ALASKA
TEACHERS RETIREMENT SYSTEM

ALASKA TEACHERS RETIREMENT SYSTEM

Actuarial Valuation
as of
June 30, 1972

Actuarial Valuation
as of
June 30, 1972

MARSH & McLennan
MARSH & McLENNAN
March 12, 1973

Mr. Joseph R. Henri
Commissioner of Administration
State of Alaska
Pouch C
Juneau, Alaska 99801

Dear Commissioner Henri:

At your request, we have completed an actuarial valuation of the Alaska Teachers' Retirement System as of June 30, 1972, in order to examine the financial status of the System and to determine the Employer-State contribution rates for the 1973-74 year.

The results of our valuation are included in this report, based upon employee data and financial information supplied by your department.

On the basis of this data and the actuarial method and assumptions described in this report, I certify that, to the best of my knowledge and belief, the attached statements are true and correct.

Respectfully submitted,

[Signature]
Norman S. Loek, FSA
Actuary

NSL:dk
Attachments
# Table of Contents

<table>
<thead>
<tr>
<th>Section/Appendix</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SECTION I</td>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>SECTION II</td>
<td>ANALYSIS OF VALUATION</td>
<td>3</td>
</tr>
<tr>
<td>SECTION III</td>
<td>CONCLUSIONS &amp; RECOMMENDATIONS</td>
<td>7</td>
</tr>
<tr>
<td>APPENDIX 1</td>
<td>ACTUARIAL METHOD</td>
<td>8</td>
</tr>
<tr>
<td>APPENDIX 2</td>
<td>ACTUARIAL ASSUMPTIONS</td>
<td>11</td>
</tr>
<tr>
<td>APPENDIX 3</td>
<td>PARTICIPANT DATA</td>
<td>16</td>
</tr>
<tr>
<td>APPENDIX 4</td>
<td>ACTUARIAL DETERMINATIONS</td>
<td>20</td>
</tr>
<tr>
<td>APPENDIX 5</td>
<td>SUMMARY OF THE PLAN</td>
<td>23</td>
</tr>
<tr>
<td>EXHIBIT 1</td>
<td></td>
<td>21</td>
</tr>
<tr>
<td>EXHIBIT 2</td>
<td></td>
<td>22</td>
</tr>
</tbody>
</table>
In accordance with your request, we have completed a valuation of the Alaska Teachers' Retirement System as of June 30, 1972. The purpose of this valuation is to examine the status of the funding of the System and to establish the pension cost as a percentage of payroll for the year beginning July 1, 1973.

Several changes have been made in the System by the legislature since the previous valuation. The changes which affect the valuation significantly are as follows:

(1) Normal retirement age has been reduced to the earlier of:
   (a) The attainment of age 60 and completion of 15 years of creditable service, and
   (b) The completion of 30 years of creditable service at any age.

(2) The benefits provided under the System to current retirees were changed to provide:
   (a) For those who retired prior to July 1, 1972, the benefit is recalculated to reflect the current 2% benefit rate per year of service.
(b) For those who retired prior to July 1, 1971, the
minimum benefit has been increased to the smaller
of (i) $15 per month per year of creditable service
and (ii) $375 per month.

(3) The number of years of membership service required for
eligibility for service retirement, deferred benefits
and deferred vested benefits has been reduced from
10 years to 8 years.

The significant results of this valuation are as follows:

(1) Pension Cost

<table>
<thead>
<tr>
<th></th>
<th>Combined Employer-State Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dollar Cost</td>
</tr>
<tr>
<td>(a) Previous Valuation (6-30-70) Plan then in effect</td>
<td>$4,928,849</td>
</tr>
<tr>
<td>(b) Previous Valuation (6-30-70) Current Plan</td>
<td>$5,468,065</td>
</tr>
<tr>
<td>(c) Current Valuation</td>
<td>$7,930,410</td>
</tr>
</tbody>
</table>

(2) Funding Status - Accrued benefit basis

<table>
<thead>
<tr>
<th></th>
<th>(1) Present Value of Accrued Benefits</th>
<th>(2) Assets</th>
<th>(3) Funding Ratio (2)/(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous Valuation (6-30-70)</td>
<td>$75,862,766</td>
<td>$32,623,566</td>
<td>43%</td>
</tr>
<tr>
<td>Current Valuation</td>
<td>$102,785,432</td>
<td>$58,399,066</td>
<td>57%</td>
</tr>
</tbody>
</table>
SECTION II
ANALYSIS OF VALUATION

I. Actuarial Assumptions

The actuarial assumptions used in this valuation (which are fully described in Appendix 2) are nearly identical to those used in the previous valuation of the System.

The most significant of the assumptions in terms of their effect on pension liabilities are the assumptions regarding projected future salaries, levels of turnover and the long term investment performance of the fund.

In essence, the salary scale used reflects the following rates of annual salary increases:

(a) Ages 20 - 39; 4%
(b) Ages 40 - 49; 2%
(c) Ages 50 and over; 1%

Clearly, these projections understate the increases in pay levels over the last few years. To the extent that salaries increase at rates in excess of those used here, actuarial losses will accrue.

The single change in the actuarial assumptions used in this valuation is an increase in the rate of investment return from 4-3/4% per annum to 5%.
This change was effected in view of the current active level of management of the assets of the fund. This is indeed an encouraging sign in that investment return can be a strong influence in controlling Employer-State contribution requirements. To the extent that the investment return on the fund exceeds that assumed, actuarial gains accrue to the System.

The level of turnover among the members of the System affects the number of individuals who may ultimately receive benefits from the System. To the extent that actual turnover exceeds our expectations, actuarial gains accrue to the System. To the extent that expected turnover exceeds actual experience, actuarial losses accrue. The fact that former members may return and reinstate their previous service credit and the 8 year vesting provision soften the effect of any potential actuarial gains from turnover.

II. Member Data
As you know, we performed no actuarial valuation of the Alaska Teachers' Retirement System as of June 30, 1971. The reason that no such valuation was performed was that the information available on members of the System was in extremely poor shape. A large percentage of the records provided were incomplete in some respect.

In the previous year (June 30, 1970), the data was not much better. Out of a total of 6,249 records on active members, only 3,810 (or 61%) were complete.
This year the information provided is somewhat better. The member data files are the subject of a complete review with an eye to:

(1) Cleaning up the current information available, and

(2) Ensuring that the files remain in good order.

The review was not yet complete when the membership information for this valuation was requested. However, the data provided was of significantly higher quality than that provided in previous years.

Out of a total of 7,859 records provided with respect to active members, 5,504 (or 70%) are complete. In addition, from collateral salary information available it appears that most of the 2,355 records which are defective are duplicates of good records. Thus, we have a set of data which is significantly superior to those provided in previous years.

III. Results of Valuation

Based upon this actuarial valuation of the System, the required Employer-State contribution rate is 10.29% of covered pay. These are based upon improved data and upon a more liberal investment return assumption. It relates to our estimate of 10.24% of covered pay based upon our 1970 valuation.

The difference is the result of several factors. First, the fact that the average age of the covered group is over two years younger than that of the 1970 group and the increase in the assumed rate of investment return tended to reduce the contribution rate. However,
it is clear that the increase in the value of benefits due to changes in the System since our last valuation was somewhat understated. In addition, there was a substantial increase (36.5%) in average salaries used in this valuation over those used in the previous valuation. This tends to generate actuarial losses which will tend to increase contribution levels.
SECTION III
CONCLUSIONS AND RECOMMENDATIONS

In accordance with the results of this valuation, we recommend that the total Employer-State contribution be established at 10.29% of member's payrolls. This contribution is in excess of the maximum contribution which may currently be shared by the State and the employer.

In 1970 the System was amended substantially in order that larger benefits be provided and that the System be placed in actuarial balance. There was substantial concern that the System was not in actuarial balance. At that time there was substantial actuarial deficit between the value of assets plus the value of expected contributions and the value of benefits. The legislation that year provided for proper contributions under the System. With changes in the System enacted since June 30, 1970, we once again have the possibility of an actuarial deficiency. The recommended Employer-State contribution level of 10.29% is well in excess of the current maximum of 10%. If legislation is passed in the current session to further liberalize the System, this deficit could increase significantly.

I would urge that the legislature act to increase or eliminate the contribution maximum so that the Alaska Teachers' Retirement System can once again operate on a sound funding basis.
APPENDIX 1

ACTUARIAL METHOD
The actuarial method used in this valuation is known as the Aggregate Method. Under this method, the Employer-State cost is determined as follows:

1. The present value of all benefits accrued and expected to be earned in the future are calculated, taking into account expected levels of mortality, turnover, disability and investment performance.

2. Such present value of benefits is reduced by the sum of:
   (a) The assets of the fund, and
   (b) The present value of future employee contributions (including arrearage contributions), taking into account the same items as enumerated in (1) above.

The remainder is the portion of the present value of future benefits to be funded by Employer-State contributions and is called the "Present Value of Future Contributions from the Employer and the State."

3. The Estimated Contribution from the Employer and the State is determined by multiplying the Present Value of Future Contributions for the Employer and the State by a factor which spreads that present value of contributions over 16 years.
The Contribution by the Employer and the State expressed as a percentage of salaries is then determined by dividing the Estimated Contribution by the total Member Salaries used in the valuation.

This method effectively spreads the portion of the total projected present value of benefits to be financed by future Employer-State contributions over sixteen years. It has the advantage that the effect of actuarial gains and losses (which arise from actual experience that deviates from the actuarial assumptions used) is automatically spread over this period.
APPENDIX 2

ACTUARIAL ASSUMPTIONS
ACTUARIAL ASSUMPTIONS

1. Investment Yield - 5% per annum.

2. Mortality - According to 1951 Group Annuity Mortality Table rates projected to 1955 by projection "C". (Female mortality same as male mortality with ages set back 5 years.)


5. Rate of Mortality after Disability - According to the 1956 Railway Retirement Board Tables.

6. Rates of Salary Increase - See Page 15.

7. Normal Retirement Age - Earlier of age 60 with 15 years of service and 30 years of service at any age.

8. Asset Valuation - Cost basis.
### TEACHERS' RETIREMENT SYSTEM
STATE OF ALASKA

#### SEPARATION RATES
ANNUAL RATES PER 1,000 EMPLOYEES

<table>
<thead>
<tr>
<th>Age</th>
<th>Rate</th>
<th>Age</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>165.0</td>
<td>40</td>
<td>100.0</td>
</tr>
<tr>
<td>21</td>
<td>162.0</td>
<td>41</td>
<td>95.0</td>
</tr>
<tr>
<td>22</td>
<td>160.0</td>
<td>42</td>
<td>90.0</td>
</tr>
<tr>
<td>23</td>
<td>158.0</td>
<td>43</td>
<td>85.0</td>
</tr>
<tr>
<td>24</td>
<td>155.0</td>
<td>44</td>
<td>80.0</td>
</tr>
<tr>
<td>25</td>
<td>152.0</td>
<td>45</td>
<td>75.0</td>
</tr>
<tr>
<td>26</td>
<td>149.5</td>
<td>46</td>
<td>70.0</td>
</tr>
<tr>
<td>27</td>
<td>146.0</td>
<td>47</td>
<td>65.0</td>
</tr>
<tr>
<td>28</td>
<td>142.5</td>
<td>48</td>
<td>60.0</td>
</tr>
<tr>
<td>29</td>
<td>140.0</td>
<td>49</td>
<td>55.0</td>
</tr>
<tr>
<td>30</td>
<td>137.0</td>
<td>50</td>
<td>45.0</td>
</tr>
<tr>
<td>31</td>
<td>132.5</td>
<td>51</td>
<td>35.0</td>
</tr>
<tr>
<td>32</td>
<td>130.0</td>
<td>52</td>
<td>25.0</td>
</tr>
<tr>
<td>33</td>
<td>127.5</td>
<td>53</td>
<td>15.0</td>
</tr>
<tr>
<td>34</td>
<td>125.0</td>
<td>54</td>
<td>5.0</td>
</tr>
<tr>
<td>35</td>
<td>120.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>116.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>112.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>108.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>104.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TEACHERS' RETIREMENT SYSTEM
STATE OF ALASKA

DISABILITY RATES

ANNUAL RATES PER 1,000 EMPLOYEES

<table>
<thead>
<tr>
<th>Age</th>
<th>Rate</th>
<th>Age</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>.70</td>
<td>45</td>
<td>1.62</td>
</tr>
<tr>
<td>21</td>
<td>.71</td>
<td>46</td>
<td>1.76</td>
</tr>
<tr>
<td>22</td>
<td>.72</td>
<td>47</td>
<td>1.91</td>
</tr>
<tr>
<td>23</td>
<td>.73</td>
<td>48</td>
<td>2.07</td>
</tr>
<tr>
<td>24</td>
<td>.74</td>
<td>49</td>
<td>2.23</td>
</tr>
<tr>
<td>25</td>
<td>.75</td>
<td>50</td>
<td>2.40</td>
</tr>
<tr>
<td>26</td>
<td>.76</td>
<td>51</td>
<td>2.60</td>
</tr>
<tr>
<td>27</td>
<td>.78</td>
<td>52</td>
<td>2.86</td>
</tr>
<tr>
<td>28</td>
<td>.80</td>
<td>53</td>
<td>3.18</td>
</tr>
<tr>
<td>29</td>
<td>.82</td>
<td>54</td>
<td>3.56</td>
</tr>
<tr>
<td>30</td>
<td>.84</td>
<td>55</td>
<td>4.00</td>
</tr>
<tr>
<td>31</td>
<td>.86</td>
<td>56</td>
<td>4.59</td>
</tr>
<tr>
<td>32</td>
<td>.88</td>
<td>57</td>
<td>5.34</td>
</tr>
<tr>
<td>33</td>
<td>.90</td>
<td>58</td>
<td>6.10</td>
</tr>
<tr>
<td>34</td>
<td>.93</td>
<td>59</td>
<td>7.20</td>
</tr>
<tr>
<td>35</td>
<td>.96</td>
<td>60</td>
<td>8.43</td>
</tr>
<tr>
<td>36</td>
<td>.99</td>
<td>61</td>
<td>9.75</td>
</tr>
<tr>
<td>37</td>
<td>1.03</td>
<td>62</td>
<td>11.30</td>
</tr>
<tr>
<td>38</td>
<td>1.07</td>
<td>63</td>
<td>13.05</td>
</tr>
<tr>
<td>39</td>
<td>1.11</td>
<td>64</td>
<td>14.90</td>
</tr>
<tr>
<td>40</td>
<td>1.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>1.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>1.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>1.36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>1.48</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**TEACHERS' RETIREMENT SYSTEM**  
**STATE OF ALASKA**

**SALARY INCREASE SCALE**

<table>
<thead>
<tr>
<th>Age</th>
<th>Scale</th>
<th>Age</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>.3225</td>
<td>45</td>
<td>.7801</td>
</tr>
<tr>
<td>21</td>
<td>.3354</td>
<td>46</td>
<td>.7957</td>
</tr>
<tr>
<td>22</td>
<td>.3488</td>
<td>47</td>
<td>.8116</td>
</tr>
<tr>
<td>23</td>
<td>.3627</td>
<td>48</td>
<td>.8279</td>
</tr>
<tr>
<td>24</td>
<td>.3773</td>
<td>49</td>
<td>.8444</td>
</tr>
<tr>
<td>25</td>
<td>.3923</td>
<td>50</td>
<td>.8613</td>
</tr>
<tr>
<td>26</td>
<td>.4080</td>
<td>51</td>
<td>.8700</td>
</tr>
<tr>
<td>27</td>
<td>.4244</td>
<td>52</td>
<td>.8787</td>
</tr>
<tr>
<td>28</td>
<td>.4413</td>
<td>53</td>
<td>.8874</td>
</tr>
<tr>
<td>29</td>
<td>.4590</td>
<td>54</td>
<td>.8963</td>
</tr>
<tr>
<td>30</td>
<td>.4774</td>
<td>55</td>
<td>.9053</td>
</tr>
<tr>
<td>31</td>
<td>.4964</td>
<td>56</td>
<td>.9143</td>
</tr>
<tr>
<td>32</td>
<td>.5163</td>
<td>57</td>
<td>.9235</td>
</tr>
<tr>
<td>33</td>
<td>.5370</td>
<td>58</td>
<td>.9327</td>
</tr>
<tr>
<td>34</td>
<td>.5584</td>
<td>59</td>
<td>.9420</td>
</tr>
<tr>
<td>35</td>
<td>.5808</td>
<td>60</td>
<td>.9515</td>
</tr>
<tr>
<td>36</td>
<td>.6040</td>
<td>61</td>
<td>.9610</td>
</tr>
<tr>
<td>37</td>
<td>.6282</td>
<td>62</td>
<td>.9706</td>
</tr>
<tr>
<td>38</td>
<td>.6533</td>
<td>63</td>
<td>.9803</td>
</tr>
<tr>
<td>39</td>
<td>.6794</td>
<td>64</td>
<td>.9901</td>
</tr>
<tr>
<td>40</td>
<td>.7066</td>
<td>65</td>
<td>1.0000</td>
</tr>
<tr>
<td>41</td>
<td>.7207</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>.7351</td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>.7498</td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>.7648</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX 3

PARTICIPANT DATA
### Table A: Annual Earnings by Age Groups

<table>
<thead>
<tr>
<th>AGE</th>
<th>MALE</th>
<th>FEMALE</th>
<th>TOTAL</th>
<th>MALE</th>
<th>FEMALE</th>
<th>TOTAL</th>
<th>MALE</th>
<th>FEMALE</th>
<th>TOTAL</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-24</td>
<td>128</td>
<td>3526537</td>
<td>10961</td>
<td>0</td>
<td>3526537</td>
<td>10961</td>
<td>0</td>
<td>3526537</td>
<td>10961</td>
<td>10459</td>
</tr>
<tr>
<td>25-29</td>
<td>576</td>
<td>10367755</td>
<td>12527</td>
<td>0</td>
<td>10367755</td>
<td>12527</td>
<td>0</td>
<td>10367755</td>
<td>12527</td>
<td>11640</td>
</tr>
<tr>
<td>30-34</td>
<td>622</td>
<td>677394</td>
<td>15132</td>
<td>0</td>
<td>677394</td>
<td>15132</td>
<td>0</td>
<td>677394</td>
<td>15132</td>
<td>14151</td>
</tr>
<tr>
<td>35-39</td>
<td>411</td>
<td>4027776</td>
<td>17042</td>
<td>0</td>
<td>4027776</td>
<td>17042</td>
<td>0</td>
<td>4027776</td>
<td>17042</td>
<td>15990</td>
</tr>
<tr>
<td>40-44</td>
<td>204</td>
<td>4197735</td>
<td>10902</td>
<td>0</td>
<td>4197735</td>
<td>10902</td>
<td>0</td>
<td>4197735</td>
<td>10902</td>
<td>16910</td>
</tr>
<tr>
<td>45-49</td>
<td>195</td>
<td>3227290</td>
<td>20123</td>
<td>0</td>
<td>3227290</td>
<td>20123</td>
<td>0</td>
<td>3227290</td>
<td>20123</td>
<td>17737</td>
</tr>
<tr>
<td>50-54</td>
<td>143</td>
<td>3443967</td>
<td>19633</td>
<td>0</td>
<td>3443967</td>
<td>19633</td>
<td>0</td>
<td>3443967</td>
<td>19633</td>
<td>17436</td>
</tr>
<tr>
<td>55-59</td>
<td>74</td>
<td>2494542</td>
<td>20050</td>
<td>0</td>
<td>2494542</td>
<td>20050</td>
<td>0</td>
<td>2494542</td>
<td>20050</td>
<td>17448</td>
</tr>
<tr>
<td>60-64</td>
<td>23</td>
<td>1305247</td>
<td>19320</td>
<td>0</td>
<td>1305247</td>
<td>19320</td>
<td>0</td>
<td>1305247</td>
<td>19320</td>
<td>17524</td>
</tr>
<tr>
<td>65-69</td>
<td>7</td>
<td>12813</td>
<td>2660</td>
<td>0</td>
<td>12813</td>
<td>2660</td>
<td>0</td>
<td>12813</td>
<td>2660</td>
<td>14337</td>
</tr>
<tr>
<td>70+</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2498</td>
<td>39930898</td>
<td>15946</td>
<td>3323</td>
<td>39977841</td>
<td>13215</td>
<td>3304</td>
<td>7358737</td>
<td>14446</td>
<td></td>
</tr>
</tbody>
</table>

### Table B: Annual Earnings by Service Groups

<table>
<thead>
<tr>
<th>SERVICE GROUP</th>
<th>MALE</th>
<th>FEMALE</th>
<th>TOTAL</th>
<th>MALE</th>
<th>FEMALE</th>
<th>TOTAL</th>
<th>MALE</th>
<th>FEMALE</th>
<th>TOTAL</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>272</td>
<td>327418</td>
<td>12233</td>
<td>0</td>
<td>327418</td>
<td>12233</td>
<td>0</td>
<td>327418</td>
<td>12233</td>
<td>11680</td>
</tr>
<tr>
<td>5-9</td>
<td>225</td>
<td>318294</td>
<td>12791</td>
<td>0</td>
<td>318294</td>
<td>12791</td>
<td>0</td>
<td>318294</td>
<td>12791</td>
<td>11506</td>
</tr>
<tr>
<td>10-14</td>
<td>220</td>
<td>228143</td>
<td>13164</td>
<td>0</td>
<td>228143</td>
<td>13164</td>
<td>0</td>
<td>228143</td>
<td>13164</td>
<td>11530</td>
</tr>
<tr>
<td>15-19</td>
<td>161</td>
<td>255523</td>
<td>14117</td>
<td>0</td>
<td>255523</td>
<td>14117</td>
<td>0</td>
<td>255523</td>
<td>14117</td>
<td>11681</td>
</tr>
<tr>
<td>20-24</td>
<td>138</td>
<td>2071650</td>
<td>15012</td>
<td>0</td>
<td>2071650</td>
<td>15012</td>
<td>0</td>
<td>2071650</td>
<td>15012</td>
<td>13482</td>
</tr>
<tr>
<td>25-29</td>
<td>1056</td>
<td>1438523</td>
<td>13269</td>
<td>0</td>
<td>1438523</td>
<td>13269</td>
<td>0</td>
<td>1438523</td>
<td>13269</td>
<td>11231</td>
</tr>
<tr>
<td>30-34</td>
<td>694</td>
<td>1136408</td>
<td>15375</td>
<td>0</td>
<td>1136408</td>
<td>15375</td>
<td>0</td>
<td>1136408</td>
<td>15375</td>
<td>14119</td>
</tr>
<tr>
<td>35-39</td>
<td>429</td>
<td>613193</td>
<td>16624</td>
<td>0</td>
<td>613193</td>
<td>16624</td>
<td>0</td>
<td>613193</td>
<td>16624</td>
<td>14117</td>
</tr>
<tr>
<td>40-44</td>
<td>194</td>
<td>3697793</td>
<td>16443</td>
<td>0</td>
<td>3697793</td>
<td>16443</td>
<td>0</td>
<td>3697793</td>
<td>16443</td>
<td>14119</td>
</tr>
<tr>
<td>45-49</td>
<td>76</td>
<td>2311545</td>
<td>17512</td>
<td>0</td>
<td>2311545</td>
<td>17512</td>
<td>0</td>
<td>2311545</td>
<td>17512</td>
<td>15972</td>
</tr>
<tr>
<td>50-54</td>
<td>21</td>
<td>432451</td>
<td>21450</td>
<td>0</td>
<td>432451</td>
<td>21450</td>
<td>0</td>
<td>432451</td>
<td>21450</td>
<td>13078</td>
</tr>
<tr>
<td>55-59</td>
<td>1</td>
<td>18153</td>
<td>18153</td>
<td>0</td>
<td>18153</td>
<td>18153</td>
<td>0</td>
<td>18153</td>
<td>18153</td>
<td>19735</td>
</tr>
<tr>
<td>60+</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3051</td>
<td>5958087</td>
<td>15946</td>
<td>3325</td>
<td>5967788</td>
<td>13216</td>
<td>3304</td>
<td>7358737</td>
<td>14446</td>
<td></td>
</tr>
<tr>
<td>Age Group</td>
<td>0-4</td>
<td>5-9</td>
<td>10-14</td>
<td>15-19</td>
<td>20-24</td>
<td>25-29</td>
<td>30-34</td>
<td>35-39</td>
<td>40+</td>
<td>Total</td>
</tr>
<tr>
<td>-----------</td>
<td>-----</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>-------</td>
</tr>
<tr>
<td>0-19</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>20-24</td>
<td>471</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>471</td>
</tr>
<tr>
<td>25-29</td>
<td>1142</td>
<td>299</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1444</td>
</tr>
<tr>
<td>30-34</td>
<td>401</td>
<td>579</td>
<td>92</td>
<td>37</td>
<td>34</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>1133</td>
</tr>
<tr>
<td>35-39</td>
<td>201</td>
<td>249</td>
<td>267</td>
<td>34</td>
<td>113</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>359</td>
</tr>
<tr>
<td>40-44</td>
<td>108</td>
<td>131</td>
<td>211</td>
<td>113</td>
<td>26</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>262</td>
</tr>
<tr>
<td>45-49</td>
<td>30</td>
<td>78</td>
<td>110</td>
<td>105</td>
<td>44</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>238</td>
</tr>
<tr>
<td>50-54</td>
<td>45</td>
<td>58</td>
<td>67</td>
<td>31</td>
<td>53</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>301</td>
</tr>
<tr>
<td>55-59</td>
<td>14</td>
<td>18</td>
<td>44</td>
<td>63</td>
<td>47</td>
<td>27</td>
<td>27</td>
<td>27</td>
<td>27</td>
<td>210</td>
</tr>
<tr>
<td>60-64</td>
<td>2</td>
<td>8</td>
<td>29</td>
<td>21</td>
<td>14</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>101</td>
</tr>
<tr>
<td>65-69</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>70-74</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>75-79</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>80-84</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>85+</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2533</td>
<td>1414</td>
<td>822</td>
<td>430</td>
<td>238</td>
<td>73</td>
<td>40</td>
<td>9</td>
<td>9</td>
<td>5504</td>
</tr>
</tbody>
</table>
### MISCELLANEOUS INFORMATION

**ACTIVE MEMBERS OF THE ALASKA TEACHERS' RETIREMENT SYSTEM**

<table>
<thead>
<tr>
<th>Information as of</th>
<th>June 30, 1970</th>
<th>June 30, 1972</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Number with complete information</td>
<td>3,810</td>
<td>5,504</td>
</tr>
<tr>
<td>(2) Average Age</td>
<td>39.13 years</td>
<td>36.71 years</td>
</tr>
<tr>
<td>(3) Average Service to date</td>
<td>8.80 years</td>
<td>7.07 years</td>
</tr>
<tr>
<td>(4) Average Salary</td>
<td>$10,587</td>
<td>$14,446</td>
</tr>
</tbody>
</table>
APPENDIX 4

ACTUARIAL DETERMINATIONS
<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Present Value of Benefits (See Exhibit 2)</td>
<td>$185,501,739</td>
</tr>
<tr>
<td>2</td>
<td>Value of Assets of the Fund as of June 30, 1972</td>
<td>58,399,066</td>
</tr>
<tr>
<td>3</td>
<td>Present Value of Future Member Contributions</td>
<td>39,737,663</td>
</tr>
<tr>
<td>4</td>
<td>Present Value of Future Supplemental Contributions</td>
<td>359,749</td>
</tr>
<tr>
<td>5</td>
<td>Present Value of Future Arrearage Payments</td>
<td>1,057,387</td>
</tr>
<tr>
<td>6</td>
<td>Present Value of Future Contributions from the Employer and the State ((1)-(2)-(3)-(4)-(5))</td>
<td>85,947,874</td>
</tr>
<tr>
<td>7</td>
<td>Estimated Contribution from the Employer and the State for the 1973-74 year ((6) x .09227)</td>
<td>7,930,410</td>
</tr>
<tr>
<td>8</td>
<td>Member Salaries used in this valuation</td>
<td>77,100,560</td>
</tr>
<tr>
<td>9</td>
<td>Contribution by the Employer and the State for 1973-74 as a Percentage of Salaries ((7)/(8))</td>
<td>10.29%</td>
</tr>
</tbody>
</table>
## EXHIBIT 2

**BREAKDOWN OF PRESENT VALUE OF BENEFITS**

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Present Value of Accrued Benefit</th>
<th>Present Value of Fully Projected Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retirement Benefit</td>
<td>$62,656,230</td>
<td>$118,090,284</td>
</tr>
<tr>
<td>Disability Benefit</td>
<td>5,043,690</td>
<td>5,950,636</td>
</tr>
<tr>
<td>Death Benefits</td>
<td>1,459,422</td>
<td>3,469,363</td>
</tr>
<tr>
<td>Termination Benefits</td>
<td>11,810,302</td>
<td>36,175,677</td>
</tr>
<tr>
<td>Contributions plus interest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>for non-vested, inactive</td>
<td>5,473,885</td>
<td>5,473,885</td>
</tr>
<tr>
<td>members</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Present Value of Benefits for all Non-retired Members</td>
<td>$86,443,538</td>
<td>$169,159,845</td>
</tr>
<tr>
<td>Present Value of Benefits for Pensioners and other inactives</td>
<td>16,341,894</td>
<td>16,341,894</td>
</tr>
<tr>
<td>Total Present Value of Benefits</td>
<td>$102,785,432</td>
<td>$185,501,739</td>
</tr>
</tbody>
</table>
APPENDIX 5

SUMMARY OF THE PROVISIONS
OF THE
ALASKA TEACHERS' RETIREMENT SYSTEM
AS OF
JUNE 30, 1972
SUMMARY OF THE SYSTEM

(1) **Plan**
The Teachers' Retirement System of Alaska is a joint contributory retirement system to provide benefits for teachers of the State.

(2) **Effective Date**
June 30, 1955.

(3) **Administration of Plan**
The Commissioner of Administration is the administrator of the System; the Alaska Teachers' Retirement Fund Advisory Board makes recommendations to the Commissioner of Administration; and the Commissioner of Revenue invests the funds.

(4) **Membership**
Membership in the Alaska Teachers' Retirement System is compulsory for all eligible teachers, school nurses, principals, supervisors and superintendents contracted on a full-time basis in public schools in Alaska.

(5) **Eligibility Requirements**
A teacher is eligible to participate if he can complete at least 15 years of creditable service, 8 of which are in Alaska membership service, by the first of July following his 65th birthday.

(6) **Credited Service**
A year of service is defined to be the same as a school term which is currently a minimum of 180 days, and fractional service credit is on a daily rate basis. Credit is granted for all Alaskan public school service.
Up to 10 years of public school teaching service outside Alaska or in an institution of higher learning not under control of the Board of Regents of the University of Alaska is credited for retirement purposes. In addition, teaching service in BIA schools may be used to increase total outside and BIA service credit to 15 years. No fractional credit is granted for outside service.

(7) Contributions by Teachers
Effective July 1, 1970 each teacher shall contribute 7% of his base salary accrued from July 1 to the following June 30.

(8) Voluntary Supplemental Contributions
If a teacher wishes to make his spouse or minor children eligible for a spouse's pension and/or survivor's pension allowance he may elect to make supplemental contributions of an additional 1% of his base salary commencing not later than 30 days following the first day after October 1, 1970 on which he is entitled to make the election.

(9) Retroactive Contributions - Arrearage Contributions
If a teacher was not subject to the provisions of the Retirement Act and, at a later date became eligible for membership due to legislative changes of the eligibility requirements, the teacher may elect to receive credit for his creditable service prior to membership by submitting to the Retirement Fund an amount equal to the contributions he would have made if he had been a member of the System for any year's service after June 30, 1955 plus interest thereon. Retroactive contributions are not required for creditable membership service before June 30, 1955.
In addition, if a member wishes to receive credit under the System for service performed outside Alaska, an arrearage indebtedness is established.

(10) Employers' and State's Contributions

The employer and the state each contribute an amount equal to one-half of the amount required in addition to member contributions to finance the benefits of the System, subject to a maximum total employer-state contribution of 10% of covered payroll.

(11) Rate of Interest

When a teacher begins his third year of membership service, the total amount deposited to his account will be credited with interest at the rate prevailing during his first two years of employment. Thereafter, interest is credited to accounts at the end of each school year. Effective July 1, 1969 the interest rate was increased to 4%.

(12) Withdrawal of Contributions

If a member terminates teaching services in Alaska and does not intend to re-enter membership service at a future date, he may withdraw his contributions. A teacher withdrawing with not more than two years of membership service will receive his total accumulated contribution balance. If the withdrawing teacher has been in membership service for any part of a third year or more, he receives his total contributions plus the interest credited to his account.
(13) **Reinstatement of Contributions**

If Teachers' Retirement Contributions are withdrawn and a member subsequently resumes teaching in Alaska, he is indebted to the Teachers' Retirement Fund in the amount of the previous contributions to the System including any interest paid. The reinstatement indebtedness bears compound interest at the rate prescribed by regulation to the date of repayment or the date of retirement, whichever occurs first.

(14) **Eligibility for Service Retirement**

A teacher may apply for retirement salary if he has completed 15 years of creditable service, the last eight of which has been membership service, and has attained the age of 55 years or if he has 30 years of creditable service at any age. A retired teacher who has been receiving a disability retirement salary shall be eligible for a service retirement salary upon or after attaining age 60.

A teacher who has met all of the above requirements but who has attained the age of 65 years during a school year shall be retired on July 1 following his 65th birthday unless the teacher is retained by request of his employer. (Compulsory retirement does not apply to personnel of the University of Alaska.)

(15) **Computation of Average Base Salary**

A teacher's average base salary is determined by averaging the teacher's highest base salary which he received for any three out of the last 10 years of membership service.
(16) **Normal Retirement Benefit**

A teacher is eligible for a normal retirement benefit if he is at least 60 years of age and has completed the service credit requirements or if he has completed 30 years of creditable service. The normal retirement benefit is 2% of the teacher's highest average base salary during any three of the last 10 years of membership service multiplied by the total number of years of creditable service.

(17) **Early Retirement Benefit**

A teacher is eligible for early retirement benefits if he has completed 15 years of creditable service and has attained the age of 55. If the teacher does not apply for retirement benefits to start prior to his 60th birthday, he is eligible to receive the normal retirement benefit. If the retiring teacher elects to have payments of the benefit begin prior to his 60th birthday, the annual annuity is equal to his normal retirement benefit based on his salary history and creditable service to his retirement date, reduced by one-half of 1% per month for each month by which his age at retirement is less than 60 years.

(18) **Deferred Benefit**

A teacher is eligible for a deferred benefit if he (1) terminates his membership service after he has completed 15 years of creditable service, 8 of which are in membership service, (2) his attained age and credited service total at least 75, and (3) he does not withdraw his retirement contributions. Payment of the benefit is deferred until
the first of the month coinciding with or following the teacher's 60th birthday or the first of the month in which his application for retirement is filed, whichever is later. The amount of the deferred benefit is computed in the same manner as a normal retirement benefit, using the teacher's credited service and compensation before his termination of membership service.

(19) Deferred Vested Benefit

A teacher is eligible for a deferred vested benefit if he (1) terminates his membership after completing 8 years of membership service, and (2) he does not withdraw his retirement contributions. Payment of this benefit is deferred until the first of the month following the teacher's 60th birthday or the first of the month in which the application for benefit is filed, whichever is later.

(20) Arrearage Payment - Retired Teachers

If on the date of making application for retirement, a teacher has not paid the full amount of his indebtedness including interest to the Retirement Fund, one of the following options may be chosen:

Option 1: The retirement salary can be withheld until the amount withheld is equal to the outstanding indebtedness.

Option 2: A reduced annuity, computed by deducting 10% of the outstanding indebtedness at the time of retirement from the annual retirement salary, can
be paid to the teacher.

(21) Re-employment of a Retired Teacher
If a retired teacher is re-employed as a full-time teacher, his retirement salary will be suspended for an entire year or fraction of a year. Retirement contributions are made at the option of a retired teacher and an additional retirement benefit may be paid.

(22) Disability Retirement Benefits
A disability retirement annuity may be paid if a teacher has become permanently disabled and has at least five years of membership service. The benefit will be equal to 50% of the disabled teacher's base salary immediately prior to becoming disabled. This benefit will be increased by 10% of the teacher's base salary for each minor child up to a maximum of 4 minor children until the first day of the month in which the child ceases to be a minor. When the disabled teacher attains age 60 the disability salary will automatically terminate. A normal retirement salary will be computed as if the teacher had been in membership service during the period of disability, and a service retirement will be granted. The base salary used will be the same used in computing the disability benefit.
(23) **Cost of Living Allowance**

A retired teacher whose permanent residence is in Alaska subsequent to retirement and/or whose absence is of a temporary nature, not to exceed 6 months, for travel or vacation purposes is entitled to receive a cost of living allowance, not to exceed 10% of his annual retirement salary in addition to his retirement benefit.

(24) **Post Retirement Pension Adjustment**

This adjustment is promulgated by regulation and payable to a retired teacher when the administrator determines that the cost of living has increased and the financial condition of the fund permits payment of the adjustment. The amount of increase shall not exceed one and one-half percent for each year of retirement.

(25) **Exemption from Taxation and Process**

Teachers' retirement salaries are exempt from state and municipal taxes, are not subject to execution, attachment, garnishment or other process, but must be reported to the Internal Revenue Service for federal tax purposes.

(26) **Lump Sum Death Benefit**

Upon death of a member who has made no supplemental contributions or who made supplemental contributions for less than one year, a lump sum benefit shall be paid to the designated beneficiary.

Upon death of a teacher who was in membership service at the time of his death, the lump sum benefit is the teacher's
accumulated contributions with interest thereon to his date of death. An additional death benefit equal to $1,000 plus $100 for each year of completed service plus $500 if the teacher is survived by one or more minor children is also payable. In no case shall the additional benefit exceed $3,000.

If the teacher had received a retirement benefit prior to his death, payment shall be his accumulated contributions, plus interest, minus all benefits paid.

If a member failed to designate a beneficiary, or if no designated beneficiary survives the member, payment shall be made:

1. to his surviving spouse or if there is none surviving,
2. to his surviving children in equal parts, or if there is none surviving,
3. to his surviving parents in equal parts or, if there is none surviving,
4. to his estate.

(27) Survivor's Allowance

If a teacher dies while in service or while receiving retirement salary, is survived by one or more minor children and has made supplemental contributions for at least one year before his death, his surviving spouse is entitled to the survivor's allowance. The amount of the benefit is 35% of the teacher's
base salary immediately prior to his death or becoming disabled for his spouse and 10% for each minor child up to a maximum of 4.

(28) Spouse's Pension

If any teacher has made supplemental contributions for at least one year and dies while in service or while receiving a retirement salary or is entitled to a deferred or deferred vested benefit, the surviving spouse is entitled to receive the spouse's pension. The amount of the benefit is 50% of the service retirement salary that the deceased teacher was receiving or would have received. The spouse pension commences on the first day of the month coinciding or next following the spouse's 60th birthday and final payment is made the first day of the month in which the spouse dies or remarries.

(29) Medical Benefits

Teachers who are receiving or who are entitled to receive a service retirement salary and who are not or will not be entitled to federal Medicare benefits are guaranteed to be covered by equivalent benefits provided through insurance or the Retirement System.