260	2,147	28,996
2058	2.44	2.50	23.0%	11,511	10,459	2,039	27,836	17,716	8,291	9,484	2,206	30,042
2059	2.52	2.50	23.0%	11,608	10,780	2,121	29,129	18,206	8,569	9,697	2,267	31,396
2060	2.62	2.50	23.0%	11,780	11,132	2,237	30,719	18,596	8,859	9,785	2,315	33,034
2061	2.70	2.50	23.0%	12,085	11,490	2,358	32,482	18,965	9,139	9,872	2,361	34,843
2062	2.78	2.50	23.0%	12,459	11,856	2,488	34,368	19,322	9,420	9,946	2,405	36,773
2063	2.90	2.50	23.0%	12,629	12,241	2,619	36,599	19,803	9,740	10,122	2,465	39,064
2064	3.07	2.60	23.0%	12,752	12,641	2,789	39,277	20,312	10,078	10,297	2,528	41,805
2065	3.26	2.70	23.0%	12,951	13,065	3,002	42,394	20,735	10,424	10,363	2,581	44,975
2066	3.47	2.80	23.0%	13,179	13,503	3,233	45,951	21,163	10,778	10,438	2,634	48,585
2067	3.70	2.90	23.0%	13,441	13,955	3,495	49,959	21,595	11,141	10,507	2,687	52,646
2068	3.85	3.00	20.0%	13,695	12,709	3,723	52,697	22,052	11,519	10,590	2,744	55,441
2069	4.00	3.10	20.0%	13,951	13,131	3,925	55,802	22,529	11,909	10,679	2,803	58,605
2070	4.16	3.30	20.0%	14,233	13,570	4,154	59,294	23,009	12,311	10,758	2,863	62,157
2071	4.34	3.40	20.0%	14,529	14,024	4,408	63,197	23,514	12,728	10,849	2,926	66,123
2076	5.10	4.30	18.0%	16,337	15,054	5,768	83,274	26,377	15,041	11,414	3,281	86,555
2081	5.93	5.10	18.0%	18,836	17,809	7,660	111,918	30,080	17,804	12,378	3,741	115,659
2086	6.94	5.90	18.0%	22,035	21,117	10,396	153,267	34,878	21,130	13,879	4,337	157,604
2091	7.71	6.80	16.0%	26,024	22,552	13,619	200,595	40,977	25,119	16,024	5,095	205,690
2096	8.10	7.60	14.0%	30,912	23,798	17,010	249,740	48,528	29,881	18,852	6,034	255,774
2097	8.15	7.70	14.0%	31,985	24,631	17,709	260,096	50,245	30,940	19,519	6,247	266,343

<sup>a</sup> The fair market value of the assets in the RR Account and NRRIT as of the close of the fiscal year (September 30) divided by the total benefits and administrative expenses paid from the RR Account and NRRIT during the fiscal year.

<sup>b</sup> The average of the account benefits ratios for the 10 most recent fiscal years ending before the calendar year.

<sup>c</sup> Includes payroll taxes and income taxes on benefits.

<sup>d</sup> Includes investment income and transfers from SSEB Account.

<sup>e</sup> Other income includes financial interchange income, advances from general revenues, and interest income. Other expense includes repayment of advances from general revenues and transfers to the NRRIT or RRA.



**Figure 2. Account Benefits Ratio 1995-2097, Historical and Projected**

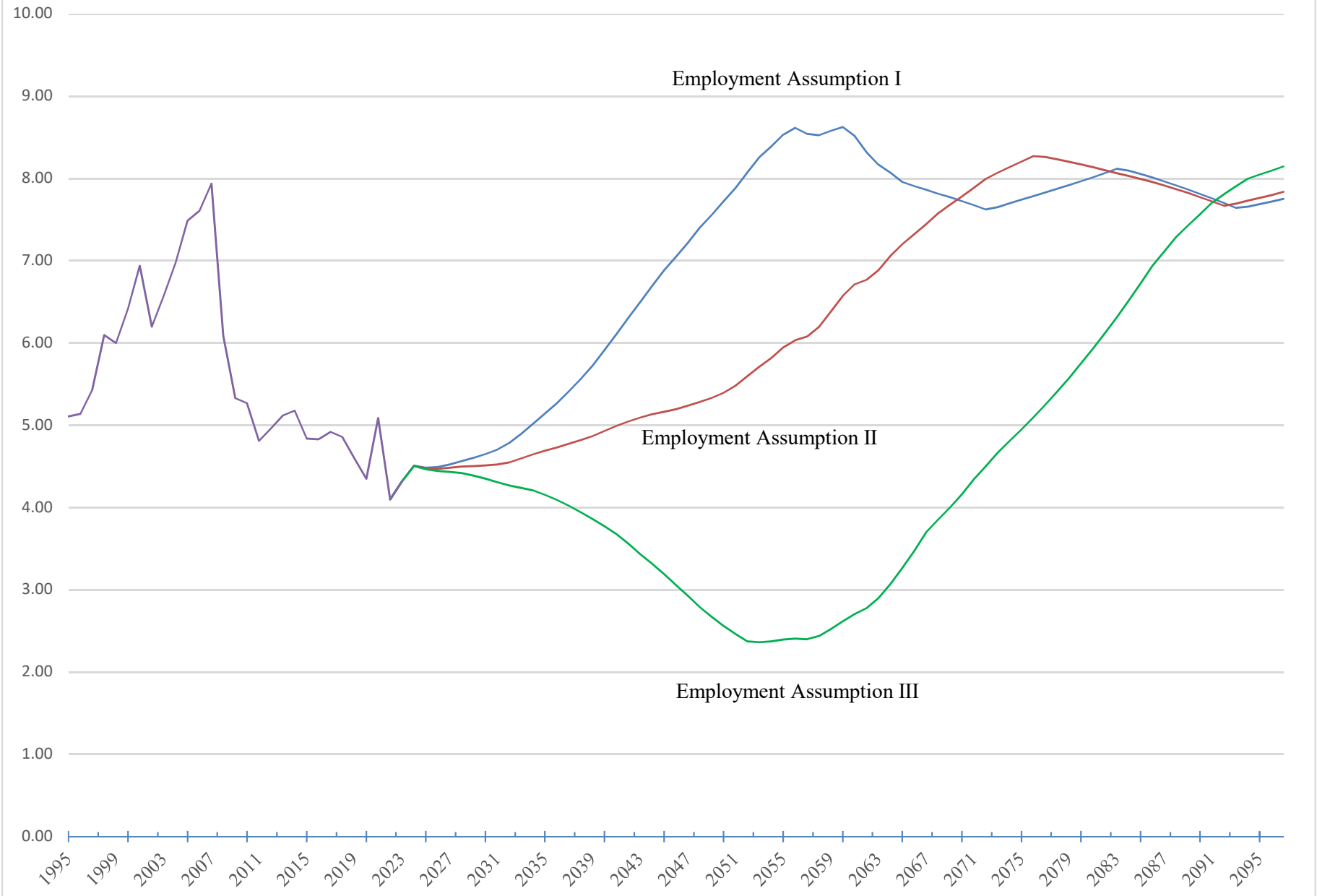


Table 3. Present value of benefits in millions of dollars. This table shows, for each employment assumption, the present value of tier 2 benefits, supplemental annuity benefits and the portion of tier 1 benefits which exceeds the social security level of benefits. The portion of tier 1 benefits in excess of the social security level is referred to as “tier 1 liability”. The most important components of this liability were described in Section III. Supplemental annuity benefits are included with tier 2 benefits in this table. The present values are shown separately by type of beneficiary (employee, spouse, survivor) and by employee status on the valuation date (retired, retired and deceased, active, inactive, future entrants).

Present values were calculated by discounting benefit amounts in each projection year to December 31, 2022, using a constant 7.0% interest rate, which is equal to the ultimate investment return assumption. The total present values using a 6.5% interest rate are compared below:

<b>Present Value of Total Benefits</b> (in \$millions)	<b>Employment Assumption</b>		
	<b>I</b>	<b>II</b>	<b>III</b>
Using a 7.0% interest rate (Tables 3 and 6)	\$116,330	\$113,443	\$110,237
Using a 6.5% interest rate	\$128,682	\$124,979	\$120,875
Percent change moving from 6.5% to 7.0%	(9.6%)	(9.2%)	(8.8%)

Table 4. Present value of benefits as a percentage of the present value of tier 2 payroll. The format for this table is the same as for Table 3. Each number in Table 4 was obtained by dividing the corresponding number in Table 3 by the appropriate present value of one percent of tier 2 payroll. The payroll figures are shown in Table 6.

Table 3. Present value<sup>a</sup> of benefits in millions of dollars

	Employment assumption I			Employment assumption II			Employment assumption III		
	Tier 2 <sup>b</sup>	Tier 1 liability <sup>c</sup>	Total	Tier 2 <sup>b</sup>	Tier 1 liability <sup>c</sup>	Total	Tier 2 <sup>b</sup>	Tier 1 liability <sup>c</sup>	Total
<b>Employee annuities</b>									
Retired	\$ 24,950	\$ 9,124	\$ 34,073	\$ 24,950	\$ 9,124	\$ 34,073	\$ 24,950	\$ 9,124	\$ 34,073
Active	22,576	9,791	32,367	22,576	9,791	32,367	22,576	9,791	32,367
Inactive	1,396	247	1,643	1,396	247	1,643	1,396	247	1,643
Future entrants	9,608	3,408	13,016	8,007	2,840	10,848	6,232	2,209	8,441
Total	58,530	22,569	81,099	56,929	22,002	78,931	55,154	21,370	76,524
<b>Spouse annuities</b>									
Retired	7,317	3,007	10,324	7,317	3,007	10,324	7,317	3,007	10,324
Active	5,752	3,455	9,207	5,752	3,455	9,207	5,752	3,455	9,207
Inactive	302	59	361	302	59	361	302	59	361
Future entrants	2,203	1,055	3,257	1,836	879	2,715	1,428	683	2,111
Total	15,575	7,575	23,150	15,208	7,399	22,607	14,799	7,203	22,003
<b>Survivor annuities</b>									
Retired & deceased	7,140	913	8,054	7,140	913	8,054	7,140	913	8,054
Active	2,516	312	2,828	2,516	312	2,828	2,516	312	2,828
Inactive	86	38	124	86	38	124	86	38	124
Future entrants	880	173	1,053	734	144	878	570	112	682
Total	10,623	1,436	12,059	10,476	1,407	11,884	10,312	1,375	11,688
<b>All annuities combined</b>									
Retired & deceased	39,407	13,044	52,451	39,407	13,044	52,451	39,407	13,044	52,451
Active	30,844	13,558	44,402	30,844	13,558	44,402	30,844	13,558	44,402
Inactive	1,784	344	2,128	1,784	344	2,128	1,784	344	2,128
Future entrants	12,691	4,635	17,326	10,577	3,863	14,440	8,230	3,004	11,234
Total annuities	\$ 84,727	\$ 31,581	\$ 116,308	\$ 82,613	\$ 30,809	\$ 113,421	\$ 80,266	\$ 29,949	\$ 110,215
Lump sum payments			22			22			22
Total benefits			\$ 116,330			\$ 113,443			\$ 110,237

Note: Detail may not add to totals due to rounding.

<sup>a</sup> Present values are determined using a 7.0% interest rate for all years.

<sup>b</sup> Includes supplemental annuity benefits.

<sup>c</sup> Tier 1 benefits in excess of social security level.

Table 4. Present value<sup>a</sup> of benefits as a percentage of the present value<sup>a</sup> of tier 2 payroll

	Employment assumption I			Employment assumption II			Employment assumption III		
	Tier 2 <sup>b</sup>	Tier 1 liability <sup>c</sup>	Total	Tier 2 <sup>b</sup>	Tier 1 liability <sup>c</sup>	Total	Tier 2 <sup>b</sup>	Tier 1 liability <sup>c</sup>	Total
<b>Employee annuities</b>									
Retired	4.83%	1.77%	6.60%	5.38%	1.97%	7.35%	6.14%	2.25%	8.39%
Active	4.37	1.90	6.27	4.87	2.11	6.98	5.56	2.41	7.97
Inactive	0.27	0.05	0.32	0.30	0.05	0.35	0.34	0.06	0.40
Future entrants	1.86	0.66	2.52	1.73	0.61	2.34	1.53	0.54	2.08
Total	11.34	4.37	15.71	12.28	4.74	17.02	13.58	5.26	18.84
<b>Spouse annuities</b>									
Retired	1.42	0.58	2.00	1.58	0.65	2.23	1.80	0.74	2.54
Active	1.11	0.67	1.78	1.24	0.75	1.99	1.42	0.85	2.27
Inactive	0.06	0.01	0.07	0.07	0.01	0.08	0.07	0.01	0.09
Future entrants	0.43	0.20	0.63	0.40	0.19	0.59	0.35	0.17	0.52
Total	3.02	1.47	4.48	3.28	1.60	4.88	3.64	1.77	5.42
<b>Survivor annuities</b>									
Retired & deceased	1.38	0.18	1.56	1.54	0.20	1.74	1.76	0.22	1.98
Active	0.49	0.06	0.55	0.54	0.07	0.61	0.62	0.08	0.70
Inactive	0.02	0.01	0.02	0.02	0.01	0.03	0.02	0.01	0.03
Future entrants	0.17	0.03	0.20	0.16	0.03	0.19	0.14	0.03	0.17
Total	2.06	0.28	2.34	2.26	0.30	2.56	2.54	0.34	2.88
<b>All annuities combined</b>									
Retired & deceased	7.63	2.53	10.16	8.50	2.81	11.31	9.70	3.21	12.91
Active	5.97	2.63	8.60	6.65	2.92	9.58	7.59	3.34	10.93
Inactive	0.35	0.07	0.41	0.38	0.07	0.46	0.44	0.08	0.52
Future entrants	2.46	0.90	3.36	2.28	0.83	3.11	2.03	0.74	2.77
Total annuities	16.41%	6.12%	22.53%	17.82%	6.64%	24.46%	19.76%	7.37%	27.13%
Lump sum payments			0.00			0.00			0.01
Total benefits			22.53%			24.46%			27.13%

Note: Detail may not add to totals due to rounding.

<sup>a</sup> Present values are determined using a 7.0% interest rate for all years.

<sup>b</sup> Includes supplemental annuity benefits.

<sup>c</sup> Tier 1 benefits in excess of social security level.

Table 5. Balance of the Combined National Railroad Retirement Investment Trust and Railroad Retirement Account, and the Social Security Equivalent Benefit Account as of December 31, 2022

This table derives the balance in the accounts as of December 31, 2022. No accrual adjustments are made either for general funds reimbursements or financial interchange amounts due and unpaid on that date or for benefits due on January 2, 2023, because these amounts are included in the projected future cash flows. It may also include outstanding loans to the Railroad Unemployment Insurance Account in future periods.

(Dollar amounts in millions)	Combined NRRIT and RR Account	SSEB Account
Securities:		
Market value of NRRIT investments	\$ 23,937	\$ -
Par value specials <sup>a</sup> (including accrued interest)	502	1,472
Cash accounts	<u>41</u>	<u>30</u>
Balance	24,480	1,502
Adjustment for present value calculation <sup>b</sup>	<u>1,540</u>	<u>-</u>
Adjusted balance for use in present value calculation	\$ 26,020	\$ 1,502

<sup>a</sup> Par value specials are securities issued by the Treasury directly to the RR and SSEB Accounts, maturing on the first business day of the month following the month of issue. Their yield rate each month is the average yield rate, computed as of the last day of the previous month, of marketable Treasury notes with maturity dates not less than three years away.

<sup>b</sup> This adjustment accounts for the difference between the actual assets on December 31, 2023, used in Tables 2-I, 2-II and 2-III, and the assets that would have been projected starting with the December 31, 2022 assets using a 7.0% rate. With this adjustment, the present value of the ultimate combined account values in Tables 2 discounted at a 7.0% rate will equal the surplus or deficiency shown in Table 6.

Table 6. Actuarial surplus or (deficiency) for National Railroad Retirement Investment Trust and Railroad Retirement Account. The top half of Table 6 expresses the asset and liability components of the actuarial balance as present values in dollars. The bottom half expresses these components as a percentage of tier 2 payroll. The actuarial surplus or (deficiency) was calculated for the NRRIT and RR Account, but not for the SSEB Account, for the following reason.

The SSEB Account pays the social security level of benefits and administrative expenses allocable to those benefits, and it receives as income the social security level of taxes. If there were no other source of income or outgo during the course of a year, a surplus or deficiency would build up, depending on whether taxes exceeded or were less than benefits. However, the SSEB Account also receives or pays any financial interchange transfers. The financial interchange transfer, subject to qualifications described in the next paragraph, should be enough to offset any surplus or deficiency for the year. Furthermore, this would be the case even if the social security level of benefits or taxes are raised or lowered. The SSEB Account can thus be regarded as automatically fully funded, the financial interchange being the mechanism for correcting any surplus or deficiency.

The qualification mentioned above arises because, in a relatively small number of cases, the railroad retirement system does not pay benefits when social security would pay benefits. In these cases, mainly dependent children of retired railroad employees, the SSEB Account collects an amount through the financial interchange but does not pay a corresponding benefit. This imbalance between outgo and income is transferred from time to time to the RR Account. The value of these transfers, or amounts available for transfer, is included as an asset in Table 6 as “Available from SSEB Account.”

Revenue derived from taxing NRRIT and RR Account benefits (tier 2 and the excess of tier 1 over the social security level) is transferred to the RR Account. The present value of these transfers is shown as an asset in Table 6 as “Income taxes on benefits.”

Although the actual return of the trust funds during calendar year 2023 was approximately 12.8%, this rate is not used in the present value calculations. Instead, the present value calculations use 7.0% as the rate for 2023, as well as for the remaining 74 years of the projection. The adjusted balance as of December 31, 2022, is calculated so that, assuming a 7.0% rate of return for 2023, the combined RRA, NRRIT, and SSEBA balance projected on December 31, 2023, is equal to the actual balance on that date.

The cost of the system to the railroad industry may be considered as the excess of “Retirement taxes” over “Actuarial surplus or (deficiency).” Table 6 shows that the cost of the system is more stable when expressed in dollars than when expressed as a percentage of payroll. For example, the cost of the system under employment assumption III (pessimistic – lower employment) is \$74,705 million, or 18.39 percent of payroll, whereas the cost under employment assumption I (optimistic – higher employment) is \$81,070 million, or 15.71 percent of payroll. Higher employment results in higher future benefit payments but a larger tier 2 payroll and therefore lower tax rates needed to support these benefits. Using employment assumption III as the base, the percentage cost variation in dollars between the two valuations is 8.5 percent. As a percentage of payroll, the percentage cost variation is -14.6 percent.

Table 6. Actuarial surplus or (deficiency) for National Railroad Retirement Investment Trust and Railroad Retirement Account

	Employment assumption		
	I	II	III
	<u>Present values in millions of dollars</u>		
Adjusted funds on hand, 12/31/2022	\$ 26,020	\$ 26,020	\$ 26,020
Retirement taxes	83,458	80,140	76,370
Income taxes on benefits	11,105	10,823	10,510
Available from SSEB Account	<u>2,508</u>	<u>2,492</u>	<u>2,473</u>
Total, present and prospective assets	123,091	119,475	115,373
Benefit payments	116,330	113,443	110,237
Administrative expenses	<u>4,373</u>	<u>4,016</u>	<u>3,471</u>
Total liabilities	<u>120,703</u>	<u>117,459</u>	<u>113,708</u>
Actuarial surplus or (deficiency)	<u>2,388</u>	<u>2,016</u>	<u>1,665</u>
One percent of tier 2 payroll	\$ 5,162	\$ 4,637	\$ 4,063
	<u>Present values as a percentage of tier 2 payroll</u>		
Adjusted funds on hand, 12/31/2022	5.04%	5.61%	6.40%
Retirement taxes	16.17	17.28	18.80
Income taxes on benefits	2.15	2.33	2.59
Available from SSEB Account	<u>0.49</u>	<u>0.54</u>	<u>0.61</u>
Total, present and prospective assets	23.84	25.77	28.40
Benefit payments	22.53	24.46	27.13
Administrative expenses	<u>0.85</u>	<u>0.87</u>	<u>0.85</u>
Total liabilities	<u>23.38</u>	<u>25.33</u>	<u>27.99</u>
Actuarial surplus or (deficiency)	<u>0.46</u>	<u>0.43</u>	<u>0.41</u>
Retirement taxes	16.17%	17.28%	18.80%
Actuarial surplus or (deficiency)	<u>0.46</u>	<u>0.43</u>	<u>0.41</u>
Cost of the system	<u>15.71</u>	<u>16.85</u>	<u>18.39</u>

Table 7. Vested dual benefit amounts and average number of beneficiaries. This table shows a projection of vested dual benefit payments for every fiscal year from 2025 through 2036. After 2034, the amounts become insignificant. The amounts shown assume that the benefits are fully funded. Fiscal years are shown because vested dual benefit appropriations are made on a fiscal year basis. The table also indicates the average number of vested dual beneficiaries in each fiscal year. The table applies to all the employment assumptions discussed in this report.

The 1981 amendments removed much of the uncertainty from projections of future vested dual benefit payments. The volatility caused by inflation is gone, since future awards take into account cost-of-living increases from 1975 through 1981, rather than through the date of retirement. Also, awards of these benefits to spouses and widow(er)s ceased after August 13, 1981. The primary uncertainty which remains in projecting future vested dual benefit payments is predicting future mortality for this very old and relatively small group.

The projections of vested dual benefit payments by the Railroad Retirement Board are the basis for the agency's requests for appropriated amounts. Generally, a margin of about 2 percent is added to projected amounts to determine the appropriated amounts requested. This margin is needed because of the uncertainties in making projections and to ensure that adequate funds are available for the full payment of vested dual benefits. Appropriated amounts remaining in a fiscal year after all benefit payments have been made are returned to the Treasury.

Table 8. Supplemental annuity benefit amounts and average number of beneficiaries. This table shows a projection of supplemental annuity benefits for every calendar year from 2024 through 2059. Since service before October 1, 1981, is required for a supplemental annuity, benefit amounts after 2056 are relatively insignificant.

Table 9. Average number of railroad retirement annuitants and number of annuitants per full time employee. The left half of Table 9 shows the average number of annuitants under each employment assumption, and the right half shows the average number per full time employee. Under employment assumption I, the average number of annuitants per full time employee declines in the first half of the projection period and then remains relatively stable. Under employment assumption II, the average number of annuitants per full time employee declines until 2053, remains relatively stable until 2055, and then continues to decline. Under employment assumption III, the average number of annuitants per full time employee is relatively stable until 2058, then declines to the end of the projection period.

Figure 3 shows historical and projected annuitants per full time employee under the three employment assumptions.

Table 10. Transfers to railroad retirement system under financial interchange with social security system, 1937-2024.



Table 7. Vested dual benefit amounts and average number of beneficiaries

Fiscal year	Vested dual benefit amounts <sup>a</sup> (Millions)	Average number of beneficiaries
2025	6.0	3,000
2026	5.0	2,000
2027	4.0	2,000
2028	3.0	1,000
2029	2.5	1,000
2030	2.0	1,000
2031	1.5	1,000
2032	1.0	< 1,000
2033	1.0	< 1,000
2034	1.0	< 1,000
2035	0.5	< 1,000
2036	0.5	< 1,000

<sup>a</sup> When projected amounts are used to determine the appropriation needed for benefit payments, a margin must be added to ensure payment of full benefits.

Table 8. Supplemental annuity benefit amounts and average number of beneficiaries

Calendar year	Supplemental benefit amounts (Millions)	Average number of beneficiaries <sup>a</sup>
2024	\$49	97,000
2025	46	92,000
2026	44	87,000
2027	42	83,000
2028	39	78,000
2029	37	73,000
2030	34	68,000
2031	32	64,000
2032	30	59,000
2033	28	55,000
2034	25	50,000
2035	23	46,000
2036	21	42,000
2037	19	38,000
2038	17	34,000
2039	15	30,000
2040	14	27,000
2041	12	24,000
2042	10	21,000
2043	9	18,000
2044	8	15,000
2045	6	13,000
2046	5	11,000
2047	4	9,000
2048	4	7,000
2049	3	6,000
2050	2	5,000
2051	2	4,000
2052	1	3,000
2053	1	2,000
2054	1	2,000
2055	1	1,000
2056	< 1	< 1,000
2057	< 1	< 1,000
2058	< 1	< 1,000
2059	< 1	< 1,000

<sup>a</sup> Average number in a year. Excludes cases where the supplemental annuity is totally eliminated because of a private pension. On January 1, 2023, there were about 27,000 of these cases.

Table 9. Average number of railroad retirement annuitants<sup>a</sup> and number of annuitants per full time employee

Calendar year	Average number of annuitants under each employment assumption			Average number of annuitants per full time employee		
	I	II	III	I	II	III
2024	467,800	467,800	467,800	2.34	2.36	2.39
2025	460,200	460,200	460,200	2.30	2.35	2.40
2026	452,600	452,600	452,600	2.27	2.33	2.41
2027	445,100	445,100	445,100	2.24	2.32	2.42
2028	438,100	438,100	438,100	2.20	2.30	2.43
2029	431,400	431,400	431,400	2.17	2.29	2.44
2030	424,800	424,800	424,700	2.14	2.27	2.45
2031	418,200	418,200	418,100	2.11	2.26	2.46
2032	411,700	411,600	411,500	2.08	2.24	2.46
2033	405,300	405,200	405,100	2.05	2.22	2.47
2034	399,200	399,000	398,700	2.02	2.21	2.47
2035	393,300	393,000	392,700	1.99	2.19	2.47
2036	387,700	387,300	386,800	1.97	2.17	2.48
2037	382,300	381,700	381,100	1.94	2.16	2.48
2038	377,100	376,300	375,500	1.92	2.14	2.48
2039	371,900	371,000	369,900	1.89	2.13	2.48
2040	366,700	365,600	364,300	1.87	2.11	2.47
2041	361,900	360,600	359,000	1.85	2.09	2.47
2042	357,700	356,000	354,200	1.83	2.08	2.47
2043	354,100	352,200	349,900	1.81	2.07	2.47
2044	351,100	348,900	346,200	1.80	2.06	2.47
2045	348,500	345,900	342,900	1.78	2.05	2.47
2046	346,200	343,200	339,700	1.77	2.04	2.47
2047	344,100	340,700	336,600	1.76	2.04	2.47
2048	342,500	338,500	333,900	1.76	2.03	2.46
2049	341,000	336,600	331,300	1.75	2.03	2.46
2050	339,700	334,600	328,700	1.74	2.02	2.46
2051	338,200	332,500	325,800	1.74	2.02	2.45
2052	336,600	330,300	322,900	1.73	2.01	2.44
2053	335,700	328,600	320,400	1.73	2.00	2.44
2054	335,100	327,300	318,200	1.72	2.00	2.43
2055	334,400	325,700	315,600	1.72	2.00	2.42
2056	334,100	324,400	313,200	1.72	1.99	2.41
2057	334,200	323,400	310,800	1.72	1.99	2.40
2058	334,000	321,800	307,800	1.72	1.98	2.39
2059	333,600	320,000	304,300	1.72	1.97	2.36
2060	332,800	317,800	300,400	1.71	1.96	2.34
2065	332,000	308,600	281,900	1.71	1.91	2.20
2070	330,800	298,600	262,200	1.70	1.85	2.05
2075	329,900	289,900	245,200	1.70	1.79	1.91
2080	329,800	283,700	233,000	1.70	1.75	1.82
2085	330,400	280,000	225,800	1.70	1.73	1.76
2090	331,600	278,500	222,500	1.71	1.72	1.74
2095	333,100	278,500	221,600	1.72	1.72	1.73
2096	333,400	278,600	221,600	1.72	1.72	1.73
2097	333,800	278,800	221,700	1.72	1.72	1.73

<sup>a</sup> Excludes partition payments to spouses and divorced spouses where the employee is deceased or not otherwise entitled to an annuity. On December 31, 2022, there were about 2,700 of these cases.

Table 10. Transfers to railroad retirement system under financial interchange with social security system, 1937-2024<sup>a</sup>  
(Millions of dollars)

Determination number	Fiscal years covered	Benefit credits to railroad retirement <sup>b</sup>	Tax credits to social security	Cash transfers to <sup>c</sup> railroad retirement	
				Amount	Year of transfer
1-35	1937-86 d	51,467.0 e	22,223.0	32,110.6 d	1953-87 d
36	1987	3,864.4	1,305.0	2,851.3	1988
37	1988	4,028.8	1,427.3	2,933.5	1989
38	1989	4,149.5	1,418.9	3,049.1	1990
39	1990	4,415.3	1,451.1	3,456.7	1991
40	1991	4,434.7	1,476.5	3,206.4	1992
41	1992	4,720.1	1,523.1	3,435.4	1993
42	1993	4,796.5	1,583.3	3,525.5	1994
43	1994	5,199.6	1,515.5	4,120.1	1995
44	1995	4,836.2 e	1,545.1	3,556.3	1996
45	1996	5,008.0	1,566.8	3,747.2	1997
46	1997	5,114.1	1,615.4	3,819.1	1998
47	1998	5,173.5	1,641.9	3,816.0	1999
48	1999	5,195.6	1,767.5	3,697.6	2000
49	2000	4,767.8 e	1,750.9	3,282.8	2001
50	2001	5,180.5	1,756.9	3,646.8	2002
51	2002	5,217.5	1,748.2	3,747.3	2003
52	2003	5,350.6	1,731.1	3,843.5	2004
53	2004	5,480.8	1,820.0	3,917.3	2005
54	2005	5,527.6	1,906.1	3,846.3	2006
55	2006	5,746.8	1,976.5	4,019.8	2007
56	2007	5,853.6	2,076.6	4,049.9	2008
57	2008	6,005.5	2,095.6	4,137.3	2009
58	2009	6,212.0	2,035.4	4,391.6	2010
59	2010	6,431.5	2,074.1	4,574.3	2011
60	2011	6,524.1	2,143.3	4,651.0	2012
61	2012	6,714.8 e	2,442.5	4,499.0	2013
62	2013	6,939.1	2,433.4	4,700.8	2014
63	2014	7,053.1	2,575.3	4,676.6	2015
64	2015	7,226.7	2,747.6	4,662.7	2016
65	2016	7,013.8 e	2,654.3	4,522.5	2017
66	2017	7,318.7	2,562.9	4,942.4	2018
67	2018	7,461.7	2,714.6	4,946.4	2019
68	2019	7,487.8	2,643.6	4,987.7	2020
69	2020	7,270.3 e	2,515.4	4,899.6	2021
70	2021	7,700.1	2,390.8	5,471.3	2022
71	2022	8,105.5	2,623.6	5,636.2	2023
72	2023	8,698.2	2,963.6	5,933.5	2024
Total	1937-2023	269,691.4	96,442.7	185,311.2	

<sup>a</sup> Financial interchange transactions with the Hospital Insurance Trust Fund are not included. These involve mainly a transfer of collected taxes to the Centers for Medicare & Medicaid Services, with some adjustments for difference in earnings bases under the two systems.

<sup>b</sup> Amounts include allowances for administrative expenses and adjustments to previous determinations.

<sup>c</sup> Transfers include interest which is not shown in table.

<sup>d</sup> First determination covered period January 1937-June 1952. Initial balance of \$488.2 million was never transferred to social security; only interest was paid until debt was liquidated by subsequent offsets in favor of railroad retirement.

<sup>e</sup> Includes adjustment for pre-1957 military service.

## APPENDIX

### Outline of the benefit and financing provisions of the railroad retirement system as amended through December 31, 2023

#### EMPLOYEE BENEFITS

1. Normal age annuity

Requirement of 10 years of service or 5 years of service after 1995 for retirement at social security retirement age (see definition at end of outline). Employees with less than 10 years of service must meet Social Security Act eligibility requirements to receive a tier 1 benefit.

2. Other-than-normal age annuity

- A. Eligible for unreduced benefit upon later of (1) attainment of age 60 and (2) completion of 30 years of service (60/30 eligibility).
- B. Eligible for reduced benefit with less than 30 years of service upon later of (1) attainment of age 62 and (2) completion of 10 years of service or 5 years of service after 1995. The benefit is reduced by 1/180 for each of the first 36 months and by 1/240 for each additional month the employee is under social security retirement age. (Reduction for age in excess of 36 months applies only to tier 1 benefit if employee had any service before 8-12-1983.)
- C. Eligible for a deferred retirement credit (DRC) for each month a benefit is not paid from social security retirement age up until age 70. The DRC is only available for the tier 1 benefit.

3. Total and permanent disability annuity

10-year service requirement or 5 years of service after 1995. Benefit may not begin earlier than the later of (1) the first day of the sixth month following date disability begins and (2) the first day of the twelfth month before the month in which the application is filed. Employees with less than 10 years of service and at least 5 years of service after 1995 who meet Social Security eligibility requirements may qualify for a tier 1 benefit only. (An age reduced tier 2 benefit would be payable at age 62.)

4. Occupational disability annuity

Requirement of 20 years of service or attainment of age 60 with 10 years of service; current connection (see definition at end of outline) required. Benefit may not begin earlier than the later of (1) the first day of the sixth month following date disability begins and (2) the first day of the twelfth month before the month in which the application is filed.

5. Supplemental annuity

Requirement of attainment of age 60 with 30 years of service if retired on or after 7-1-1974, or age 65 with 25 years of service. Must have service before 10-1-1981. Current connection required.

6. Vested dual benefit

- A. Requirement of fully insured (see definition at end of outline) status under Social Security Act effective 12-31-1974 and either (1) 25 years of railroad service before 1975 or (2) 10 years of railroad service before 1975, with some railroad work in 1974 or a current connection on 12-31-1974 or at the time the annuity begins, or
- B. Requirement of fully insured status under Social Security Act as of last year of railroad work before 1975 and 10 years of railroad service before 1975.

## 7. Work restrictions

Suspension of annuity for any month annuitant is employed by a railroad. For disabilities in 2024, loss of one month's annuity for each \$1,210 in excess of \$14,520 earned in a year with the last \$605 of such excess treated as \$1,210. (No annuity is lost for any month with earnings below \$1,210.) In addition, the tier 1 portion of a regular annuity based on railroad earnings (see definition at end of outline) after 1974 and all social security earnings (see definition at end of outline) is subject to social security work restrictions, unless a social security benefit is also being paid. If annuitant is employed by last non-railroad employer preceding retirement, the tier 2 portion and the supplemental annuity are reduced by one dollar for each two dollars of earnings, subject to a maximum reduction of 50 percent. All vested dual benefits are subject to social security work restrictions.

## 8. Creditable service (continuity not required)

All service after December 31, 1936. Service before 1937 may be used if annuitant had employment relation on August 29, 1935 or 6 months of service after August 29, 1935 and before 1946. No limit on service except 30-year maximum if pre-1937 service used. Additional service months may be deemed, for years after 1984, where employee does not work in every month of year, but railroad earnings exceed monthly prorations of annual tier 2 maximum earnings creditable.

## 9. Creditable and taxable railroad earnings

From 1966 through 1978, the maximum monthly earnings were one-twelfth of the annual social security maximum. The 1977 social security amendments introduced a difference between the maximum monthly earnings creditable for tier 1 and tier 2 benefits starting in 1979.

before July 1, 1954	\$ 300		<u>Tier 1</u>	<u>Tier 2</u>
July 1, 1954 - May 31, 1959	350	1979	\$1,908.33	\$1,575
June 1, 1959 - Oct. 31, 1963	400	1980	2,158.33	1,700
Nov 1, 1963 - Dec. 31, 1965	450	1981	2,475	1,850
1966-67	550	1982	2,700	2,025
1968-71	650	1983	2,975	2,225
1972	750	1984	3,150	2,350
1973	900			
1974	1,100			
1975	1,175			
1976	1,275			
1977	1,375			
1978	1,475			

Starting in 1985, earnings are credited on an annual rather than a monthly basis. The annual maximums are:

	<u>Tier 1</u>	<u>Tier 2</u>		<u>Tier 1</u>	<u>Tier 2</u>
1985	\$39,600	\$29,700	2005	\$90,000	\$66,900
1986	42,000	31,500	2006	94,200	69,900
1987	43,800	32,700	2007	97,500	72,600
1988	45,000	33,600	2008	102,000	75,900
1989	48,000	35,700	2009	106,800	79,200
1990	51,300	38,100	2010	106,800	79,200
1991	53,400	39,600	2011	106,800	79,200
1992	55,500	41,400	2012	110,100	81,900
1993	57,600	42,900	2013	113,700	84,300
1994	60,600	45,000	2014	117,000	87,000
1995	61,200	45,300	2015	118,500	88,200
1996	62,700	46,500	2016	118,500	88,200
1997	65,400	48,600	2017	127,200	94,500
1998	68,400	50,700	2018	128,400	95,400
1999	72,600	53,700	2019	132,900	98,700
2000	76,200	56,700	2020	137,700	102,300
2001	80,400	59,700	2021	142,800	106,200
2002	84,900	63,000	2022	147,000	109,200
2003	87,000	64,500	2023	160,200	118,800
2004	87,900	65,100	2024	168,600	125,100

#### 10. Creditable military service and earnings

Military service is creditable in war and national emergency periods, and in some cases between June 15, 1948 and December 15, 1950, if preceded by railroad service in the year of entry into military service or the preceding year.

Earnings: \$160 before 1968

\$260 after 1967 but before 1975

For each calendar year after 1974, earnings are the same as that credited under social security.

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#### 11. Basic monthly annuity computation

Tier 1: Social security benefit based on combined railroad and social security earnings, less social security benefit actually paid (based on social security earnings only). See item 2 for computation of tier 1 benefit for employees with 60/30 eligibility.

Tier 2: 0.7% of the average monthly compensation (AMC) multiplied by the number of years of service. This amount is then reduced by 25% of the employee's gross vested dual benefit. The AMC is the average of an individual's highest 60 months of railroad earnings up to the tier 2 maximum. For each month of service in a year for which the Railroad Retirement Board's records do not show earnings on a monthly basis, the total earnings for the year divided by the months of service in that year will be considered the monthly earnings for each month of service in the year.

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#### 12. Vested dual benefit computation

A. For employees satisfying requirements in item 6.A., benefit is social security benefit based on railroad earnings through 1974, plus social security benefit based on social security earnings through 1974, less social security benefit based on combined railroad and social security earnings through 1974.

B. For employees satisfying requirements of item 6.B., benefit is the same as in A., except for the exclusion of all earnings after last pre-1975 year employee had railroad employment.

In both cases, benefit might be proportionally reduced so that the total amount paid out in vested dual benefits in any fiscal year does not exceed the total amount appropriated for that year. (See item 39.)

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#### 13. Supplemental annuity computation

For employees first entitled or potentially entitled after 1974, the monthly benefit is a minimum of \$23 increased by \$4 for each year of service over 25, with a maximum benefit of \$43. Supplemental annuity will be reduced if employee receives a private pension from railroad employer based on employer contributions.

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#### 14. Tax rebate lump sum

Employee who has at least 10 years of railroad service and is not eligible for the vested dual benefit will receive a lump sum at retirement computed by summing for each year from 1951 through 1974 the product of the social security tax rate for the year times the excess of the employee's combined railroad and social security earnings for the year over (approximately) the maximum creditable for the year under the 1937 Act. Survivors of employee may receive refund if employee dies before receiving it.

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#### 15. Separation/severance lump sum

Lump sum, equal to tier 2 payroll taxes deducted from separation or severance payments, will be paid at retirement to employees with at least 10 years of service or 5 years of service after 1995 to the extent that separation or severance payments did not yield additional tier 2 service credits.

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## 16. Cost-of-living increases (annually, effective with January 1 payments)

Tier 1: Same as social security increases.

Tier 2: 32.5% of social security increases.

Vested dual benefits: Frozen at the 1974 level, except that social security cost-of-living increases effective between 12-31-1974 and the earlier of January 1, 1982 and the annuity beginning date are included in the benefit computation.

Supplemental annuity: None.

## SPOUSE BENEFITS

## 17. Eligibility

## A. Unreduced annuity:

1. Spouse retiring at age 60 if the employee retired with an unreduced annuity, has 30 or more years of service, and is age 60 or over.
2. Spouse retiring at social security normal retirement age or any age with a child in care, if (a) employee is age 62 or over, or (b) employee has 30 or more years of service and is age 60 or over.

## B. Reduced annuity:

1. Spouse retiring at age 60 if employee attained 60/30 eligibility after 6-30-1984 and retired with a reduced age annuity before 1-1-2002 before attaining age 62.
2. Spouse retiring at age 62, if employee has less than 30 years of service, is retired, and has attained age 62. Age reduction is 1/144 for each of the first 36 months spouse is under social security retirement age and 1/240 for each month in excess of 36 that spouse is under retirement age. (Reduction for age in excess of 36 months applies to tier 1, but not tier 2, if employee had any service before 8-12-1983.)

## 18. Work restrictions

Same as employee; in addition, spouse is not paid for any month employee annuity is not payable by virtue of work restrictions, and spouse is reduced \$1 for each \$2 of employee's earnings for last non-railroad employer preceding employee's retirement. (See item 7.)

## 19. Annuity computation

Tier 1: One-half of social security benefit based on employee's combined railroad and social security earnings. See item 17 for computation of spouse tier 1 in cases where employee is receiving a reduced 60/30 benefit. If spouse is entitled to a social security benefit, tier 1 is reduced by the amount of the benefit, but not below 0. If spouse is entitled to employee annuity or a public service pension, certain additional restrictions apply.

Tier 2: 45% of employee's tier 2 benefit. Spouse receives additional benefit if spouse is also an employee annuitant and either the employee or spouse has railroad service prior to 1975.

## 20. Vested dual benefit

A spouse receiving a vested dual benefit on August 13, 1981 will continue to receive a benefit (adjusted as described in item 12). No vested dual benefits will be awarded after that date.



#### 21. Divorced spouse, partitioned spouse and partitioned divorced spouse

A divorced spouse is entitled to a tier 1 benefit if the employee is retired, the employee and divorced spouse have been married for at least 10 consecutive years and have both attained age 62, and the divorced spouse is unmarried. If the employee is not retired, but has sufficient railroad service to otherwise be eligible for an annuity, the divorced spouse can receive a tier 1 benefit if the above conditions are met and the parties have been divorced for a period of not less than 2 years, and the employee is fully insured under the Social Security Act using combined railroad and social security earnings.

If the employee is retired, a court ordered partition of tier 2, supplemental annuity, vested dual benefit or minimum guarantee amounts (see item 42) is payable with the employee's monthly annuity reduced by the amount of the partition payment. If the employee is not retired, a court ordered partition of tier 2 or vested dual benefit payments is payable if (1) the employee has 10 years of service or 5 years of service after 1995, and (2) both the employee and spouse or former spouse have attained age 62.

#### 22. Cost-of-living increases for spouses

Each tier is subject to same percentage increase as corresponding tier of employee benefit.

### **SURVIVOR AND DEATH BENEFITS**

#### 23. Employee requirement for survivor benefits

All benefits except residual lump sum require deceased employee to have 10 years of railroad service or 5 years of service after 1995 and a current connection. If employee does not meet above conditions, his or her earnings record is transferred to social security, which pays any survivor benefits.

#### 24. Aged widow's and widower's eligibility

A widow or widower must be age 60 and unremarried. Those age 60-61 are deemed age 62 in computing the benefit. The age reduction for each month of age under social security retirement age is 28.5% divided by the number of months from age 60 to social security retirement age.

#### 25. Disabled widow's and widower's eligibility

A widow or widower must be at least age 50 and under age 60, unremarried, and totally and permanently disabled if disability occurs within 7 years of employee's death or within 7 years after widowed mother's or father's status terminated. Age reduction is 28.5%. Benefit may not begin earlier than the later of (1) the first day of the sixth month following the date disability begins and (2) the first day of the twelfth month before the month in which the application is filed.

#### 26. Widowed mother's and father's eligibility

Unremarried surviving spouse of a deceased employee who is under social security retirement age and who at the time of filing an application has in his or her care a minor or disabled child of the deceased employee.

#### 27. Divorced widow(er)'s, remarried widow(er)'s eligibility, partitioned surviving spouse, and partitioned surviving divorced spouse

The following are eligible for a tier 1 benefit.

- A. Divorced widow(er) - must (1) have been married to employee at least 10 years, be unmarried or remarried after age 60 (after age 50 and disability onset if disabled), and have attained age 60 or age 50 if disabled, or (2) be unmarried at any age with a child of the employee in care.
- B. Remarried widow(er) - must have remarried after age 60 (after age 50 and disability onset if disabled), or the remarriage must have ended. Widow(er) must have attained age 60, be between 50 and 59 and disabled or be any age with a child in care.

Benefits for divorced aged widow(er)s and remarried aged widow(er)s are reduced for the full number of months under social security retirement age.

Where court ordered partition of tier 2, supplemental annuity, and vested dual benefit payments are in effect at the time of the employee's death, such payments will continue after the employee's death unless the court order requires termination upon the employee's death. Where the employee dies before partition payments are initiated, and the employee acquired 120 months of railroad service, or 60 months of service after 1995, such payments may be made when both the surviving spouse/divorced spouse and the employee, if he or she had survived, would be 62.

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#### 28. Child's eligibility

A child of a deceased employee must be under 18 or under 19 and a full-time elementary or secondary school student. Unmarried children continuously disabled since before age 22 are also eligible, regardless of age.

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#### 29. Parent's eligibility

A parent of a deceased employee who has attained age 60 and received at least one-half of his or her support from the employee will be eligible for an annuity. If the employee died leaving a widow, widower, or child who is or might become eligible in the future, the parent will be eligible for a tier 1 benefit only. In certain instances, a remarried parent of a deceased employee will be eligible for a tier 1 benefit.

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#### 30. Work restrictions

Annuity not payable for any month in which survivor engages in railroad employment. Entire benefit subject to social security work restrictions.

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#### 31. Annuity computation

Tier 1: Amount payable to survivor under Social Security Act, based on the deceased employee's combined railroad and social security earnings after 12-31-1936, less the amount of any social security benefit received. Additional restrictions exist for a widow or widower who also receives an annuity as a railroad employee or who receives a public service pension.

Tier 2: Widow or widower - 50% of employee tier 2 benefit  
 Parent - 35% of employee tier 2 benefit  
 Children - 15% of employee tier 2 benefit for each child  
 The total family tier 2 benefit has a minimum of 35% and a maximum of 80% of the employee's tier 2 benefit. (A maximum of 130% is used for the purpose of calculating the widow(er) initial minimum amount.)

For a widow or widower an "initial minimum amount" based on the two-tier annuity amount that would have been payable to the railroad employee at the time the widow(er)'s annuity is awarded is computed with a widow(er)'s tier 2 amount equal to 100 percent of the employee's tier 2 amount. Widow(er)s' annuities computed on the basis of the initial minimum amount are not adjusted for annual cost-of-living increases until the total annuity amount is exceeded by the annuity amount the widow(er) would have been paid under prior law (tier 2 amount equal to 50 percent of the employee's tier 2 amount), with all interim cost-of-living increases otherwise payable.

For an aged widow or widower, the total benefit exclusive of any vested dual benefit may not be less than amount received as spouse in month before employee's death.

All percentages are before deductions for work or entitlement to social security benefit or railroad retirement employee annuity.

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#### 32. Vested dual benefit for widow or widower

A widow or widower receiving a vested dual benefit on August 13, 1981, will continue to receive a benefit (adjusted as described in item 12). No vested dual benefits will be awarded after that date.

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## 33. Insurance lump sum

Payable if employee leaves no survivor eligible for monthly benefits in the month of his or her death.

- A. If employee had 10 years of service before 1-1-1975, the benefit is 10 times the basic amount. The basic amount is 52.4% of the first \$75 of average monthly remuneration (AMR), plus 12.8% of the remainder, increased by 1% for each year before 1975 with earnings of \$200 or more. The AMR is based on combined railroad and social security earnings before 1975 and after 1936.
- B. If employee had less than 10 years of service as of 12-31-1974, the amount will be the amount social security would have paid (currently \$255). This amount will only be paid to a widow or widower living with the employee at the time of the employee's death.

## 34. Residual lump sum death benefit

Payable when it appears no further benefits will derive from deceased employee except possibly to a widow, widower or parent at a future date. In this case, survivor must waive the right to all future benefits based on the deceased employee's railroad service. The amount payable is the sum of 4% of taxable railroad earnings from 1-1-1937 to 12-31-1946, 7% from 1-1-1947 to 12-31-1958, 7-1/2% from 1-1-1959 to 12-31-1961, 8% from 1-1-1962 to 12-31-1965, 8.1% from 1-1-1966 to 12-31-1966, 8.65% from 1-1-1967 to 12-31-1967, 8.8% from 1-1-1968 to 12-31-1968, 9.45% from 1-1-1969 to 12-31-1970, 9.85% from 1-1-1971 to 12-31-1972, 10.1% from 1-1-1973 to 9-30-1973, 5.35% from 10-1-1973 to 12-31-1973, and 5.45% from 1-1-1974 to 12-31-1974. Railroad earnings after 1974 are not taken into account. The amount actually paid is reduced by the amount of benefits paid deriving from the deceased employee.

## 35. Cost-of-living increases for survivors

Each tier is subject to same percentage increase as corresponding tier of employee benefit.

## FINANCING, INVESTMENTS AND TAXATION OF BENEFITS

## 36. Employee and employer payroll taxes

Employees and employers contribute at the prevailing social security rate up to the tier 1 earnings limit. There is no limit to earnings subject to the hospital insurance portion of the tier 1 tax rate. Beginning in 2013, employees pay an additional 0.9 percent on earnings above \$200,000 (for those who file an individual return) or \$250,000 (for those who file a joint return).

In addition, employees and employers pay a tier 2 tax up to the tier 2 earnings limit. Tier 2 taxes on both employers and employees are based on the ratio of certain asset balances to the sum of benefits and administrative expenses (the average account benefits ratio). At the end of each fiscal year (September 30), an Account Benefits Ratio (ABR) is calculated by dividing the fair market value of the assets in the RR Account and the NRRIT (and for years before 2002, the SSEB Account) as of the close of such fiscal year by the total benefits and administrative expenses paid from the RR Account and the NRRIT during such fiscal year. The Average Account Benefits Ratio (AABR), with respect to any calendar year, is then calculated as the average of the account benefits ratios for the 10 most recent fiscal years ending before such calendar year. If the AABR is not a multiple of 0.1, it is increased to the next highest multiple of 0.1. The tier 2 tax rate is determined from a tax rate table based on the AABR.

AABR		Tier 2 tax rate	
At least	But less than	Employer	Employee
	2.5	22.1	4.9
2.5	3.0	18.1	4.9
3.0	3.5	15.1	4.9
3.5	4.0	14.1	4.9
4.0	6.1	13.1	4.9
6.1	6.5	12.6	4.4
6.5	7.0	12.1	3.9
7.0	7.5	11.6	3.4
7.5	8.0	11.1	2.9
8.0	8.5	10.1	1.9
8.5	9.0	9.1	0.9
9.0		8.2	0.0

Contributions to 401(k) deferred compensation plans and the value of employer-paid premiums for group term life insurance coverage in excess of \$50,000 are included in railroad earnings for payroll tax purposes. Stock options, however, are not included in railroad earnings for payroll tax purposes.

### 37. Financial interchange

Railroad retirement system pays to social security system the taxes social security would have collected and receives the additional amount of benefits and administrative expenses social security would have paid if railroad employment had been covered under social security. The net difference (including interest) is transferred in the June after the fiscal year for which the transfer is made. The system also transfers to the Hospital Insurance Trust Fund the payroll taxes net of income taxes and administrative expenses that the Centers for Medicare & Medicaid Services would have otherwise collected.

The Railroad Retirement Board estimates the amount and direction of the financial interchange transfer that would be made for each month if transfers were on a current monthly basis. If this estimate favors the railroad retirement system, Treasury advances the amount with interest to the Railroad Retirement Account, as a loan from the general fund, by the middle of the succeeding month. Within 10 days after receipt of the annual financial interchange for a fiscal year, the RRB must repay the amount, with interest, advanced during the fiscal year.

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### 38. Investments

Amounts in the Railroad Retirement Account and in the Social Security Equivalent Benefit Account are invested in special issue Treasury obligations with a minimum return of 3 percent. Amounts in the two accounts not needed to pay current benefits and administrative expenses are invested by the National Railroad Retirement Investment Trust, whose Board of seven trustees is empowered to invest Trust assets in non-governmental assets, such as equities and debt, as well as in governmental securities. The Trust transfers funds back to the Railroad Retirement Account as needed for the payment of benefits.

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### 39. Financing of vested dual benefits

General revenue appropriations finance all vested dual benefit payments since September 1981. Beginning October 1, 1981, each annual appropriation is placed in the Dual Benefits Payments Account. Total benefits paid in any fiscal year (starting with 1982) may not exceed the total available in the account. The account may borrow at the end of a fiscal year the amount that the Railroad Retirement Board estimates will be necessary to pay vested dual benefits for the first month of the next fiscal year.

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### 40. Taxability of benefits

The portion of tier 1 benefits equivalent to social security benefits is taxed under the same rules as are social security benefits. Tier 1 benefits in excess of social security equivalent benefits, tier 2 benefits, vested dual benefits, and supplemental annuities are taxed under the rules by which private pensions are taxed.

Revenues from taxes on social security equivalent benefits are transferred to the social security system through the financial interchange. Revenues from taxes on tier 1 benefits in excess of social security equivalent benefits and tier 2 benefits are transferred to the Railroad Retirement Account. Revenues from taxes on vested dual benefits are transferred to the Dual Benefits Payments Account.

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## MISCELLANEOUS PROVISIONS

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### 41. Benefit preservation

Each year the Railroad Retirement Board must report to the President and Congress the results of a five-year projection of anticipated revenues to and payments from the Railroad Retirement Account. If the results show that the funds in the account will be insufficient to pay full benefits at any time during the five-year period, the report must indicate (1) the first fiscal year in which benefits would have to be reduced because of insufficient funds in the absence of any changes, and (2) the amount of adjustments necessary to preserve financial solvency. Within 180 days after publication of this report, representatives of railroad labor and management are obligated to submit proposals designed to preserve the fund's solvency. The Railroad Retirement Board will publish regulations necessary to provide a constant level of benefits at the maximum level possible and to insure that no individual receives less than what he or she would have had all his earnings been covered under social security. The Railroad Retirement Board's regulations will take effect beginning with the first year in which benefit reductions will be necessary and continue until legislative action supersedes them.

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### 42. Minimum annuity

The overall minimum guaranty for employees and dependents is 100% of the amount, or the additional amount, the family would receive under the Social Security Act if the employee's railroad earnings after 1936 were credited as social security earnings.

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## 43. Automatic benefit eligibility adjustments

A liberalization of entitlement provisions enacted for title II of the Social Security Act will be applied to provide entitlement to a tier 1 benefit under the Railroad Retirement Act.

## 44. Transfer of credits

Transfer of railroad retirement credits is made to social security if an employee had less than 10 years of railroad service and less than 5 years of service after 1995 or, in the case of a survivor, if the employee lacked a current connection. In other words, all earnings and credits will be used in calculating your Social Security benefit.

For other employees eligible for a railroad retirement annuity, railroad retirement earnings and credits will not be used by Social Security. If such an employee chooses to commence a Social Security annuity, then this monthly amount will be offset from the Tier 1 annuity.

## DEFINITIONS

The meanings of terms used in the outline are defined below:

Railroad earnings - earnings derived from covered railroad employment, up to the maximums specified in item 9.

Social security earnings - earnings derived from employment covered under the Social Security Act (excludes railroad earnings), up to the maximums allowed.

Current connection - generally defined as having at least 12 months of railroad service in the 30 months preceding death or retirement. An employee whose last 12 months of railroad service occurred prior to the 30 months before retirement or death may maintain a current connection if the employee did not perform any regular employment between the end of the 30 month period containing the last 12 months of railroad service and the month of retirement or death. For purposes of the supplemental annuity or survivors' benefits, an employee who was terminated involuntarily and without fault on or after October 1, 1975, after 25 years of service and did not thereafter decline an offer of employment in the same class or craft in the railroad industry is deemed to have a current connection.

Fully insured - insured for retirement at age 62 under social security; does not necessarily imply an insured status for disability benefits or for survivor benefits for death before age 62.

Social security benefit - when used in describing the computation of the vested dual benefit, the term "social security benefit" means a primary insurance amount computed by using the social security formula in effect in 1974 and the specified earnings; it does not imply an actual benefit.

Social security retirement age - the age at which an individual may receive an unreduced benefit at retirement under the Social Security Act, as follows:

Year of attainment of early retirement age (62 for employees and spouses, <u>60 for widows and widowers</u> )	Retirement age ( <u>age for unreduced benefit</u> )
1999 or earlier	65 years, 0 months
2000	65 years, 2 months
2001	65 years, 4 months
2002	65 years, 6 months
2003	65 years, 8 months
2004	65 years, 10 months
2005-2016	66 years, 0 months
2017	66 years, 2 months
2018	66 years, 4 months
2019	66 years, 6 months
2020	66 years, 8 months
2021	66 years, 10 months
2022 or later	67 years, 0 months