# METROPOLITAN TRANSIT COMMISSION

# TRANSIT OPERATING DIVISION

# EMPLOYEES' RETIREMENT PLAN

# ACTUARIAL VALUATION

# AS OF JANUARY 1, 1977

Prepared and submitted by

Stennes & Associates, Inc.

Actuaries and Consultants

FILE COPY

STENNES & ASSOCIATES, INC.
ACTUARIES AND CONSULTANTS

2850 METRO DRIVE
MINNEAPOLIS, MINNESOTA 55420
(612) 854-1155

September 16, 1977

Retirement Allowance Committee
Metropolitan Transit Commission
Transit Operating Division
Employees' Retirement Plan
801 American Center Building
160 East Kellogg Boulevard
St. Paul, Minnesota 55101

Gentlemen:

At your request we have made an Actuarial Valuation of the Metropolitan Transit Commission/Transit Operating Division Employees' Retirement Plan as of January 1, 1977. The attached report summarizes the results of this valuation.

It is our opinion that if the current contribution rates of 4.9% for employees and 9.8% for the employer are continued and the total covered payroll remains at the current level, normal costs will be met and the accrued liability will be funded by August 1, 1983. Calculation of this funding period is based on the actuarial assumptions and method outlined in Appendix III and IV and plan benefits outlined in Appendix V.

We certify that all calculations in respect to the valuation were performed on the basis of the assumptions outlined in the report and that the results are correct to the best of our knowledge.

Respectfully submitted,

James R. Bordewick

James R. Bordewick
Fellow, Society of Actuaries

Stephen A. Robb
Fellow, Society of Actuaries

JRB/SAR:rd

TABLE OF CONTENTS


| | | Page Number |
|---|---|---|
| Section I | Introduction | 1 |
| Section II | Assets of the Plan as of December 31, 1976 | 3 |
| | Table 1 . . . . . Development of Assets (Cost) | 3 |
| | Table 2 . . . . . Analysis of Deferred Yield Adjustment Account | 4 |
| | Table 3 . . . . . Development of Assets (Valuation Basis) | 5 |
| Section III | Results of Valuation | 6 |
| | Table 4 . . . . . Summary of Full Funding Dates | 6 |
| | Table 5 . . . . . Analysis of Unfunded Liability | 7 |
| | Table 6 . . . . . Development of Unfunded Liability | 8 |
| | Table 7 . . . . . Normal Cost | 9 |
| | Table 8 . . . . . Vested Benefit Liabilities | 10 |


APPENDIX


| | | |
|---|---|---|
| I | . . . . . Membership of Plan | 11 |
| | Exhibit A . . . . . Summary of Annual Payroll | 12 |
| | Exhibit B . . . . . Summary of Employee Participants | 13 |
| | Exhibit C . . . . . Summary of Retired Participants | 14 |
| | Exhibit D . . . . . Summary of Hourly Employees | 15 |
| | Exhibit E . . . . . Summary of Salaried Employees | 16 |
| | Exhibit F . . . . . Summary of Disability Retirement Benefits | 17 |
| | Exhibit G . . . . . Summary of Non-Disability Retirement Benefits | 18 |
| | Exhibit H . . . . . Summary of Terminated With A Vested Interest | 19 |
| II | . . . . . Interest Earnings | 20 |
| III | . . . . . Actuarial Assumptions | 21 |
| IV | . . . . . Actuarial Funding Method | 22 |
| V | . . . . . Plan Outline | 23 |

METROPOLITAN TRANSIT COMMISSION

TRANSIT OPERATING DIVISION

EMPLOYEES' RETIREMENT PLAN

ACTUARIAL VALUATION

AS OF JANUARY 1, 1977

## SECTION I

## INTRODUCTION

This report contains the results of the actuarial valuation of the Plan performed as of January 1, 1977. The costs shown in this report are based on the plan benefits and provisions as outlined in Appendix V and the actuarial assumptions and method outlined in Appendices III and IV.

The contribution rates for employees and the employer set forth in Appendix V of the report are expressed in percentages of compensation so it is important to understand that the level of gross payroll of the employer is of great importance in determining the level of contributions required to support the pension benefits.

The following table shows the growth of participation in the Plan over the last five years. Active employees covered has increased by 57%; covered payroll has increased by 124%; and prospective annual pensions have increased by 107% which is a combination of growth in participation and plan changes.

| Year | Number of Active Employees | Covered Payroll | Prospective Annual Pension |
|---|---|---|---|
| 1-1-77 | 2,008 | $29,156,000 | $12,193,000 |
| 1-1-76 | 1,805 | 23,647,000 | 10,588,000 |
| 1-1-75 | 1,547 | 18,624,000 | 8,753,000 |
| 1-1-74 | 1,346 | 14,975,000 | 6,763,000 |
| 1-1-73 | 1,275 | 13,033,000 | 5,887,000 |

The calculations underlying the results set forth below assume a continuation of the covered payroll at its current level. A drop in covered payroll resulting from a decrease in the work force will increase the percentage of pay necessary to fund the pension benefits over a fixed period of time, or will lengthen the period necessary for a fixed contribution rate to fully fund the benefits. An increase in covered payroll resulting from an increase in the work force will have the opposite effect.

The Plan commenced July 1, 1944 and was amended as of January 1, 1950, as of January 1, 1965, as of January 1, 1972, and as of January 1, 1975. It is supported by joint contributions of employees and the employer. Employer contributions according to the Plan are to be two-thirds of the total required contributions. Article Six of the Plan, prior to the 1965 amendments, provided that the contributions to be made in years following 1951 "shall be the annual amounts necessary (a) to fund the cost of current service credit for such year, and (b) to fund the accrued liability over a period of 40 years." The 1965 amendments froze the total contribution rate at 14.7% for a three-year period, and lengthened the funding period to whatever period of years necessary, which as of January 1, 1965 was 35½ years from that date. Minnesota Statute now provides that the accrued liabilities are to be amortized by the end of 1997.

Concurrent with this valuation, a provision for future non-investment expenses of ½% of the estimated total annual contributions was added to the actuarial assumptions as recommended in our January 1, 1973 through December 31, 1975 Experience Study.

## SECTION II

## ASSETS OF THE PLAN AS OF DECEMBER 31, 1976

The development of the assets of the Plan since the last valuation is shown in Table 1 on the basis of the cost value. An analysis of the Deferred Yield Adjustment Account is in Table 2. The development of Valuation Assets used in the determination of the Unfunded Liability and amortization period is summarized in Table 3.

### TABLE 1

### DEVELOPMENT OF ASSETS

### COST BASIS

### 1-1-76 to 12-31-76

| | | |
|---|---|---|
| Trust Assets, 1-1-76 (Includes Accrued Contributions of $334,607.40) | | $13,000,794.75 |
| Income | | |
| Employer and Employee Contributions | $3,737,349.27 | |
| Employer and Employee Contributions (Accrued) | 452,336.73 | |
| Interest, Dividends and Other Income | 891,745.91 | |
| Loss on Sale and Redemption of Securities | (6,454.90) | |
| Net Asset Adjustments* | 1,960.00 | |
| Total Income | | 5,076,937.01 |
| Sum | | $18,077,731.76 |
| Disbursements | | |
| Pensions and Refunds at Death on Retirees | $1,483,334.63 | |
| Refunds of Contributions on Actives | 258,309.53 | |
| Trustee's Fees to 12-31-76 | 17,393.00 | |
| Actuarial Fees | 9,500.00 | |
| Auditor's Fees | 1,575.00 | |
| Legal Fees | 51.60 | |
| Miscellaneous (Postage, Insurance Printing, Administration, etc.) | 4,697.53 | |
| Total Disbursements | | $ 1,774,861.29 |
| Trust Assets, 12-31-76 (Cost) (Includes Accrued Contributions of $452,336.73) | | $16,302,870.47 |
| Trust Assets, 12-31-76 (Market) (Includes Accrued Contributions of $452,336.73) | | $16,259,149.15 |

*This represents adjustments made by the corporate trustee to the cost values of three separate securities.

TABLE 2

ANALYSIS OF DEFERRED YIELD ADJUSTMENT ACCOUNT

Under the terms of Minnesota Statute 356.20, Subdivision 5, a public fund is permitted to establish a Deferred Yield Adjustment Account. This is a reserve fund which will minimize the fluctuation caused by losses or gains resulting from the sale of debt securities in a given year. The Metropolitan Transit Commission/Transit Operating Division Employees' Retirement Plan is a fund that qualifies under this statute for the treatment of gains and losses resulting from the sale of debt securities.

The total losses realized from the sale of bonds and other debt securities prior to maturity date for the 1976 plan year were $22,816. These losses will be amortized over a 16-year period; therefore, only $1,426 of the loss has been recognized in the valuation assets for 1976. When this balance is added to the Deferred Yield Adjustment Account Balance of $61,786 remaining from 1975, the Deferred Yield Adjustment Account becomes $73,715. A summary follows:

| | | |
|---|---|---|
| Deferred Yield Adjustment Account, 12-31-75 | | $61,785.83 |
| Less: Four-Year Amortization of 1974 Losses | - | 5,888.46 |
| Fifteen-Year Amortization of 1975 Losses | - | 3,572.07 |
| Subtotal | | $52,325.30 |
| Plus 1976 Losses on Debt Securities | + | 22,816.00 |
| Subtotal | | $75,141.30 |
| Less 16-Year Amortization of 1976 Losses | - | 1,426.00 |
| Deferred Yield Adjustment Account, 12-31-76 | | $73,715.30 |

The valuation assets for the Trust Fund used in determining the plan costs are summarized below:

| | | |
|---|---|---|
| Trust Assets, 12-31-76, at Cost | | $16,302,870 |
| Deferred Yield Adjustment Account | + | 73,715 |
| Valuation Assets, 12-31-76 | | $16,376,585 |

The following table traces the development of the valuation assets from January 1, 1976 to December 31, 1976 which recognizes the Deferred Yield Adjustment Account.

TABLE 3

DEVELOPMENT OF VALUATION ASSETS

1-1-76 to 12-31-76

| | |
|---|---|
| Valuation Assets at Cost, 1-1-76<br>(Includes Accrued Contributions of $334,607 | $13,062,581 |
| **Income** | |
| Contributions | $ 4,189,686 |
| Interest, Dividends, etc. | 891,746 |
| Net Asset Adjustment* | 1,960 |
| Net Gain on Sale of Non-Debt Securities (including gain and loss on matured debt securities) | 16,359 |
| Loss on Sale of Debt Securities Recognized in 1976: | |
| 1974 Losses | (5,888) |
| 1975 Losses | (3,572) |
| 1976 Losses | (1,426) |
| Total Income | $ 5,088,865 |
| **Disbursements** | |
| Total Disbursements | $ 1,774,861 |
| Valuation Assets at Cost, 12-31-76<br>(Includes Accrued Contributions of $452,337) | $16,376,585 |

*See page 3 of report

## SECTION III

## RESULTS OF VALUATION

This valuation is the sixteenth which has been based on the actual past experience of the Plan, projected for future developments. Since the actuarial factors used in the valuation reflect closely the Plan's recent experience, fluctuations in the funding period due to actuarial gains and losses can be expected from year to year, which will not be cushioned by conservative actuarial assumptions.

The report submitted last year indicated that the combined contribution rate of 14.7% of covered payroll would pay the normal annual cost and amortize the unfunded liability over a period of approximately 9.58 years from January 1, 1976 (by August 1, 1985), assuming the covered payroll is unchanged and experience followed the actuarial assumptions. The January 1, 1977 valuation indicates that the unfunded liability will be amortized in approximately 6.58 years from January 1, 1977 (by August 1, 1983). Minnesota Statute 356.21, Subdivision 5, Paragraph (6) provides for amortizing the unfunded liability by the end of the plan's fiscal year in 1997. The current combined rate of 14.7% of covered payroll would meet full funding by August 1, 1983.

### TABLE 4

### FULL FUNDING DATE

| Valuation Date | Estimated "Full Funding" Date |
|---|---|
| January 1, 1965 | July 1, 2000 |
| January 1, 1966 | March 1, 2002 |
| January 1, 1967 | January 1, 2002 |
| January 1, 1968 | July 1, 1998 |
| January 1, 1969 | July 1, 1999 |
| January 1, 1970 | October 1, 1994 |
| January 1, 1971 | July 1, 1992 |
| January 1, 1972 | November 1, 1990 |
| January 1, 1973 (Before Changes) | May 1, 1988 |
| January 1, 1973 (After Changes) | October 1, 1991 |
| January 1, 1974 | October 1, 1991 |
| January 1, 1975 (Before Changes) | April 1, 1988 |
| January 1, 1975 (After Changes) | September 1, 1989 |
| January 1, 1976 | August 1, 1985 |
| January 1, 1977 | August 1, 1983 |

These funding periods have been developed using the valuation assets. If market value had been utilized, the full funding date would be September 1, 1983.

An analysis of the Unfunded Liability as of January 1, 1977 is shown in Table 5. The development of this Unfunded Liability from last year is described in Table 6. Table 7 shows the total normal cost allocated to the various types of benefits.

TABLE 5

ANALYSIS OF UNFUNDED LIABILITY

AS OF JANUARY 1, 1977

| | | |
|---|---|---|
| (1) | Present Value of Future Benefits: | |
| | For Active Participants - | |
| | Regular Retirement Allowances | $27,568,733 |
| | Disability | 2,645,155 |
| | Death Benefits Before Retirement | 791,604 |
| | Withdrawal Benefits | 1,355,110 |
| | Total Active | $32,360,602 |
| | For Participants Terminated with a Vested Interest and Miscellaneous Refunds Due | 110,418 |
| | Present Value of Retirement Allowances Payable to Currently Retired Participants | |
| | Regular Retirements | 10,278,015 |
| | Disability Retirements | 1,302,620 |
| | Total Retired | 11,580,635 |
| | Total Present Value of Benefits | 44,051,655 |
| (2) | Present Value of Future Normal Costs | 12,668,055 |
| (3) | Accrued Liability (1) minus (2) | 31,383,600 |
| (4) | Valuation Assets | 16,376,585 |
| (5) | Unfunded Liability (3) minus (4) | 15,007,015 |

TABLE 6

DEVELOPMENT OF UNFUNDED LIABILITY

The unfunded liability decreased by $1,532,611 from January 1, 1976 to January 1, 1977. An analysis of this decrease is shown below:

| | | |
|---|---|---|
| Unfunded Liability, 1-1-76 | | $16,539,626 |
| plus | | |
| Interest Requirements at 5% | + | 810,624 |
| plus | | |
| Actuarial Loss for Year Ended 12-31-76 | + | 483,396 |
| less | | |
| Amount by which Contributions were Greater than Cost for 1976 | - | 2,826,631 |
| Unfunded Liability, 1-1-77 | | $15,007,015 |

Recognition of only a portion of the realized losses on debt instruments is included in the decrease in unfunded liability due to the Deferred Yield Adjustment Account. Major actuarial losses resulted from new entrants, salaries terminations, and deaths. These losses were partially offset by gains from investment earnings in excess of those anticipated by the actuarial assumptions.

TABLE 7

NORMAL COST

JANUARY 1, 1977

The normal cost for total estimated future benefits is allocated as follows:

| | |
|---|---|
| Regular Retirement Allowances | $948,487 |
| Disability Retirement Allowances | 81,796 |
| Death Benefits Before Retirement | 177,768 |
| Withdrawal Benefits | 453,480 |
| Total Normal Cost | $1,661,531 |

The normal cost is 5.70% of current covered annual payroll.

The provision for future non-investment expenses is estimated to be $21,430 for the 1977 plan year.

The estimated total (Employees and Employer) contributions to the Plan in 1977 are $4,285,979. After deducting the normal cost of $1,661,531 and the provision for future non-investment expenses of $21,430, $2,603,018 remains available as an amortization payment toward the unfunded liability. (This compares with $2,113,086 available for the payment toward the unfunded liability in 1976.)

Amortization payments at this level would be required for approximately 6.58 years from January 1, 1977 to completely fund the accrued liability. Thus, the date on which the Plan could become fully funded is estimated to be approximately August 1, 1983.

In our opinion, the current contribution rate of 14.7% will support the Plan on the basis outlined above, assuming the covered payroll does not decrease. However, any changes which would materially increase the unfunded liability, decrease the income of the fund, or substantially decrease the covered payroll, would require an increase in the contribution rate in order to remain within the prescribed amortization period.

## VESTED BENEFIT LIABILITIES

The table below summarizes the value of the vested benefits as of January 1, 1977. By comparison with the market value of the assets as of January 1, 1976, of $16,259,149, a vested benefit security ratio of 67.9% is obtained. If the accrued contributions of $452,337 are eliminated from the market value of the assets, the vested benefit security ratio becomes 66.0%.

### TABLE 8

### ACTUARIALLY COMPUTED VALUE OF VESTED BENEFITS

### AS OF JANUARY 1, 1977

| | Number | Amount |
|---|---|---|
| Retired Participants | 670 | $11,580,635 |
| Working Beyond Age 65 | 5 | 216,586 |
| Terminated with a Vested Interest | 5 | 89,417 |
| Active Participants Eligible for Vested Benefits | 448 | 9,086,078 |
| Estimated Accumulated Contributions for Non-Vested Employees and Miscellaneous Refunds Pending | - | 2,983,818 |
| Total | | $23,956,534 |

# APPENDIX

## APPENDIX I

## MEMBERSHIP OF PLAN

The following tables show summaries of the active and retired participants in the plan in addition to a summary of annual payroll.

The total annual compensation shown is the approximate annual rate in effect on December 31, 1976 rather than the amount actually paid in 1976.

The total prospective annual pension is the pension which will be accrued by the group based on the assumption that compensation remains constant until retirement.

EXHIBIT A

SUMMARY OF ANNUAL PAYROLL

| | Number | Annual Payroll |
|---|---|---|
| Active Participants, 12-31-75 (excluding 3 Employees over 65) | 1,802 | $23,603,751* |
| Withdrawals due to Terminations, Deaths | 126 | 1,413,035 |
| Withdrawals with a Vested Interest | 0 | 0 |
| Reaching Age 65 and Retired during 1976 | 30 | 396,307 |
| Active Participants, 12-31-75, Still Remaining as of 12-31-76 | 1,646 | $21,794,409 |
| Increases in 1975 Payroll for 1,646 Participants to 12-31-76 Payroll | | 4,114,158 |
| New Entrants | 357 | 3,158,758 |
| Total Active Participants, 12-31-76 | 2,003 | 29,067,325* |
| Employees Over Age 65 | 5 | 88,994** |
| Total Active Participants, 12-31-76 | 2,008 | $29,156,319 |

* The annual payroll shown is for employees who have not reached their normal retirement dates.

** Additional annual payroll for employees who may continue to earn pension credits after age 65.

These figures represent the approximate annual rate in effect as of 12-31-76 rather than the amount actually paid in 1976.

EXHIBIT B

SUMMARY OF EMPLOYEE PARTICIPANTS

| | Male | Female | Total |
|---|---|---|---|
| Active Participants, 12-31-75 | 1,668 | 137 | 1,805 |
| New Entrants | 262 | 95 | 357 |
| Withdrawals due to Terminations, Deaths | 108 | 18 | 126 |
| Withdrawals with a Vested Interest | 0 | 0 | 0 |
| Retired during 1976 | 27 | 1 | 28 |
| Active Participants, 12-31-76 | 1,795 | 213 | 2,008 |
| Terminated with a Vested Interest | 5 | 0 | 5 |
| Retired Participants | | | |
| Non-Disability | 526 | 35 | 561 |
| Disability | 101 | 8 | 109 |
| Total Participants, 12-31-76 | 2,427 | 256 | 2,683 |

EXHIBIT C

SUMMARY OF RETIRED PARTICIPANTS

The total number of retirees decreased by seven from the previous year. There was a decrease of nine in the total non-disability retirements, and an increase of two in the total number of disability retirements. During 1976, there were eight non-disability retirees who elected optional forms of retirement income.

NON-DISABILITY RETIREDS

| | Male | Female | Total |
|---|---|---|---|
| Total Retireds, 12-31-75 | 536 | 34 | 570 |
| New Retirees | | | |
| From Active Participants | 22 | 1 | 23 |
| From Terminated with a Vested Interest | 1 | 0 | 1 |
| Retired Deaths | 35 | 0 | 35 |
| Living Non-Disability Retireds, 12-31-76 | 524 | 35 | 559 |
| Beneficiaries of Retireds | 2 | 0 | 2 |
| Total Non-Disability Retireds 12-31-76 | 526 | 35 | 561 |

DISABILITY RETIREDS

| | Male | Female | Total |
|---|---|---|---|
| Total Retireds, 12-31-75 | 99 | 8 | 107 |
| New Retirees - From Active Participants | 5 | 0 | 5 |
| Retired Deaths | 3 | 0 | 3 |
| Total Disability Retireds, 12-31-76 | 101 | 8 | 109 |
| Total Retirees, 12-31-76 (Non-Disability plus Disability) | 627 | 43 | 670 |

| Form of Annuity | Number of Retirees |
|---|---|
| Life Annuity Pensions | 634 |
| Five Years Certain & Life (Includes 1 beneficiary) | 16 |
| Ten Years Certain & Life (Includes 1 beneficiary) | 9 |
| Fifteen Years Certain & Life | 1 |
| Joint and ½ to Joint Annuitant | 10 |
| Total | 670 |

EXHIBIT D

MTC-TOD EMPLOYEES RETIREMENT PLAN - HOURLY

| AGE BRACKET | AVG ATT AGE | NUMBER OF[1] EMPLOYEES | TOTAL[2] EARNINGS | AVG EARNINGS | AVG PAST SERV | AVERAGE ACCR CR | AVERAGE[3] PROS PEN NRD |
|---|---|---|---|---|---|---|---|
| 15-19 | 19.00 | 2 | $ 16870.00 | $8435.00 | .33 | $ 4.43 | $ 545.04 |
| 20-24 | 22.85 | 148 | 1856420.00 | 12543.38 | 1.58 | 25.46 | 586.98 |
| 25-29 | 27.04 | 342 | 4721183.00 | 13804.63 | 2.67 | 41.97 | 589.93 |
| 30-34 | 31.88 | 297 | 4181071.00 | 14077.68 | 3.36 | 51.70 | 563.65 |
| 35-39 | 36.91 | 235 | 3402760.00 | 14479.83 | 4.54 | 64.92 | 531.38 |
| 40-44 | 41.71 | 163 | 2504678.00 | 15366.12 | 4.92 | 70.47 | 496.83 |
| 45-49 | 46.78 | 124 | 1909325.00 | 15397.78 | 5.68 | 80.85 | 430.69 |
| 50-54 | 52.08 | 159 | 2494868.00 | 15690.99 | 13.02 | 132.78 | 387.65 |
| 55-59 | 57.23 | 141 | 2251901.00 | 15970.93 | 21.52 | 190.79 | 375.12 |
| 60-64 | 61.38 | 96 | 1509632.00 | 15725.33 | 28.95 | 230.64 | 378.13 |
| 65 - OVER | 65.00 | 3 | 44739.00 | 14913.00 | 29.59 | 232.77 | 329.75 |
| TOTALS | 38.51 | 1,710 | $24893447.00 | $14557.57 | 7.42 | $82.52 | $507.72 |

1. Does not include 5 hourly employees over 65 with annual earnings of $88,994.

2. This is the approximate annual salary rate in effect as of 12-31-76 for employees who have not attained age 65.

3. This is the average prospective monthly pension at normal retirement date based on a continuation of the salary rates in effect as of 12-31-76.

EXHIBIT E

MTC-TOD EMPLOYEES RETIREMENT PLAN - SALARIED

| AGE BRACKET | AVG ATT AGE | NUMBER OF EMPLOYEES | TOTAL[1] EARNINGS | AVG EARNINGS | AVG PAST SERV | AVERAGE ACCR CR | AVERAGE[2] PROS PEN NRD |
|---|---|---|---|---|---|---|---|
| 15-19 | 19.00 | 2 | $20840.00 | $10420.00 | 1.17 | $16.25 | $584.75 |
| 20-24 | 22.80 | 30 | 309877.00 | 10329.23 | 1.32 | 18.49 | 560.75 |
| 25-29 | 27.00 | 50 | 617658.00 | 12353.16 | 2.87 | 39.71 | 565.74 |
| 30-34 | 31.77 | 44 | 599132.00 | 13616.64 | 3.98 | 56.72 | 554.73 |
| 35-39 | 36.86 | 28 | 436793.00 | 15599.75 | 6.12 | 90.03 | 573.03 |
| 40-44 | 42.15 | 33 | 502514.00 | 15227.70 | 6.75 | 90.02 | 510.43 |
| 45-49 | 47.06 | 17 | 258128.00 | 15184.00 | 13.45 | 135.41 | 480.84 |
| 50-54 | 52.11 | 38 | 605521.00 | 15934.76 | 16.09 | 157.34 | 417.88 |
| 55-59 | 57.03 | 31 | 495126.00 | 15971.81 | 21.19 | 192.00 | 366.74 |
| 60-64 | 61.65 | 20 | 328289.00 | 16414.45 | 25.52 | 212.31 | 344.48 |
| 65 - OVER | | | | | | | |
| TOTALS | 39.84 | 293 | $4173878.00 | $14245.32 | 9.43 | $99.11 | $497.91 |

1. This is the approximate annual salary rate in effect as of 12-31-76 for employees who have not attained age 65.

2. This is the average prospective monthly pension at normal retirement date based on a continuation of the salary rates in effect as of 12-31-76.

EXHIBIT F

RETIRED

Disability Retirements

| | 12-31-74 | | 12-31-75 | | 12-31-76 | |
|---|---|---|---|---|---|---|
| Age Group | No. | Pension* | No. | Pension* | No. | Pension* |
| Under 50 | 0 | $ 0 | 1 | $ 1,539 | 1 | $ 1,560 |
| 50-54 | 11 | 22,735 | 7 | 14,742 | 8 | 16,281 |
| 55-59 | 10 | 23,031 | 12 | 27,597 | 9 | 20,167 |
| 60-64 | 19 | 38,581 | 20 | 48,540 | 22 | 59,073 |
| 65-69 | 17 | 36,061 | 21 | 43,959 | 21 | 45,348 |
| 70-74 | 13 | 22,465 | 9 | 15,311 | 12 | 21,270 |
| 75-79 | 17 | 29,706 | 8 | 14,517 | 7 | 12,897 |
| 80-84 | 17 | 28,865 | 22 | 37,765 | 21 | 37,126 |
| 85-89 | 6 | 10,589 | 7 | 12,209 | 8 | 12,568 |
| 90 & Over | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 110 | $212,033 | 107 | $216,179 | 109 | $226,290 |
| Average Annual Pension | | $ 1,928 | | $ 2,020 | | $ 2,076 |



ALL RETIREMENTS

| December 31: | 1974 | 1975 | 1976 |
|---|---|---|---|
| Total Retired | 678 | 677 | 670 |
| Total Pensions | $1,399,553 | $1,509,574 | $1,547,122 |

*All pensions shown are on an annual basis.

EXHIBIT G

RETIRED

Non-Disability Retirements

| | 12-31-74 | | 12-31-75 | | 12-31-76 | |
|---|---|---|---|---|---|---|
| Age Group | No. | Pension* | No. | Pension* | No. | Pension* |
| Beneficiaries | 0 | $ 0 | 0 | $ 0 | 2 | $ 9,277 |
| Under 50 | 1 | 4,590 | 0 | 0 | 0 | 0 |
| 50-54 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55-59 | 7 | 8,703 | 5 | 5,824 | 4 | 4,476 |
| 60-64 | 22 | 57,872 | 39 | 149,424 | 47 | 186,058 |
| 65-69 | 109 | 292,756 | 115 | 344,097 | 108 | 343,300 |
| 70-74 | 110 | 219,963 | 104 | 213,089 | 99 | 214,631 |
| 75-79 | 135 | 256,408 | 132 | 246,155 | 124 | 223,185 |
| 80-84 | 94 | 179,333 | 86 | 167,247 | 85 | 165,096 |
| 85-89 | 69 | 130,340 | 64 | 120,515 | 60 | 115,819 |
| 90 & Over | 21 | 37,555 | 25 | 47,044 | 32 | 58,990 |
| Total | 568 | $1,187,520 | 570 | $1,293,395 | 561 | $1,320,832 |
| Average Annual Pension | | $ 2,091 | | $ 2,269 | | $ 2,354 |

*All pensions shown are on an annual basis.

EXHIBIT H

TERMINATED WITH A VESTED INTEREST

| Age Group | 12-31-74 No. | 12-31-74 Annual Pension at 65 (Before Changes) | 12-31-74 Annual Pension at 65 (After Changes) | 12-31-75 No. | 12-31-75 Annual Pension at 65 | 12-31-76 No. | 12-31-76 Annual Pension at 65 |
|---|---|---|---|---|---|---|---|
| Under 50 | 0 | $ 0 | $ 0 | 0 | $ 0 | 0 | $ 0 |
| 50-54 | 3 | 8,585 | 9,437 | 3 | 9,392 | 3 | 9,392 |
| 55-59 | 4 | 9,525 | 12,817 | 2 | 5,616 | 2 | 5,616 |
| 60-64 | 0 | 0 | 0 | 1 | 4,753 | 0 | 0 |
| 65 & Over | 1 | 2,120 | 2,688 | 0 | 0 | 0 | 0 |
| Total | 8 | $20,230 | $24,942 | 6 | $19,761 | 5 | $15,008 |
| Average Annual Pension | | $ 2,529 | $ 3,118 | | $ 3,294 | | $ 3,002 |

## APPENDIX II

## INTEREST EARNINGS

The rate of earnings on the assets of the pension fund are of great importance in the ultimate determination of the cost of a pension plan.

The net yield (after subtraction of Trustee's fees) realized on approximate average assets each year is shown below on a cash basis, both including and excluding realized capital gains and losses.

| Year | Total | Excluding Realized Capital Gains and Losses |
|---|---|---|
| 1961 | 3.71% | 3.77% |
| 1962 | 4.59 | 3.83 |
| 1963 | 3.88 | 3.94 |
| 1964 | 4.05 | 4.05 |
| 1965 | 4.42 | 4.07 |
| 1966 | 4.27 | 4.24 |
| 1967 | 4.38 | 4.28 |
| 1968 | 5.08 | 4.33 |
| 1969 | 4.98 | 4.20 |
| 1970 | 3.20 | 4.91 |
| 1971 | 6.57 | 4.66 |
| 1972 | 6.61 | 4.87 |
| 1973 | 4.15 | 4.80 |
| 1974 | 1.10 | 6.18 |
| 1975 | 3.80 | 5.59 |
| 1976 | 6.10 | 6.15 |

In 1976, there was a realized loss of $6,455 on a cost basis and realized gain of $5,473 on a valuation asset basis.

It should be noted that interest earnings in excess of the rate of 5.00% as of 1-1-77 assumed in the calculations will result in an actuarial gain to the trust fund, and help to reduce the unfunded liability. The equivalent annual net yield for the period, 1972 - 1976, was approximately 4.3% in total and 5.5% if realized gains and losses were excluded.

## APPENDIX III

## ACTUARIAL ASSUMPTIONS

| | |
|---|---|
| Interest: | 5% per annum, net after investment expenses. |
| Death Rates: | |
| Non-Disabled Lives: Male: | A modification of the 1937 Standard Annuity Table set back one year for males and five years for females. |
| Disabled Lives: | A modification of the Society of Actuaries 1952 Study of Disability Benefits - Benefit 1, Total and Permanent Disability. |
| Withdrawal Rates: | A special table constructed from the Plan's experience from July 1, 1955 to June 30, 1960, with some margin added. |
| Disablement Rates: | 140% of the UAW - 1955 Table. |
| Retirement Rates: | Average Retirement Age: 65 for employees under 65; employees 65 and over are assumed to retire in one year but not beyond age 70. |
| Future Salary Increases: | 3½% compounded annually. |
| Provision for Early Retirement Benefits: | 4½% Loading of Age Retirement Normal Cost plus 3½% Loadings on Age Retirement Present Value of Future Benefits and Accrued Liability. |
| Accidental Death Benefit: | One-year term cost equal to .015% of present value of Accrued Credits added to the Normal Cost. |
| Provision for Future Non-Investment Expenses: | ½% of estimated total annual contributions. |

## APPENDIX IV

## ACTUARIAL FUNDING METHOD

The liabilities and costs of the System have been determined by using the Entry Age Normal Funding Method.

This actuarial funding method is one of the family of projected benefit cost methods. An estimate of the projected monthly benefit payable at retirement is initially required to determine costs and liabilities under this method.

The normal cost is the annual contribution required from a member's entry date to retirement date so that the accumulated contributions at retirement will equal the liability for the projected benefit. The normal cost is developed as a level percentage of salary.

The present value of future benefits is equal to the value of the projected benefit payable at retirement discounted back to the member's current age. Discounts include such items as interest, mortality, etc. The present value of future normal cost contributions is equal to the discounted value of the normal costs payable from the member's current age to retirement age. Discounts include such items as interest, mortality, etc.

The difference between the present value of future benefits and the present value of future normal cost contributions represents the accrued liability at the member's current age.

When assets are subtracted from the accrued liability, the remainder represents the unfunded accrued liability. Actuarial gains and losses are reflected through an adjustment in the unfunded accrued liability.

APPENDIX V

METROPOLITAN TRANSIT COMMISSION/TRANSIT OPERATING DIVISION

EMPLOYEE RETIREMENT PLAN

PLAN OUTLINE

| | |
|---|---|
| Effective Date of Plan: | July 1, 1944, restated in its entirety on January 1, 1950. |
| Date of Last Amendment: | January 1, 1975. |
| Plan Year: | January 1 through December 31. |

Major Plan Provisions

| | |
|---|---|
| 1. Employees Covered: | All regular full-time employees of Twin Cities Area Metropolitan Transit Commission, Transit Operating Division (MTC/TOD). In addition, officers of Local Division 1005, Amalgamated Transit Union, AFL-CIO, who are on leave-of-absence from MTC/TOD are covered employees. |
| 2. Participation Requirements: | Covered employees are eligible to participate on their date of hire providing they make the required contributions. |
| 3. Continuous Service: | Full-time service from employment date. Absences under certain circumstances are not considered a break-in-service providing they do not exceed three consecutive years. The time of absence in certain circumstances in excess of three consecutive years is deducted from Continuous Service. |
| 4. Past Service: | Continuous service prior to January 1, 1950. If service prior to this date was broken and the period of the break did not exceed five years, post and pre-break service are aggregated. |

5. Compensation:

Total earnings paid during a plan year with adjusted definitions applied to full-time and part-time officers of Local Division 1005, Amalgamated Transit Union, AFL-CIO.

Past service commission is defined as $3,120, $3,480, or total earnings paid in the best year out of the last five years of employment prior to January 1, 1950 depending on occupational group.

6. Timing for Benefit Payments:

First day of the month following satisfaction of requirements for payment.

7. Retirement Dates:

Normal Retirement:

Age 65.

Deferred Retirement:

Allowed with approval of MTD/TOD but not beyond age 70.

Early Retirement:

Age 55.

Disability Retirement:

Totally and permanently disabled for any type of work or is unable to return to work after receiving 26 weeks of benefits under any MTC/TOD accident and sickness plan or under Workman's Compensation, with at least 10 years of continuous service. Only 5 years of continuous service is required if the disability resulted from a work-related accident.

8. Monthly Retirement Amounts:

Normal Retirement:

| | |
|---|---|
| Past Service: | 1% of past service compensation for each year of past service; |
| Future Service: | 1.25% of compensation for service between January 1, 1950 and December 31, 1964; |
| Future Service: | 1.5% of compensation for service January 1, 1965 and after; |

or, if greater, the following dollar per year of service benefit:

8. Monthly Retirement Amounts:

Normal Retirement: (continued)

Monthly Retirement Benefit per Year of Continuous Service

| Continuous Service | Retiring 1-1-75 to 6-30-76 | Retiring 7-1-76 to 12-31-77 |
|---|---|---|
| 1st 15 Years | $ 9.50 | $10.00 |
| Next 15 Years | 11.50 | 12.00 |
| Excess over 30 Years | 12.50 | 13.00 |

In either case, the benefit is minimized at $150 per month for a participant with 20 years of continuous service proportionately reduced for less than 20 years of continuous service. The normal retirement benefit is maximized at $625 per month.

The accrued normal retirement benefit referred to hereafter is equal to the normal retirement benefit based on service and compensation to date of occurrence.

Deferred Retirement:

Same as normal retirement benefit with continued accrual of service and benefits after age 65 to date of retirement.

Early Retirement:

Age 55 with less than 35 years of continuous service: Greater of accrued normal retirement benefit or minimum normal retirement benefit reduced 5% for each year that payment date precedes age 65.

Age 55 with 35 or more years of continuous service: Greater of accrued normal retirement benefit or minimum normal retirement benefit reduced by 2½% for each year that payment date precedes the following ages:

| Retirement In: | Reduction from Age: |
|---|---|
| 1975 | 65 |
| 1976 | 63 |
| 1977 | 62 |

Age 60 with 30 or more years of continuous service: Greater of accrued normal retirement benefit or minimum normal retirement benefit without percentage reduction.

8. Monthly Retirement Amounts:

Disability Retirement:

Greater of the accrued normal retirement benefit or the following minimums:

| Retirement In: | Monthly Benefit |
|---|---|
| 1975 | $125 |
| 1976 | 130 |
| 1977 | 135 |

The disability benefit will be reduced by benefits payable from any sickness and accident plan of MTC/TOD.

The maximum disability benefit payable is such that the disability benefit plus any earnings from employment cannot be greater than 85% of the current 40 hours-per-week earnings (based on top rate in job class participant held at time of disability).

9. Vesting:

Qualification:

10 years of continuous service and does not withdraw his own contributions.

Amount:

Equal to the accrued normal retirement benefit without regard to the minimum. This benefit is payable at age 65 or on a reduced basis if payments commence at age 55 or later.

In any event, the participant is vested in his accumulated contributions with interest at 2% to December 31, 1974 and 3½% thereafter less any benefits received.

10. Death Benefits:

Before Retirement:

Return of participant's contributions with interest at 2% to December 31, 1974 and 3½% thereafter less any benefits received.

If death occurs from a work-related accident, the spouse will receive a monthly benefit payable until death or remarriage based on the accrued normal retirement benefits, actuarially reduced for a joint and 50% to contingent option. This benefit is in lieu of the return of participant's contributions.

10. Death Benefits:

Before Retirement: (continued)

If death occurs after normal retirement age but before actual retirement age and the participant was actively at work, the spouse will receive a monthly benefit payable until death or remarriage based on the accrued normal retirement benefit actuarially reduced for a joint and 50% contingent option. This benefit is in lieu of return of participant's contributions.

After Retirement:

Return of participant's contributions with interest to retirement less benefits received. Interest credits follow those for death and vesting.

11. Form of Retirement Payment:

Retirement benefits are payable for the life of the participant unless option elected.

Options are available for normal, deferred, and early retirement and must be elected at least one year in advance of retirement. Options are:

1) Five, ten, or fifteen years certain and life annuity.

2) Joint and 50% contingent annuity.

The benefits under the options are determined on an actuarial equivalent basis.

12. Retired Participants:

Monthly benefits for participants receiving benefits on 12-31-74 have been increased as follows:

| Retired | Date of Increase | Monthly Increase |
|---|---|---|
| By 12-31-71: | 1-1-75 | $15.00* |
| | 1-1-76 | 7.50 |
| | 1-1-77 | 7.50 |
| 1-1-72 to 6-30-73: | 1-1-76 | 7.50 |
| | 1-1-77 | 7.50 |
| 7-1-73 to 12-31-74: | 1-1-77 | 7.50 |

12. Retired Participants: (continued)

* The minimum increase is such to bring the normal monthly retirement benefit to at least $120 per month for a retired participant with 20 years of service or for any disabled participant.

If any actuarial adjustment (including early reduction, Option A or Option B) has been selected, the increases are reduced to the actuarial equivalent of the normal form of payment.

13. Contribution Rate:

Since amendment of the Plan as of January 1, 1960, employees contribute one-third and the employer two-thirds of the amounts necessary to fund current service as it accrues and to fund past service over a period of years.

Contribution rates expressed as a percentage of compensation have been as follows:

| Fiscal Year Ending June 30 | Employer | Employee |
|---|---|---|
| 1950 | 4.50% | 2.25% |
| 1951 | 5.00 | 2.50 |
| 1952 to 1955 | 8.50 | 4.25 |
| 1956 to 1960 | 11.00 | 5.50 |
| 6 Months Ending 12-31-60 | 11.00 | 5.50 |
| 1-1-61 to 1977 | 9.80 | 4.90 |

GVS Minnesota Memorandum No. 77-4
September 23, 1977

# TWIN CITY LINES VALUATION AS OF JANUARY 1, 1977

The purpose of this memorandum is to discuss the valuation report of the Twin City Lines Employees' Retirement Plan as of January 1, 1977. The valuation was made on the basis of the entry age normal cost method and assuming 5% interest. The current valuation was prepared by James R. Bordewick and Stephen A. Robb of Stennes and Associates.

This memorandum contains the following:

1. Statistical and Valuation Data
2. Discussion of Valuation Results
3. Conclusion

## 1. Statistical and Valuation Data

Results of the valuation reports as of January 1, 1976 and January 1, 1977 are shown for comparative purposes. Figures are rounded where necessary for simplicity of presentation.

| | As of January 1, 1976 | As of January 1, 1977 |
|---|---|---|
| (1) Membership | | |
| Active Members | 1,805 | 2,008 |
| Retired Members | 570 | 561 |
| Disabled Members | 107 | 109 |
| Deferred Annuitants | 6 | 5 |
| (2) Payroll and Annuities Payable | (Thousands of Dollars) | |
| Covered Payroll | $23,647 | $29,156 |
| Annuities (Annual) | 1,510 | 1,547 |
| (3) Valuation Balance Sheet | (Thousands of Dollars) | |
| Accrued Liability | $29,602 | $31,384 |
| Assets | 13,062 | 16,377 |
| Unfunded Accrued Liability (Deficit) | $16,540 | $15,007 |
| Funding Ratio (Assets/Accrued Liability) | 44.1% | 52.2% |

| | As of January 1, 1976 | As of January 1, 1977 |
|---|---|---|
| (4) Normal Costs and Funding Costs | | |
| | Percent of Payroll | |
| Normal Cost | 5.76% | 5.70% |
| Expenses | .08 | .07 |
| | 5.84% | 5.77% |
| Normal Cost Plus Expenses | 5.84% | 5.77% |
| Interest on Deficit | 3.50 | 2.57 |
| Minimum Contribution | 9.34% | 8.34% |
| Normal Cost Plus Expenses | 5.84% | 5.77% |
| Amortization by 1997 | 5.20 | 3.93 |
| Total Contribution | 11.04% | 9.70% |
| (5) Current Contributions | | |
| Employee | 4.9% | 4.9% |
| Employer | 9.8 | 9.8 |
| Total | 14.7% | 14.7% |
| (6) Estimated Investment Yield* | 5.57% | 6.12% |

*Ratio of reported investment income (net after Trustee's fee) to estimated mean assets for fiscal year.

## 2. Discussion of Valuation Results

The benefits and contributions under this plan are subject to bargaining but with the restriction that adequate financing must be maintained. The agreements provide for an employer contribution double that of the employee but without any allocation of specific portions between normal cost and amortization of the deficit. Thus, at the time of a valuation, the amortization period is the unknown quantity to be determined.

In recent years, the contribution rates have been 4.9% of pay by the employees and 9.8% by the employer. The results of the 1977 valuation indicate that the deficit will be retired by August 1, 1983. This compares with a date of August 1, 1985 indicated by the 1976 valuation.

This advance in the projected date for full funding is consistent with the results shown in the summary of funding costs given above which is presented in the same format as that used for the other funds. The decrease in the unfunded liability coupled with a 23% growth in the total payroll causes a marked reduction in the amount necessary to amortize the deficit by 1997 when this amount is expressed as a percentage of payroll.

The unfunded accrued liability decreased from $16,539,626 to $15,007,015, a decrease of $1,532,611. The Actuary for the Fund presented the following analysis of this decrease:

| | | |
|---|---|---|
| Decreases: | | |
| Net Capital Gain | $ 5,473 | |
| Excess Interest | 138,674 | |
| Amortization Contribution | 1,991,343 | |
| Total Decreases | | $2,135,490 |
| Increases: | | |
| Mortality Loss | $ 140,648 | |
| New Entrants Accrued Liability | 92,858 | |
| Salary Increases | 166,000 | |
| Other Actuarial Losses | 203,373 | |
| Total Increases | | $ 602,879 |
| Net Decrease | | $1,532,611 |

## 3. Conclusion

As stated above, the bargaining agreement stipulates benefits and contribution rates, and the purpose of a valuation is to determine the period required to amortize the unfunded accrued liability. However, the information is presented in such a manner that it can easily be translated into the form of other reports to the Commission.

As indicated above, the present level of total support is more than adequate to provide the normal cost and to amortize the deficit before 1997 (14.70% vs. 9.70%).

Franklin C. Smith
Associate, Society of Actuaries
STENNES & ASSOCIATES
Commission Actuaries

FCS:rd

METROPOLITAN TRANSIT COMMISSION/TRANSIT OPERATING DIVISION

EMPLOYEE RETIREMENT PLAN

## PLAN OUTLINE

| | |
|---|---|
| Effective Date of Plan: | July 1, 1944, restated in its entirety on January 1, 1950. |
| Date of Last Amendment: | January 1, 1975. |
| Plan Year: | January 1 through December 31. |

### Major Plan Provisions

| | |
|---|---|
| 1. Employees Covered: | All regular full-time employees of Twin Cities Area Metropolitan Transit Commission, Transit Operating Division (MTC/TOD). In addition, officers of Local Division 1005, Amalgamated Transit Union, AFL-CIO, who are on leave-of-absence from MTC/TOD are covered employees. |
| 2. Participation Requirements: | Covered employees are eligible to participate on their date of hire providing they make the required contributions. |
| 3. Continuous Service: | Full-time service from employment date. Absences under certain circumstances are not considered a break-in-service providing they do not exceed three consecutive years. The time of absence in certain circumstances in excess of three consecutive years is deducted from Continuous Service. |
| 4. Past Service: | Continuous service prior to January 1, 1950. If service prior to this date was broken and the period of the break did not exceed five years, post and pre-break service are aggregated. |

5. Compensation:

Total earnings paid during a plan year with adjusted definitions applied to full-time and part-time officers of Local Division 1005, Amalgamated Transit Union, AFL-CIO.

Past service commission is defined as $3,120, $3,480, or total earnings paid in the best year out of the last five years of employment prior to January 1, 1950 depending on occupational group.

6. Timing for Benefit Payments:

First day of the month following satisfaction of requirements for payment.

7. Retirement Dates:

Normal Retirement:

Age 65.

Deferred Retirement:

Allowed with approval of MTD/TOD but not beyond age 70.

Early Retirement:

Age 55.

Disability Retirement:

Totally and permanently disabled for any type of work or is unable to return to work after receiving 26 weeks of benefits under any MTC/TOD accident and sickness plan or under Workman's Compensation, with at least 10 years of continuous service. Only 5 years of continuous service is required if the disability resulted from a work-related accident.

8. Monthly Retirement Amounts:

Normal Retirement:

| | |
|---|---|
| Past Service: | 1% of past service compensation for each year of past service; |
| Future Service: | 1.25% of compensation for service between January 1, 1950 and December 31, 1964; |
| Future Service: | 1.5% of compensation for service January 1, 1965 and after; |

or, if greater, the following dollar per year of service benefit:

8. Monthly Retirement Amounts:

Normal Retirement: (continued)

Monthly Retirement Benefit per Year of Continuous Service

| Continuous Service | Retiring 1-1-75 to 6-30-76 | Retiring 7-1-76 to 12-31-77 |
|---|---|---|
| 1st 15 Years | $ 9.50 | $10.00 |
| Next 15 Years | 11.50 | 12.00 |
| Excess over 30 Years | 12.50 | 13.00 |

In either case, the benefit is minimized at $150 per month for a participant with 20 years of continuous service proportionately reduced for less than 20 years of continuous service. The normal retirement benefit is maximized at $625 per month.

The accrued normal retirement benefit referred to hereafter is equal to the normal retirement benefit based on service and compensation to date of occurrence.

Deferred Retirement:

Same as normal retirement benefit with continued accrual of service and benefits after age 65 to date of retirement.

Early Retirement:

Age 55 with less than 35 years of continuous service: Greater of accrued normal retirement benefit or minimum normal retirement benefit reduced 5% for each year that payment date precedes age 65.

Age 55 with 35 or more years of continuous service: Greater of accrued normal retirement benefit or minimum normal retirement benefit reduced by 2½% for each year that payment date precedes the following ages:

| Retirement In: | Reduction from Age: |
|---|---|
| 1975 | 65 |
| 1976 | 63 |
| 1977 | 62 |

Age 60 with 30 or more years of continuous service: Greater of accrued normal retirement benefit or minimum normal retirement benefit without percentage reduction.

8. Monthly Retirement Amounts:

Disability Retirement:

Greater of the accrued normal retirement benefit or the following minimums:

| Retirement In: | Monthly Benefit |
|---|---|
| 1975 | $125 |
| 1976 | 130 |
| 1977 | 135 |

The disability benefit will be reduced by benefits payable from any sickness and accident plan of MTC/TOD.

The maximum disability benefit payable is such that the disability benefit plus any earnings from employment cannot be greater than 85% of the current 40 hours-per-week earnings (based on top rate in job class participant held at time of disability).

9. Vesting:

Qualification:

10 years of continuous service and does not withdraw his own contributions.

Amount:

Equal to the accrued normal retirement benefit without regard to the minimum. This benefit is payable at age 65 or on a reduced basis if payments commence at age 55 or later.

In any event, the participant is vested in his accumulated contributions with interest at 2% to December 31, 1974 and 3½% thereafter less any benefits received.

10. Death Benefits:

Before Retirement:

Return of participant's contributions with interest at 2% to December 31, 1974 and 3½% thereafter less any benefits received.

If death occurs from a work-related accident, the spouse will receive a monthly benefit payable until death or remarriage based on the accrued normal retirement benefits, actuarially reduced for a joint and 50% to contingent option. This benefit is in lieu of the return of participant's contributions.

10. Death Benefits:

Before Retirement: (continued)

If death occurs after normal retirement age but before actual retirement age and the participant was actively at work, the spouse will receive a monthly benefit payable until death or remarriage based on the accrued normal retirement benefit actuarially reduced for a joint and 50% contingent option. This benefit is in lieu of return of participant's contributions.

After Retirement:

Return of participant's contributions with interest to retirement less benefits received. Interest credits follow those for death and vesting.

11. Form of Retirement Payment:

Retirement benefits are payable for the life of the participant unless option elected.

Options are available for normal, deferred, and early retirement and must be elected at least one year in advance of retirement. Options are:

1) Five, ten, or fifteen years certain and life annuity.

2) Joint and 50% contingent annuity.

The benefits under the options are determined on an actuarial equivalent basis.

12. Retired Participants:

Monthly benefits for participants receiving benefits on 12-31-74 have been increased as follows:

| Retired | Date of Increase | Monthly Increase |
|---|---|---|
| By 12-31-71: | 1-1-75 | $15.00* |
| | 1-1-76 | 7.50 |
| | 1-1-77 | 7.50 |
| 1-1-72 to 6-30-73: | 1-1-76 | 7.50 |
| | 1-1-77 | 7.50 |
| 7-1-73 to 12-31-74: | 1-1-77 | 7.50 |

12. Retired Participants: (continued)

* The minimum increase is such to bring the normal monthly retirement benefit to at least $120 per month for a retired participant with 20 years of service or for any disabled participant.

If any actuarial adjustment (including early reduction, Option A or Option B) has been selected, the increases are reduced to the actuarial equivalent of the normal form of payment.

13. Contribution Rate:

Since amendment of the Plan as of January 1, 1960, employees contribute one-third and the employer two-thirds of the amounts necessary to fund current service as it accrues and to fund past service over a period of years.

Contribution rates expressed as a percentage of compensation have been as follows:

| Fiscal Year Ending June 30 | Employer | Employee |
|---|---|---|
| 1950 | 4.50% | 2.25% |
| 1951 | 5.00 | 2.50 |
| 1952 to 1955 | 8.50 | 4.25 |
| 1956 to 1960 | 11.00 | 5.50 |
| 6 Months Ending 12-31-60 | 11.00 | 5.50 |
| 1-1-61 to 1977 | 9.80 | 4.90 |