# Cavanaugh Macdonald 

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Report on the Actuarial Valuation of the Employees' Retirement System of Alabama Prepared as of September 30, 2015


# Cavanaugh Macdonald <br> C O NSULTING, LLC <br> The experience and dedication you deserve 

June 24, 2016

Board of Control
Employees' Retirement System of Alabama
Montgomery, Alabama
Members of the Board:
In this report are submitted the results of the annual actuarial valuation of the assets and liabilities of the Employees' Retirement System of Alabama, prepared as of September 30, 2015 in accordance with Section 36-27-23(p) of the act governing the operation of the System.

The purpose of this report is to provide a summary of the funded status of the System as of September 30, 2015 and to recommend rates of employer contribution. While not verifying the data at the source, the actuary performed tests for consistency and reasonability.

On the basis of the valuation, it is recommended that the employer make contributions to the System for State employees (members other than State policemen) at the rate of $13.94 \%$ of payroll for Tier I members and $13.29 \%$ for Tier II members. It is also recommended that the employer make contributions to the System for State policemen at the rate of $62.48 \%$ of payroll for Tier I members and $57.33 \%$ for Tier II members for the fiscal year ending September 30, 2018. The contribution rates for local employers for the fiscal year beginning October 1, 2017 will be submitted in a separate report and will include the impact of all assumption changes and employer-elected changes through September 30, 2015.

The promised benefits of the System are included in the actuarially calculated contribution rates which are developed using the Entry Age Normal cost method. Five-year smoothed market value of assets is used for actuarial valuation purposes. Gains and losses are reflected in the unfunded actuarial accrued liability that, for State employees, is being amortized by regular annual contributions as a level percentage of payroll, on the assumption that payroll will increase by $3.25 \%$ annually. Since no hires after January 1, 2015 are eligible for benefits under the Code section covering State policemen, the unfunded actuarial accrued liability is being amortized as a level dollar amount expressed as a percentage of expected payroll. The assumptions recommended by the actuary and adopted by the Board are in the aggregate reasonably related to the experience under the System and to reasonable expectations of anticipated experience under the System. The assumptions and methods used for funding purposes meet the parameters outlined in the Board's funding policy.

In this report we provide the following information and supporting schedules in the Actuarial and Statistical Sections of the Comprehensive Annual Financial Report (CAFR):

- Summary of Actuarial Assumptions and Methods
- Actuarial Cost Method
- Summary of Plan Provisions as Interpreted for Valuation Purposes
- Schedule of Funding Progress
- Solvency Test
- Schedule of Active Member Valuation Data

We also provide the following schedules for the CAFR in a separate supplemental report:

- Analysis of Actuarial Gains and Losses
- Schedule of Retirants and Beneficiaries Added and Removed from Rolls
-Retired Members by Type of Benefit as of September 30, 2014
-Ten-Year History of Average Monthly Benefit Payments as of September 30
The necessary GASB Statements No. 67 and 68 disclosure information is provided in separate supplemental reports.

This is to certify that the independent consulting actuary is a member of the American Academy of Actuaries and has experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

The actuarial computations presented in this report are for purposes of determining the recommended funding amount for the System. Use of these computations for purposes other than meeting these requirements may not be appropriate.

In our opinion the System is operating on an actuarially sound basis. Assuming that contributions to the System are made by the employer from year to year in the future at the rates recommended on the basis of the successive actuarial valuations, the continued sufficiency of the retirement fund to provide the benefits called for under the System may be safely anticipated.

The Table of Contents, which immediately follows, outlines the material contained in the report.
Respectfully submitted,


Edward A. Macdonald, ASA, FCA, MAAA President


John J. Garrett, ASA, FCA, MAAA
Principal and Consulting Actuary
EAM/CT/JJG:jcj


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## REPORT ON THE ACTUARIAL VALUATION OF THE EMPLOYEES' RETIREMENT SYSTEM OF ALABAMA PREPARED AS OF SEPTEMBER 30, 2015

## SECTION I-SUMMARY OF PRINCIPAL RESULTS

1. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results for State Employees, Local Employees and State Policemen are summarized below:

SUMMARY OF PRINCIPAL RESULTS FOR STATE EMPLOYEES

| VALUATION DATE | September 30, 2015 |  | September 30, 2014 |  |
| :---: | :---: | :---: | :---: | :---: |
| Number of active members |  | 29,235 |  | 28,977 |
| Annual compensation | \$ | 1,251,768,254 | \$ | 1,209,550,191 |
| Number of retired members and beneficiaries* |  | 22,983 |  | 22,118 |
| Annual retirement allowances* | \$ | 491,513,887 | \$ | 466,198,651 |
| Number of DROP participants |  | 268 |  | 589 |
| Annual compensation | \$ | 18,788,057 | \$ | 37,350,488 |
| Annual allowances |  | 9,592,440 |  | 19,957,619 |
| Assets: |  |  |  |  |
| Actuarial value | \$ | 4,504,338,159 | \$ | 4,388,745,993 |
| Market value |  | 4,469,805,870 |  | 4,689,941,510 |
| Unfunded actuarial accrued liability |  | 2,655,330,174 | \$ | 2,560,498,896 |
| Funded Ratio |  | 62.9\% |  | 63.2\% |
| CONTRIBUTIONS FOR FISCAL YEAR ENDING Tier I (first hired prior to January 1, 2013) |  | tember 30, 2018 |  | ember 30, 2017 |
| Employer contribution rate |  |  |  |  |
| Normal |  | 1.17\% |  | 1.01\% |
| Accrued liability |  | 12.40 |  | 12.51 |
| Death benefit |  | 0.02 |  | 0.02 |
| Administration |  | 0.35 |  | 0.35 |
| Total |  | 13.94\% |  | 13.89\% |
| Tier III (first hired on or after January 1, 2013) |  |  |  |  |
| Employer contribution rate |  |  |  |  |
| Normal |  | 0.52\% |  | 0.37\% |
| Accrued liability |  | 12.40 |  | 12.51 |
| Death benefit |  | 0.02 |  | 0.02 |
| Administration |  | 0.35 |  | 0.35 |
| Total |  | 13.29\% |  | 13.25\% |
| Blended Amortization period |  | 29.6 years |  | 29.8 years |

[^0]
## SUMMARY OF PRINCIPAL RESULTS FOR STATE POLICEMEN

| VALUATION DATE | September 30, 2015 |  | September 30, 2014 |  |
| :---: | :---: | :---: | :---: | :---: |
| Number of active members |  | 701 |  | 715 |
| Annual compensation | \$ | 41,320,289 | \$ | 40,716,289 |
| Number of retired members and beneficiaries* |  | 887 |  | 861 |
| Annual retirement allowances* | \$ | 40,571,112 | \$ | 38,768,516 |
| Number of DROP participants |  | 7 |  | 16 |
| Annual compensation | \$ | 541,154 | \$ | 1,330,653 |
| Annual allowances |  | 411,866 |  | 1,050,716 |
| Assets: |  |  |  |  |
| Actuarial value | \$ | 313,373,256 | \$ | 308,999,876 |
| Market value |  | 310,718,614 |  | 329,831,992 |
| Unfunded actuarial accrued liability |  | 246,421,751 | \$ | 231,142,093 |
| Funded Ratio |  | 56.0\% |  | 57.2\% |
| CONTRIBUTION FOR FISCAL YEAR ENDING Tier I (first hired prior to January 1, 2013) |  | tember 30, 2018 |  | ember 30, 2017 |
| Employer contribution rate |  |  |  |  |
| Normal |  | 9.23\% |  | 8.98\% |
| Accrued liability** |  | 52.88 |  | 47.90 |
| Death benefit |  | 0.02 |  | 0.02 |
| Administration |  | 0.35 |  | 0.35 |
| Total |  | 62.48\% |  | 57.25\% |
| Tier III (first hired on or after January 1, 2013) |  |  |  |  |
| Employer contribution rate |  |  |  |  |
| Normal |  | 4.08\% |  | 5.28\% |
| Accrued liability** |  | 52.88 |  | 47.90 |
| Death benefit |  | 0.02 |  | 0.02 |
| Administration |  | 0.35 |  | 0.35 |
| Total |  | 57.33\% |  | 53.55\% |
| Blended Amortization Period |  | 29.6 years |  | 29.8 years |

[^1]
## SUMMARY OF PRINCIPAL RESULTS FOR LOCAL EMPLOYEES

| VALUATION DATE | September 30, 2015 |  | September 30, 2014 |  |
| :---: | :---: | :---: | :---: | :---: |
| Number of active members |  | 54,627 |  | 55,002 |
| Annual compensation | \$ | 2,168,066,588 | \$ | 2,136,920,378 |
| Number of retired members and beneficiaries* |  | 22,248 |  | 21,405 |
| Annual retirement allowances* | \$ | 421,104,840 | \$ | 394,942,043 |
| Number of DROP participants |  | 121 |  | 286 |
| Annual compensation | \$ | 7,532,538 | \$ | 18,472,732 |
| Annual allowances |  | 3,788,413 |  | 9,305,845 |
| Assets: |  |  |  |  |
| Actuarial value | \$ | 5,771,547,001 | \$ | 5,436,835,394 |
| Market value |  | 5,704,731,262 |  | 5,783,336,465 |
| Unfunded actuarial accrued liability |  | 2,232,709,814 |  | 2,212,071,940 |
| Funded Ratio |  | 72.1\% |  | 71.1\% |
| CONTRIBUTIONS FOR FISCAL YEAR ENDING |  | tember 30, 2018 |  | tember 30, 2017 |
| Employer contribution rate Normal |  | Varies |  | Varies |
| Accrued liability |  | Varies |  | Varies |
| Death benefit |  | 0.02\% |  | 0.02\% |
| Administration |  | $\underline{0.35}$ |  | 0.35 |
| Total |  | Varies |  | Varies |
| Amortization period |  | Varies |  | Varies |

[^2]
## SUMMARY OF PRINCIPAL RESULTS FOR ALL GROUPS

| VALUATION DATE | September 30, 2015 |  | September 30, 2014 |  |
| :---: | :---: | :---: | :---: | :---: |
| Number of active members |  | 84,563 |  | 84,694 |
| Annual compensation | \$ | 3,461,155,131 | \$ | 3,387,186,858 |
| Number of retired members and beneficiaries* |  | 46,118 |  | 44,384 |
| Annual retirement allowances* | \$ | 953,189,839 | \$ | 899,909,210 |
| Number of DROP participants |  | 396 |  | 891 |
| Annual compensation | \$ | 26,861,749 | \$ | 57,153,873 |
| Annual allowances |  | 13,792,719 |  | 30,314,180 |
| Assets: |  |  |  |  |
| Actuarial value | \$ | 10,589,258,416 | \$ | 10,134,581,263 |
| Market value |  | 10,485,255,746 |  | 10,803,109,967 |
| Unfunded actuarial accrued liability | \$ | 5,134,461,739 | \$ | 5,003,712,929 |
| Funded Ratio |  | 67.3\% |  | 66.9\% |

*Includes post-DROP members in suspended status who are also active with a second retirement account.
2. Comments on the valuation results as of September 30, 2015 are given in Section IV and further discussion of the contribution levels is set out in Section V . The contribution rates for local employers for fiscal year beginning October 1, 2017 will be submitted in a separate report.
3. Schedule D of this report shows the development of the smoothed interest rate used for valuation purposes. Schedule B shows the development of the actuarial value of assets. Schedule E of this report outlines the full set of actuarial assumptions and methods used in the current valuation. There have been no changes since the previous valuation. The Board funding policy is shown in Schedule G.
4. Provisions of the System, as summarized in Schedule I, were taken into account in the current valuation. There have been no changes since the previous valuation.
5. The funded ratio shown in the Summary of Principal Results is the ratio of the actuarial value of assets to the actuarial accrued liability. The funded status would be different based on market value of assets. The funded ratio is an indication of progress in funding the promised benefits. Since the ratio is less than $100 \%$, there is a need for additional contributions towards payment of the unfunded actuarial accrued liability. In addition, this funded ratio does not have any relationship to measuring sufficiency if the plan had to settle its liabilities

## SECTION II - MEMBERSHIP DATA

1. Data regarding the membership of the System for use as a basis of the valuation were furnished by the Retirement System office. The following table shows the number of active members and their annual compensation as of September 30, 2015 on the basis of which the valuation was prepared.

TABLE 1
THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS AS OF SEPTEMBER 30, 2015

| GROUP | NUMBER | COMPENSATION |
| :---: | :---: | :---: |
| State Employees |  |  |
| Tier 1 | 23,468 | \$1,056,682,171 |
| Tier 2 | 5,311 | 163,113,800 |
| Post-DROP Members Still in |  |  |
| Active Service | 456 | 31,972,283 |
| Subtotal | 29,235 | \$1,251,768,254 |
| DROP | 268 | 18,788,057 |
| Total | 29,503 | \$1,270,556,311 |
| State Policemen |  |  |
| Tier 1 | 689 | \$40,634,963 |
| Tier 2 | 8 | 325,080 |
| Post-DROP Members Still in Active Service | 4 | 360,246 |
| Subtotal | 701 | \$41,320,289 |
| DROP | 7 | 541,154 |
| Total | 708 | \$41,861,443 |
| Local Employees |  |  |
| Tier 1 | 42,919 | \$1,846,463,726 |
| Tier 2 | 11,494 | 305,909,335 |
| Post-DROP Members Still in Active Service | 214 | 15,693,527 |
| Subtotal | 54,627 | \$2,168,066,588 |
| DROP | 121 | 7,532,538 |
| Total | 54,748 | \$2,175,599, 126 |
| All Groups |  |  |
| Tier 1 | 67,076 | \$2,943,780,860 |
| Tier 2 | 16,813 | 469,348,215 |
| Post-DROP Members Still in Active Service | 674 | 48,026,056 |
| Subtotal | 84,563 | \$3,461,155,131 |
| DROP | 396 | 26,861,749 |
| Total | 84,959 | \$3,488,016,880 |

The table reflects the active membership for whom complete valuation data were submitted. The results of the valuation include an estimated liability for an additional 9,604 inactive members, and contribution balances for 19,417 nonvested inactive members who have not contributed for more than 5 years.
2. The following table shows a six-year history of active member valuation data.

TABLE 2

## SCHEDULE OF ACTIVE MEMBER VALUATION DATA

| Valuation <br> Date | Annual | Annual <br> Number | $\underline{\text { Payroll }}$ | \% Increase in <br> Average Pay |
| :---: | :---: | :---: | :---: | :---: |
| $9 / 30 / 2015^{1}$ | 84,563 | $\$ 3,461,155,131$ | $\$ 40,930$ | $2.34 \%$ |
| $9 / 30 / 2014^{2}$ | 84,694 | $3,387,186,858$ | 39,993 | 1.61 |
| $9 / 30 / 2013^{3}$ | 84,305 | $3,307,511,468$ | 39,359 | 6.02 |
| $9 / 30 / 2012^{4}$ | 84,169 | $3,124,791,422$ | 37,125 | -5.88 |
| $9 / 30 / 2011^{5}$ | 85,633 | $3,377,717,419$ | 39,444 | -1.00 |
| $9 / 30 / 2010^{6}$ | 86,967 | $3,464,913,031$ | 39,842 | 0.38 |

${ }^{1}$ In addition, there are 396 members with compensation of $\$ 26,861,749$ who are currently participating in the DROP. Employers of the Retirement System contribute on this payroll.
${ }^{2}$ In addition, there are 891 members with compensation of $\$ 57,153,873$ who are currently participating in the DROP. Employers of the Retirement System contribute on this payroll.
${ }^{3}$ In addition, there are 1,514 members with compensation of $\$ 93,084,090$ who are currently participating in the DROP. Employers of the Retirement System contribute on this payroll.
${ }^{4}$ In addition, there are 2,121 members with compensation of $\$ 127,211,439$ who are currently participating in the DROP. Employers of the Retirement System contribute on this payroll. ${ }^{5}$ In addition, there are 2,708 members with compensation of $\$ 162,963,178$ who are currently participating in the DROP. Employers of the Retirement System contribute on this payroll.
${ }^{6}$ In addition, there are 2,593 members with compensation of $\$ 154,756,911$ who are currently participating in the DROP. Employers of the Retirement System contribute on this payroll.
3. The following table shows the number and annual retirement allowances payable to retired members and their beneficiaries on the roll of the Retirement System as of the valuation date.

## TABLE 3

THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF RETIRED MEMBERS AND BENEFICIARIES OF DECEASED MEMBERS ON THE ROLL AS OF SEPTEMBER 30, 2015

|  | GROUP |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| TYPE OF RETIREMENT | STATE EMPLOYEES* | STATE POLICEMEN | $\begin{gathered} \text { LOCAL } \\ \text { EMPLOYEES** } \end{gathered}$ | TOTAL |
| Service: <br> Number*** <br> Annual Allowances*** |  |  |  |  |
|  | 19,219 | 740 | 18,288 | 38,247 |
|  | \$ 441,950,957 | \$ 37,118,940 | \$ 375,176,942 | \$ 854,246,839 |
| Disability: |  |  |  |  |
| Number | 2,177 | 39 | 1,904 | 4,120 |
| Annual Allowances | \$ 29,841,028 | \$ 1,137,847 | \$ 25,014,053 | \$ 55,992,928 |
| Beneficiaries: |  |  |  |  |
| Number | 1,587 | 108 | 2,056 | 3,751 |
| Annual Allowances | \$ 19,721,902 | \$ 2,314,325 | \$ 20,913,845 | \$ 42,950,072 |
| DROP Participants: |  |  |  |  |
| Annual Allowances | \$ 9,592,440 | \$ 411,866 | \$ 3,788,413 | \$ 13,792,719 |
| Total: |  |  |  |  |
| Number | 23,251 | 894 | 22,369 | 46,514 |
| Annual Allowances | \$ 501,106,327 | \$ 40,982,978 | \$ 424,893,253 | \$ 966,982,558 |

* In addition, there is 1 terminated vested pensioner with annual deferred allowances totaling \$246.
** In addition, there are 36 terminated vested pensioners with annual deferred allowances totaling \$166,907.
*** Includes post-DROP members in suspended status who are also active with a second retirement account.

4. Tables in Schedule J show the distribution by age and service of the number and average annual compensation of active members included in the valuation. In addition, tables in Schedule J show the distribution by age and benefit type of the number, annual benefits, and average annual benefits of retired members included in the valuation.

## SECTION III - ASSETS

1. The current retirement law provides for the maintenance of five funds for the purpose of recording the fiscal transactions of the System, namely, the Annuity Savings Fund, the Pension Accumulation

Fund, the Deferred Retirement Option Plan Fund, the Pre-Retirement Death Benefit Fund, and the Expense Fund.
(a) Annuity Savings Fund

The Annuity Savings Fund is the fund to which are credited all contributions made by members, except those contributions made by members who are participating in DROP, together with regular interest thereon. When a member retires or when a survivor allowance becomes payable or a member enters DROP, the amount of the member's accumulated contributions are transferred from the Annuity Savings Fund to the Pension Accumulation Fund. On September 30, 2015, the market value of assets credited to this Fund amounted to $\$ 2,591,065,718$ which represent the contributions of members to this date.
(b) Pension Accumulation Fund

The Pension Accumulation Fund is the fund to which are credited all contributions made by the employers, except those contributions made to the Pre-Retirement Death Benefit Fund which was created October 1, 1983. When a member retires or when a survivor allowance becomes payable, the pension is paid from this fund. The market value of assets credited to this fund amounted to $\$ 7,655,946,256$ on September $30,2015$.
(c) DROP Fund

The DROP Fund is the fund to which are credited deferred retirement benefits on behalf of members who elect to participate in the DROP, together with regular interest thereon. In addition, member contributions while participating in the DROP, together with regular interest therein, are credited to the Fund. At the end of the DROP deferral period, the member receives the amount of the deferred retirement benefits and contributions plus interest in the member's DROP account. The DROP is closed to new participants as of June 1, 2011. On September 30, 2015, the market value of assets credited to this Fund amounted to $\$ 238,243,772$.
(d) Pre-Retirement Death Benefit Fund

The Pre-Retirement Death Benefit Fund is the fund to which are credited contributions made by the employer for the special pre-retirement death benefit which became effective October 1, 1983. On September 30, 2015, the market value of assets credited to this fund amounted to $\$ 32,568,967$. These assets are not included in the valuation and the liabilities associated with these death benefits are not included in the valuation.
(e) Expense Fund

The Expense Fund is the fund from which the expenses of the administration of the Retirement System are paid. Any amounts credited to the accounts of members withdrawing before retirement and not returnable under the provisions of Code Section 36-27-16(c) are credited to the Expense Fund. Additional contributions required to meet the expenses of the

Retirement System made by the employer are also credited to this fund. On September 30, 2015, the market value of assets credited to this fund amounted to $\$(11,977,447)$. These assets are not included in the valuation.
2. As of September 30, 2015 the total market value of assets exclusive of the Pre-Retirement Death Benefit Fund and the Expense Fund amounted to $\$ 10,485,255,746$ as shown in the following table.

TABLE 4
MARKET VALUE OF ASSETS BY FUND
AS OF SEPTEMBER 30, 2015

| FUND | MARKET VALUE OF ASSETS |
| :---: | :---: |
| Annuity Savings Fund | $\$$$2,591,065,718$ <br> Pension Accumulation Fund <br> DROP Fund |
| $\quad$ Total Market Value of Assets |  |
|  |  |

3. The five-year market related actuarial value of assets as of September 30, 2015 was $\$ 10,589,258,416$. The following table shows the actuarial value of assets used for the current valuation allocated among State employees, State policemen and local employees.

TABLE 5
COMPARISON OF ACTUARIAL VALUE OF ASSETS
AT SEPTEMBER 30, 2015 AND SEPTEMBER 30, 2014

| GROUP | SEPTEMBER 30, 2015 ACTUARIAL VALUE | SEPTEMBER 30, 2014 ACTUARIAL VALUE |
| :---: | :---: | :---: |
| State Employees | \$ 4,504,338,159 | \$ 4,388,745,993 |
| State Policemen | 313,373,256 | 308,999,876 |
| Local Employees | 5,771,547,001 | 5,436,835,394 |
| Total Assets | \$ 10,589,258,416 | \$ 10,134,581,263 |

4. Schedule $C$ shows the receipts and disbursements of the System for the year preceding the valuation date and a reconciliation of the fund balances at market value.

## SECTION IV - COMMENTS ON VALUATION

1. Schedule $A$ of this report contains the valuation balance sheets which show the present and prospective assets and liabilities of the System as of September 30, 2015. Separate balance sheets are shown for each employee group as well as in total for all groups.
2. The total valuation balance sheet shows that the System has total prospective liabilities of $\$ 17,790,635,207$. Of this amount, $\$ 8,666,490,487$ is for the prospective benefits payable on account of present retired members, beneficiaries of deceased members, and DROP participants, $\$ 321,492,747$ is for the prospective benefits payable on account of present inactive members and $\$ 8,802,651,973$ is for the prospective benefits payable on account of present active members. Against these liabilities the System has total actuarial value of assets of $\$ 10,589,258,416$ as of September 30, 2015. The difference of $\$ 7,201,376,791$ between the total liabilities and the total present actuarial value of assets represents the present value of contributions to be made in the future. Of this amount, $\$ 1,563,020,920$ is the present value of future contributions expected to be made by members to the Annuity Savings Fund, and the balance of $\$ 5,638,355,871$ represents the present value of future contributions payable by the employers.
3. The employers' contributions to the System consist of normal contributions, accrued liability contributions and current disbursement cost-of-living benefit increase contributions. The valuation indicates that employer normal contributions at the rate of $1.17 \%$ of payroll for Tier I members and $0.52 \%$ of payroll for Tier II members are required to provide the benefits of the System for State employees. For State policemen, employer normal contributions at the rate of $9.23 \%$ of payroll for Tier I members and $4.08 \%$ of payroll for Tier II members are required. For local employees, varying rates of employer normal contributions are required.
4. Prospective employer normal contributions at the above rates have a present value of $\$ 503,894,132$. When this amount is subtracted from $\$ 5,638,355,871$, which is the present value of the total future contributions to be made by the employers, there remains $\$ 5,134,461,739$ as the amount of future cost-of-living and accrued liability contributions.
5. The funding policy adopted by the Board, as shown in Schedule G, provides that one-fifteenth of the unfunded actuarial accrued liability as of September 30, 2012 (Transitional UAAL) will be amortized as a level percent of payroll over a closed period. The closed period shall be the amortization period for the September 30, 2012 valuation, not to exceed 30 years. The remaining Transitional UAAL each year will be amortized over an open period. The open period shall be the amortization period for the September 30, 2012 valuation, not to exceed 30 years. After 15 years the entire Transitional UAAL will be closed. In each subsequent valuation all benefit changes, assumption and method changes and experience gains and/or losses that have occurred since the previous valuation will determine a New Incremental UAAL. Each New Incremental UAAL will be amortized over a closed 30 -year period from the date it is established.
6. The accrued liability contribution rate payable by the State is $12.40 \%$ of payroll for State employees and $52.88 \%$ of payroll for State Policemen determined in accordance with the Board's funding policy. For State employees the accrued liability contribution rate has been calculated on the assumption that the aggregate amount of accrued liability contribution will increase by $3.25 \%$ each year. Since State policemen hired on or after January 1, 2015 are no longer eligible for benefits under the code section covering State policemen, the unfunded actuarial accrued liability is being amortized as a level dollar amount expressed as a percentage of estimated payroll. Schedule H of this report shows a projection of the open Transitional UAAL and amortization schedules for all closed bases as of September 30, 2015.
7. The following table shows the components of the total unfunded actuarial accrued liability (UAAL) and the derivation of the accrued liability contribution rate in accordance with the funding policy for State employees and State policemen:

TABLE 6

## TOTAL UAAL AND UAAL CONTRIBUTION RATE

STATE EMPLOYEES

| UAAL | Amortization Period | Amortization Payment |
| :---: | :---: | :---: |
| Open Transitional \$1,909,654,172 | 30 | \$122,481,739 |
| Closed Transitional 9/30/2012 173,052,088 | 27 | 11,690,819 |
| Closed Transitional 9/30/2013 173,425,404 | 28 | 11,502,427 |
| Closed Transitional 9/30/2014 173,604,925 | 29 | 11,317,072 |
| Closed Transitional 9/30/2015 173,604,925 | 30 | 11,134,704 |
| New Incremental 9/30/2013 37,843,822 | 28 | 2,509,989 |
| New Incremental 9/30/2014 (40,664,273) | 29 | $(2,650,849)$ |
| New Incremental 9/30/2015 | 30 | 3,515,356 |
| Total \$2,655,330,174 |  | \$171,501,257 |
| Total Amortization Payment Adjusted for Timing |  | 165,027,161 |
| Total Estimated Payroll |  | \$1,330,374,086 |
| UAAL Contribution Rate |  | 12.40\% |

## STATE POLICE

|  | $\underline{\text { UAAL }}$ | Amortization <br> Period | Amortization <br> Payment |
| :---: | :---: | :---: | :---: |
| Open Transitional | $\$ 167,836,255$ | $\frac{30}{\$ 14,908,464}$ |  |
| Closed Transitional 9/30/2012 | $15,216,513$ | 27 | $1,391,521$ |
| Closed Transitional 9/30/2013 | $15,245,663$ | 28 | $1,379,563$ |
| Closed Transitional 9/30/2014 | $15,257,841$ | 29 | $1,367,385$ |
| Closed Transitional 9/30/2015 | $15,257,841$ | 30 | $1,355,315$ |
| New Incremental 9/30/2013 | 171,652 | 28 | 15,533 |
| New Incremental 9/30/2014 | 78,072 | 29 | 6,997 |
| New Incremental 9/30/2015 | $\underline{17,357,914}$ | 30 | $\underline{1,541,859}$ |
| $\quad$ Total | $\$ 246,421,751$ |  | $\$ 21,966,637$ |
| Total Amortization Payment Adjusted for Timing |  | $\underline{21,137,406}$ |  |
| Total Estimated Payroll |  | $\$ 39,973,777$ |  |
| UAAL Contribution Rate |  | $52.88 \%$ |  |

* Amortization method is level dollar as a percent of estimated payroll to reflect the impact of Act 2013-67.

8. For all employers, an additional contribution of $0.02 \%$ of payroll will be required to meet the cost of the pre-retirement death benefit program established under Act No. 83-616. The assets and liabilities of the program are not included in the valuation.
9. For all employers, an additional contribution of $0.35 \%$ is required to cover the expenses of administering the System.

## SECTION V - CONTRIBUTIONS PAYABLE BY EMPLOYERS

1. The retirement act provides that the Board of Control shall certify to the chief fiscal officer of each employer the rates of contribution required to be paid by the employer.
2. On the basis of the actuarial valuation prepared as of September 30, 2015 it is recommended that the State make contributions at the following rates for the fiscal year beginning October 1, 2017:

TABLE 7
RECOMMENDED CONTRIBUTION RATES

\left.|  | PERCENTAGE OF MEMBERS' COMPENSATION |  |  |
| :---: | :---: | :---: | :---: | :---: |
| FOR FISCAL YEAR ENDING |  |  |  |
| SEPTEMBER 20, 2018 |  |  |  |$\right]$.

* Amortization method is level dollar as a percent of estimated payroll to reflect the impact of Act 2013-67.

3. Contribution rates for Local Employers were submitted in a separate report. The rates for the fiscal year beginning October 1, 2017 were determined as of September 30, 2015, and reflect any elections made pursuant to Act 2011-676 as of April 1, 2015.

## SECTION VI - ANALYSIS OF FINANCIAL EXPERIENCE

The following table shows the estimated gain or loss from various factors that resulted in an increase or decrease in the unfunded accrued liability during the year ending September 30, 2015. For State employees, the unfunded accrued liability increased $\$ 94,831,278$; for State policemen, the unfunded accrued liability increased $\$ 15,279,658$. Since the benefits, assumptions and accrued liability rates vary by location for the Local employees, we do not develop an analysis of financial experience for this group.

## ANALYSIS OF FINANCIAL EXPERIENCE

(in millions of dollars)

| ITEM <br> Interest (8.25\%) added to previous unfunded accrued liability Accrued liability contribution* | AMOUNT OF INCREASE / (DECREASE) IN UAAL |  |
| :---: | :---: | :---: |
|  | STATE EMPLOYEES | STATE POLICEMEN |
|  | \$ 211.2 | \$ 19.1 |
|  | (170.7) | (13.6) |
| Experience: |  |  |
| Valuation asset growth | (40.4) | (2.4) |
| Pensioners' mortality | 9.3 | 2.2 |
| Turnover and retirements | (2.9) | 2.6 |
| New entrants | 17.6 | 0.9 |
| Salary increases | (15.1) | (0.1) |
| Method changes | 0.0 | 0.0 |
| Amendments | 0.0 | 0.0 |
| Interest Smoothing | 73.6 | 5.9 |
| Data Change | 7.0 | 0.6 |
| Miscellaneous (including unit transfers) | 5.2 | 0.1 |
| Total Increase/Decrease in UAAL | \$ 94.8 | \$ 15.3 |

* Equal to the total contribution made to the System less the normal cost for the year adjusted for interest to September 30, 2014.
State Employees: $(\$ 263,117,063 \times 1.04125)-(\$ 95,395,632 \times 1.0825)$
State Police: $(\$ 20,837,263 \times 1.04125)-(\$ 7,464,026 \times 1.0825)$


## SECTION VII - ACCOUNTING INFORMATION

The information required under Governmental Accounting Standards Board (GASB) Statements No. 67 and 68 is issued in separate reports. The following information is provided for informational purposes only.

1. The following is a distribution of the number of employees by type of membership.

## NUMBER OF ACTIVE AND RETIRED MEMBERS AS OF SEPTEMBER 30, 2015

| GROUP | NUMBER |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | State <br> Employees | State Police | Local Employees | Total |
| Retirees and beneficiaries currently receiving benefits | 22,983 | 887 | 22,248 | 46,118 |
| DROP participants | 268 | 7 | 121 | 396 |
| Terminated employees entitled to benefits but not yet receiving benefits | 2,861 | 13 | 6,767 | 9,641 |
| Non-vested inactive members who have not contributed for more than 5 years | 19,417 | 0 | 0 | 19,417 |
| Active Members | 29,235 | 701 | 54,627 | 84,563 |
| Total | 74,764 | 1,608 | 83,763 | 160,135 |

2. The schedule of funding progress is shown below.

## SCHEDULE OF FUNDING PROGRESS

(Dollar amounts in thousands)

${ }^{1}$ Reflects changes in actuarial assumptions.
${ }^{1}$ Reflects changes in actuarial methods.
3. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at September 30, 2015. Additional information as of the latest actuarial valuation follows.

|  | State Employees | State Policemen | Local Employees |
| :---: | :---: | :---: | :---: |
| Valuation date | 9/30/2015 | 9/30/2015 | 9/30/2015 |
| Actuarial cost method | Entry age | Entry age | Entry age |
| Amortization method | Level percent Closed | Level dollar Closed | Level percent Closed |
| Single equivalent remaining amortization period | 29.6 years | 29.6 years | Within 30 years Varies by employer |
| Asset valuation method | Five-year market related value | Five-year market related value | Five-year market related value |
| Actuarial assumptions: |  |  |  |
| Ultimate Investment rate of return (discount rate)** | 8.00\% | 8.00\% | 8.00\% |
| Projected salary increases** | 3.75-7.25\% | 5.00\% | 3.75-7.25\% |
| Cost-of-living adjustment | None | None | None |
| **Includes inflation at | 3.00\% | 3.00\% | 3.00\% |

## SCHEDULE A

VALUATION BALANCE SHEET
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF THE EMPLOYEES' RETIREMENT SYSTEM OF ALABAMA

## STATE EMPLOYEES

|  | SEPTEMBER 30, 2015 |  |
| :---: | :---: | :---: |
| ASSETS |  |  |
| Actuarial Value of Assets | \$ | 4,504,338,159 |
| Present value of future members' contributions to the Annuity Savings Fund | \$ | 632,769,083 |
| Present value of future employer contributions to the Pension Accumulation Fund |  |  |
| Normal contributions | \$ | 87,130,586 |
| Unfunded accrued liability contributions |  | 2,655,330,174 |
| Total prospective employer contributions | \$ | 2,742,460,760 |
| Total Assets | \$ | 7,879,568,002 |
| LIABILITIES |  |  |
| Present value of benefits payable on account of retired members and beneficiaries of deceased members now drawing retirement allowances |  |  |
| Service Retirements | \$ | 3,905,452,204 |
| Disability Retirements |  | 242,137,568 |
| Beneficiaries of Deceased Members |  | 143,838,521 |
| DROP Participant Accounts |  | 165,276,989 |
| Total | \$ | 4,456,705,282 |
| Inactive Members | \$ | 124,129,145 |
| Inactive T-section accounts | \$ | 12,862,922 |
| Present value of prospective benefits payable on account of present active members: |  |  |
| Service retirement allowances | \$ | 2,853,547,494 |
| Disability retirement allowances |  | 133,644,790 |
| Death Benefits |  | 37,367,409 |
| Termination Benefits |  | 261,310,960 |
| Total | \$ | 3,285,870,653 |
| Total Liabilities | \$ | 7,879,568,002 |

SCHEDULE A (Continued)
VALUATION BALANCE SHEET
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF THE EMPLOYEES' RETIREMENT SYSTEM OF ALABAMA

STATE POLICEMEN

|  | SEPTEMBER 30, 2015 |  |
| :---: | :---: | :---: |
| ASSETS |  |  |
| Actuarial Value of Assets | \$ | 313,373,256 |
| Present value of future members' contributions to the Annuity Savings Fund | \$ | 32,490,895 |
| Present value of future employer contributions to the Pension Accumulation Fund |  |  |
| Normal contributions | \$ | 29,543,856 |
| Unfunded accrued liability contributions |  | 246,421,751 |
| Total prospective employer contributions | \$ | 275,965,607 |
| Total Assets | \$ | 621,829,758 |
| LIABILITIES |  |  |
| Present value of benefits payable on account of retired members and beneficiaries of deceased members now drawing retirement allowances |  |  |
| Service Retirements | \$ | 339,549,914 |
| Disability Retirements |  | 8,287,113 |
| Beneficiaries of Deceased Members |  | 16,575,003 |
| DROP Participant Accounts |  | 4,419,342 |
| Total | \$ | 368,831,372 |
| Inactive Members | \$ | 2,461,776 |
| Present value of prospective benefits payable on account of present active members: |  |  |
| Service retirement allowances | \$ | 240,107,754 |
| Disability retirement allowances |  | 4,457,236 |
| Death Benefits |  | 1,471,571 |
| Termination Benefits |  | 4,500,049 |
| Total | \$ | 250,536,610 |
| Total Liabilities | \$ | 621,829,758 |

SCHEDULE A (Continued)
VALUATION BALANCE SHEET
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF THE EMPLOYEES' RETIREMENT SYSTEM OF ALABAMA

LOCAL EMPLOYEES


SCHEDULE A (Continued)
VALUATION BALANCE SHEET
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES OF THE EMPLOYEES' RETIREMENT SYSTEM OF ALABAMA

TOTAL - ALL GROUPS

|  | SEPTEMBER 30, 2015 |  |
| :---: | :---: | :---: |
| ASSETS |  |  |
| Actuarial Value of Assets | \$ | 10,589,258,416 |
| Present value of future members' contributions to the Annuity Savings Fund | \$ | 1,563,020,920 |
| Present value of future employer contributions to the Pension Accumulation Fund |  |  |
| Normal contributions | \$ | 503,894,132 |
| Unfunded accrued liability contributions |  | 5,134,461,739 |
| Total prospective employer contributions | \$ | 5,638,355,871 |
| Total Assets | \$ | 17,790,635,207 |
| LIABILITIES |  |  |
| Present value of benefits payable on account of retired members, beneficiaries of deceased members now drawing retirement allowances, and DROP participants |  |  |
| Service Retirements | \$ | 7,650,081,699 |
| Disability Retirements |  | 454,360,820 |
| Beneficiaries of Deceased Members |  | 323,804,196 |
| DROP Participant Accounts |  | 238,243,772 |
| Total | \$ | 8,666,490,487 |
| Inactive Members | \$ | 308,629,825 |
| Inactive T-section accounts | \$ | 12,862,922 |
| Present value of prospective benefits payable on account of present active members: |  |  |
| Service retirement allowances | \$ | 7,597,047,134 |
| Disability retirement allowances |  | 376,080,618 |
| Death Benefits |  | 101,403,404 |
| Termination Benefits |  | 728,120,817 |
| Total | \$ | 8,802,651,973 |
| Total Liabilities | \$ | 17,790,635,207 |

## SCHEDULE A (continued)

## SOLVENCY TEST

(\$1000's)

| Valuation Date | Aggregate Accrued Liabilities For |  |  | Reported Assets | Portion of Accrued Liabilities Covered by Reported Asset |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1) <br> Active Member Contributions | (2) Retirants and Beneficiaries | (3) <br> Active Members (Employer Financed Portion) |  | (1) | (2) | (3) |
| 9/30/2015 | \$2,591,066 | \$8,666,490 | \$4,466,164 | \$10,589,258 | 100\% | 92\% | 0\% |
| 9/30/2014 | 2,484,050 | 8,366,277 | 4,287,967 | 10,134,581 | 100 | 91 | 0 |
| 9/30/2013 | 2,363,600 | 8,085,291 | 4,087,709 | 9,546,459 | 100 | 89 | 0 |
| 9/30/2012 ${ }^{1}$ | 2,218,478 | 7,781,431 | 3,885,086 | 9,116,551 | 100 | 89 | 0 |
| 9/30/2011 ${ }^{2}$ | 2,112,356 | 7,722,942 | 4,531,498 | 9,456,158 | 100 | 95 | 0 |
| 9/30/2010 | 2,050,051 | 7,130,938 | 4,535,113 | 9,739,331 | 100 | 100 | 12.3 |

[^3]
## SCHEDULE B

## DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS AS OF SEPTEMBER 30, 2015

## STATE EMPLOYEES

(1) Actuarial Value of Assets on September 30, 2014
a. Actuarial Value on September 30, 2014
b. Adjustment
c. Adjusted Actuarial Value on September 30, 2014
(2) Market Value of Assets on September 30, 2015
(3) Market Value of Assets on September 30, 2014
a. Market Value on September 30, 2014
b. Adjustment
c. Adjusted Market Value on September 30, 2014
(4) Cash Flow
a. Contributions
b. Benefit Payments and DROP Disbursements
c. Refunds to Members
d. Transfers to Expense Fund - Interest Forfeitures
e. Transfers to/from Police/Locals
\$ 4,388,745,993
$\begin{array}{r}19,714,513 \\ \hline\end{array}$
\$ 4,408,460,506
$\$ 4,469,805,870$
f. Investment Expenses
g. Net
\$ 4,689,941,510
21,114,673
\$ 4,711,056,183
\$ 263,117,063
$(540,696,884)$
$(14,723,840)$
$(3,457,034)$
$(255,991)$
\$ $(300,241,522)$
(5) Investment Income
a. Market total: $(2)-(3) c-(4) g$
\$ 58,991,209
b. Assumed Rate
c. Amount for Immediate Recognition
$[(3) c \times(5) b]+([(4) a+(4) b+(4) c+(4) d+(4) e] *(5) b * 0.5)-(4) f$
\$ 369,268,663
d. Amount for Phased-in Recognition (5) a - (5)c
\$ $(310,277,454)$
(6) Phased-In Recognition of Investment Income
a. Current Year: $0.20^{*}(5) \mathrm{d}$
b. First Prior Year
\$ $(62,055,491)$
c. Second Prior Year

35,810,925
d. Third Prior Year
e. Fourth Prior Year
f. Total Recognized Investment Gain
\$ $26,850,512$
(7) Actuarial Value of Assets on September 30, 2015:
$(1) c+(4) g+(5) c+(6) f$
$\$ 4,504,338,159$

SCHEDULE B (Continued)

## DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS AS OF SEPTEMBER 30, 2015

## STATE POLICEMEN

(1) Actuarial Value of Assets on September 30, 2014
a. Actuarial Value on September 30, 2014
b. Adjustment
c. Adjusted Actuarial Value on September 30, 2014
(2) Market Value of Assets on September 30, 2015
(3) Market Value of Assets on September 30, 2014
a. Market Value on September 30, 2014
b. Adjustment
c. Adjusted Market Value on September 30, 2014
(4) Cash Flow
a. Contributions
b. Benefit Payments and DROP Disbursements
c. Refunds to Members
d. Transfers to/from State/Local
e. Net
(5) Investment Income
a. Market total: $(2)-(3) c-(4) e$
b. Assumed Rate
c. Amount of Immediate Recognition [(3)c x (5)b] + [(4)e * (5)b * 0.5]
d. Amount for Phased-in Recognition (5)a - (5)c
(6) Phased-In Recognition of Investment Income
a. Current Year: $0.20^{*}(5) \mathrm{d}$
b. First Prior Year
c. Second Prior Year
d. Third Prior Year
e. Fourth Prior Year
f. Total Recognized Investment Gain
(7) Actuarial Value of Assets on September 30, 2015:
(1) $c+(4) e+(5) c+(6) f$

| $\$$ | $\begin{array}{r}308,999,876 \\ (261,000)\end{array}$ |
| :---: | ---: |
| $\$$ | $308,738,876$ |
| $\$$ | $310,718,614$ |
|  |  |
| $\$$ | $\begin{array}{r}329,831,992 \\ (265,000)\end{array}$ |
| $\$$ | $329,566,992$ |

\$ 20,837,263
$(43,321,825)$
$(265,945)$
126,353
$\$ \quad(22,624,154)$
\$ 3,775,776
8.00\%
$\$ \quad 25,460,393$
$\$ \quad(21,684,617)$
$\$ \quad(4,336,923)$
2,426,923
3,708,141
\$ 1,798,141
\$ 313,373,256

SCHEDULE B (Continued)

## DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS AS OF SEPTEMBER 30, 2015

## LOCAL EMPLOYEES

(1) Actuarial Value of Assets on September 30, 2014
a. Actuarial Value on September 30, 2014
b. Adjustment
c. Adjusted Actuarial Value on September 30, 2014
(2) Market Value of Assets on September 30, 2015
(3) Market Value of Assets on September 30, 2014
a. Market Value on September 30, 2014
b. Adjustment
c. Adjusted Market Value on September 30, 2014
(4) Cash Flow
a. Contributions
b. Benefit Payments and DROP Disbursements
c. Refunds to Members
d. Transfers to/from State/Police
e. Net
(5) Investment Income
a. Market total: $(2)-(3) c-(4) e$
b. Assumed Rate
c. Amount of Immediate Recognition
[(3)c x (5)b] + [(4)e * (5)b * 0.5]
d. Adjustment for Employer Lump Sums
e. Adjusted Amount for Immediate Recognition (5)c + (5)d
f. Amount for Phased-In Recognition (5)a - (5)e
(6) Phased-In Recognition of Investment Income
a. Current Year: 0.20*(5)f
b. First Prior Year
c. Second Prior Year
d. Third Prior Year
e. Fourth Prior Year
f. Total Recognized Investment Gain
(7) Actuarial Value of Assets on September 30, 2015:
(1) $c+(4) e+(5) e+(6) f$

| $\$$ | $5,436,835,394$ |
| :---: | ---: |
| $(19,453,513)$ |  |
| $\$$ | $5,417,381,881$ |
| $\$$ | $5,704,731,262$ |
|  |  |
| $\$$ | $5,783,336,465$ |
| $(20,849,673)$ |  |
| $\$$ | $5,762,486,792$ |

\$ 344,068,563
$(434,697,667)$
$(34,875,269)$
129,638
\$ $\quad(125,374,735)$
\$ 67,619,205
\$ 455,983,954
$\$ \quad(22,804)$
\$ 455,961,150
$\$(388,341,945)$
\$ $(77,668,389)$
41,423,892
59,823,202
\$ 23,578,705
\$ 5,771,547,001

## SCHEDULE B (Continued)

SEPTEMBER 30, 2015
DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS
TOTAL - ALL GROUPS
(1) Actuarial Value of Assets on September 30, 2014
(2) Market Value of Assets on September 30, 2015
(3) Market Value of Assets on September 30, 2014
(4) Cash Flow
a. Contributions
b. Benefit Payments and DROP Disbursements
c. Refunds to Members
d. Transfer to Expense Fund - Interest Forfeitures
e. Investment Expenses
f. Net
(5) Investment Income
a. $\quad$ Market total: $(2)-(3)-(4) f$
b. Assumed Rate
c. Amount for Immediate Recognition
$[(3) x(5) b]+([(4) a+(4) b+(4) c+(4) d] *(5) b * 0.5)-(4) e$
d. Adjusted for Employer Lump Sums
e. Adjusted Amount for Immediate Recognition (5)c + (5)d
f. Amount for Phased-In Recognition (5)a - (5)e
(6) Phased-In Recognition of Investment Income
a. Current Year: $0.20^{*}(5) f$
b. First Prior Year
c. Second Prior Year
d. Third Prior Year
e. Fourth Prior Year
f. Total Recognized Investment Gain
(7) Actuarial Value of Assets on September 30, 2015:
$(1)+(4) f+(5) e+(6) f$
$\$ 10,134,581,263$
\$ 10,485,255,746
$\$ 10,803,109,967$
\$ 628,022,889
$(1,018,716,376)$
$(49,865,054)$
$(3,457,034)$
$(4,224,836)$
$\$ \quad(448,240,411)$
\$ 130,386,190
8.00\%
\$ 850,713,010
$\$ \quad(22,804)$
\$ 850,690,206
\$ $(720,304,016)$
\$ $(144,060,803)$
79,661,740
116,626,421
\$ 52,227,358
\$ 10,589,258,416

SCHEDULE B (Continued)
SEPTEMBER 30, 2015
DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS


Actuarial value of assets was set equal to market value on September 30, 2012.

## SCHEDULE C

## SUMMARY OF RECEIPTS AND DISBURSEMENTS

## FOR THE YEAR ENDING SEPTEMBER 30, 2015

| Receipts for the Period |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Contributions: |  |  |  |  |
| Members |  | 29,253,696 |  |  |
| Employers |  | 98,769,193 |  |  |
| Total |  |  |  | 628,022,889 |
| Investment Income* |  |  |  | 129,260,244 |
| TOTAL |  |  |  | 757,283,133 |
| Disbursements for the Period |  |  |  |  |
| Benefit Payments |  |  |  | $(928,580,209)$ |
| Refunds to Members |  |  |  | $(49,865,054)$ |
| DROP Distributions |  |  |  | $(90,136,167)$ |
| Miscellaneous: |  |  |  |  |
| Transfers to Plant Fund | \$ | $(4,800)$ |  |  |
| Transfers to Expense Fund-Interest Forfeitures |  | $(3,457,034)$ |  |  |
| Transfers to Expense Fund-Investment Expenses |  | $(2,770,836)$ |  |  |
| Transfers to Pre-retirement Death Benefit Fund |  | $(323,254)$ |  |  |
| TOTAL |  |  |  | $(6,555,924)$ |
| TOTAL |  |  |  | (1,075,137,354) |
| Excess of Receipts Over Disbursements |  |  |  | $(317,854,221)$ |
| Reconciliation of Asset Balances |  |  |  |  |
| Market Value of Assets as of September 30, 2014 |  |  |  | ,803,109,967 |
| Excess of Receipts Over Disbursements |  |  |  | $(317,854,221)$ |
| Market Value of Assets as of September 30, 2015 |  |  |  | , 485,255,746 |

*Net of \$1,455,000 in investment expenses.

## SCHEDULE D

## SMOOTHED INTEREST RATE

## Actual Rate of Return for 5 Year Look Back Period

| Fiscal Year <br> Ending 9/30 | Actual Rate of <br> Return for <br> Fiscal Year |
| :---: | :---: |
|  |  |
| 2011 | $2.21 \%$ |
| 2012 | 18.01 |
| 2013 | 14.60 |
| 2014 | 12.02 |
| 2015 | 1.05 |

SMOOTHED INTEREST RATE: The assumed rate of return during the 25 year look forward period beginning on the valuation date. This is the investment rate of return expected to be earned during this period based on the actual rates earned during the five year look back period shown above such that the average rate of return over the combined 30 year period is equivalent to the ultimate investment rate of return (currently $8.00 \%$ ). On this basis, for the September 30, 2015 valuation, the smoothed interest rate during the 25 year look forward period has been determined to be $7.73 \%$.

ULTIMATE INVESTMENT RATE OF RETURN: The assumed investment rate of return used in determining the smoothed interest rate described above. This is also the assumed investment rate of return after the 25 year look forward period and is currently $8.00 \%$.

CORRIDOR AROUND LONG-TERM INVESTMENT RATE OF RETURN: A corridor of $0.50 \%$ around the ultimate investment rate of return is applied in determining the smoothed interest rate. In addition, the limited smoothed interest rate may not increase or decrease by more than $1 / 8^{\text {th }} \%$ each year. The smoothed interest rate used in the previous valuation was $8.25 \%$, therefore the corridor around the limited smoothed rate applied in the current valuation is $8.13 \%$ to $8.38 \%$.

LIMITED SMOOTHED INTEREST RATE: The assumed rate of return during the 25 year look forward period used for valuation purposes is limited based on the application of the corridor above. Since the smoothed interest rate is $7.73 \%$, the assumed rate for the first 25 years after the valuation date is outside the corridor. The smoothed interest rate for valuation purposes is limited to $8.13 \%$.

## SCHEDULE E

## OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions and methods used in the valuation were selected based on the actuarial experience study prepared as of September 30, 2010, submitted to and adopted by the Board on January 27, 2012.

ULTIMATE INVESTMENT RATE OF RETURN: $8.00 \%$ per annum, compounded annually, including price inflation at $3.00 \%$.

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases are as follows and include wage inflation at $3.25 \%$ per annum:

## STATE AND LOCAL EMPLOYEES

| Service | Annual Rate | Service | Annual Rate |
| :---: | :---: | :---: | :---: |
| 0 | $7.25 \%$ | 6 | $5.00 \quad \%$ |
| 1 | 6.00 | 7 | 5.00 |
| 2 | 5.50 | 8 to 12 | 4.75 |
| 3 | 5.25 | 13 to 15 | 4.50 |
| 4 | 5.25 | 16 | 4.00 |
| 5 | 5.25 | 17 \& Over | 3.75 |

## STATE POLICEMEN

$5 \%$ per year for all years of service

SEPARATIONS BEFORE SERVICE RETIREMENT: Representative values of the assumed annual rates of death, disability and withdrawal are shown in the following tables:

## STATE AND LOCAL EMPLOYEES

| Age | Annual Rate of |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\underline{\text { Death* }}$ | Disability <br> Years of Service |  | Withdrawal <br> Years of Service |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  | 0-24 | $\underline{25+}$ | 0-4 | 5-9 | 10-20 | $\underline{20+}$ |
| Male |  |  |  |  |  |  |  |
| 20 | 0.03\% | 0.04\% |  | 28.00\% |  |  |  |
| 25 | 0.03 | 0.06 |  | 19.50 | 10.00\% |  |  |
| 30 | 0.05 | 0.08 |  | 17.50 | 7.00 | 5.00\% |  |
| 35 | 0.08 | 0.10 |  | 16.00 | 6.00 | 4.75 |  |
| 40 | 0.10 | 0.27 |  | 15.50 | 4.50 | 3.50 | 2.50\% |
| 45 | 0.14 | 0.42 | 0.25\% | 14.00 | 4.00 | 3.00 | 2.25 |
| 50 | 0.20 | 0.77 | 0.25 | 13.00 | 4.00 | 2.75 | 2.00 |
| 55 | 0.36 | 1.53 | 0.25 | 12.00 | 3.75 | 2.75 | 2.00 |
| 60 | 0.71 | 0.25 | 0.25 | 12.00 | 4.25 |  |  |
| 65 | 1.30 |  |  | 16.00 | 7.00 |  |  |
| 69 | 1.99 |  |  | 17.00 | 7.00 |  |  |



Female

| 20 | 0.01\% | 0.04\% |  | 34.00\% |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 25 | 0.01 | 0.06 |  | 24.00 | 12.00\% |  |  |
| 30 | 0.02 | 0.08 |  | 20.00 | 8.25 | 6.50\% |  |
| 35 | 0.03 | 0.14 |  | 18.00 | 7.25 | 6.00 |  |
| 40 | 0.04 | 0.29 |  | 16.00 | 6.00 | 4.00 | 3.00\% |
| 45 | 0.07 | 0.43 | 0.25\% | 14.75 | 5.25 | 3.75 | 2.50 |
| 50 | 0.10 | 0.69 | 0.25 | 14.00 | 4.50 | 3.50 | 2.50 |
| 55 | 0.19 | 1.24 | 0.25 | 14.00 | 4.00 | 3.00 | 2.50 |
| 60 | 0.38 | 0.25 | 0.25 | 14.00 | 4.00 |  |  |
| 65 | 0.71 |  |  | 14.00 | 8.50 |  |  |
| 69 | 1.09 |  |  | 14.00 | 8.50 |  |  |

* Rates of pre-retirement mortality are according to the sex distinct RP-2000 Combined Mortality Table Projected with Scale AA to 2015 set forward three years for males and set forward one year for females with an adjustment factor of 0.90 for males and 0.70 for females.

SERVICE RETIREMENT: The assumed annual rates of service retirement for Tier I members are as follows:

| Age | Annual Rate |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Under age 65 with 25 or more years of service |  | Under age 65 with less than 25 years of service \& All over age 65 |  |
|  | Male ${ }^{1}$ | Female ${ }^{2}$ | Male | Female |
| 47 \& Under | 16.00\% | 13.00\% |  |  |
| 48 to 51 | 11.00 | 11.00 |  |  |
| 52 to 54 | 10.00 | 10.00 |  |  |
| 55 to 59 | 16.00 | 16.00 |  |  |
| 60 | 16.00 | 25.00 | 12.00\% | 16.00\% |
| 61 | 20.00 | 16.00 | 11.00 | 13.00 |
| 62 | 42.00 | 32.00 | 28.00 | 26.00 |
| 63 | 35.00 | 28.00 | 23.00 | 20.00 |
| 64 | 30.00 | 25.00 | 18.00 | 15.00 |
| 65 |  |  | 30.00 | 28.00 |
| 66 |  |  | 30.00 | 28.00 |
| 67 |  |  | 25.00 | 23.00 |
| 68 to 74 |  |  | 23.00 | 23.00 |
| 75 \& Above |  |  | 100.00 | 100.00 |

${ }^{1}$ Rates are increased by $10 \%$ in year when member attains 25 years of service at or before age 60. ${ }^{2}$ Rates are increased by $7 \%$ in year when member attains 25 years of service at or before age 60.

The assumed annual rates of service retirement for Tier II members are as follows:
GENERAL EMPLOYEES

| Age | Annual Rate |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Less than 25 years of service |  | 25 or more years of service |  |
|  | Male | Female | Male | Female |
| 62 | 40\% | 45\% | 55\% | 60\% |
| 63 | 23 | 20 | 35 | 28 |
| 64 | 18 | 15 | 30 | 25 |
| 65 | 30 | 28 | 28 | 28 |
| 66 | 30 | 28 | 30 | 28 |
| 67 | 25 | 23 | 25 | 23 |
| 68 to 74 | 23 | 23 | 23 | 23 |
| 75 \& Above | 100 | 100 | 100 | 100 |

## CERTIFIED FIREFIGHTERS, POLICE OFFICERS, OR CORRECTIONAL OFFICERS

|  | Annual Rate |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Less than 25 years of service |  | 25 or more years of service |  |
| Age | Male | Female | Male ${ }^{1}$ | Female $^{2}$ |
| 56 | 16\% | 16\% | 16\% | 16\% |
| 60 | 12 | 16 | 16 | 25 |
| 61 | 11 | 13 | 20 | 16 |
| 62 | 28 | 26 | 42 | 32 |
| 63 | 23 | 20 | 35 | 28 |
| 64 | 18 | 15 | 30 | 25 |
| 65 | 30 | 28 | 28 | 28 |
| 66 | 30 | 28 | 30 | 28 |
| 67 | 25 | 23 | 25 | 23 |
| 68 to 74 | 23 | 23 | 23 | 23 |
| 75 \& Above | 100 | 100 | 100 | 100 |

${ }^{1}$ Rates are increased by $10 \%$ in year when member attains 25 years of service at or before age 60.
${ }^{2}$ Rates are increased by $7 \%$ in year when member attains 25 years of service at or before age 60.

## STATE POLICEMEN

Annual Rate of

| Age | Death ${ }^{1}$ |  | Disability | Withdrawal ${ }^{2}$ |
| :---: | :---: | :---: | :---: | :---: |
|  | Male | Female |  |  |
| 20 | 0.03\% | 0.01\% | 0.08\% | 3.00\% |
| 25 | 0.03 | 0.01 | 0.10 | 3.00 |
| 30 | 0.05 | 0.02 | 0.14 | 2.50 |
| 35 | 0.08 | 0.03 | 0.22 | 1.75 |
| 40 | 0.10 | 0.04 | 0.34 | 1.75 |
| 45 | 0.14 | 0.07 | 0.46 | 1.75 |
| 50 | 0.20 | 0.10 | 0.60 |  |
| 55 | 0.36 | 0.19 |  |  |
| 60 | 0.71 | 0.38 |  |  |
| 62 | 0.91 | 0.50 |  |  |
| 65 | 1.30 | 0.71 |  |  |

1 Rates of pre-retirement mortality are according to the sex distinct RP-2000 Combined Mortality Table Projected with Scale AA to 2015 set forward three years for males and set forward one year for females with an adjustment factor of 0.90 for males and 0.70 for females.
2 A rate of $4.00 \%$ is assumed during the first four years of employment.

| Age | Under Age 60 with <20 years of service and all over age 60 | Under Age 60 with between 20 and 24 years of service | Under Age 60 with 25 or more years of service |
| :---: | :---: | :---: | :---: |
| < 52 |  |  | 25.00\% |
| 52 | 10.00\% | 25.00\% | 25.00 |
| 53 | 10.00 | 25.00 | 25.00 |
| 54 | 10.00 | 25.00 | 25.00 |
| 55 | 10.00 | 15.00 | 25.00 |
| 56 | 10.00 | 15.00 | 25.00 |
| 57 | 10.00 | 15.00 | 25.00 |
| 58 | 10.00 | 15.00 | 25.00 |
| 59 | 10.00 | 15.00 | 25.00 |
| 60 | 40.00 |  |  |
| 62 | 40.00 |  |  |
| 65 | 100.00 |  |  |

Annual Rate of Service Retirement for Tier II Members

Under Age 60 with between
20 and 24 years of service
60.00\%
15.00
15.00
15.00

Under Age 60 with $\underline{25}$ or more years of service

$$
40.00 \%
$$

75.00\%
10.00
10.00
25.00
10.00
40.00
40.00
100.00

DEATH AFTER RETIREMENT: The rates of mortality for the period after service retirement are according to the sex distinct RP-2000 Combined Mortality Table Projected with Scale AA to 2015 set forward three years for males and one year for females. The rates of mortality for the period after disability retirement are according to the sex distinct RP-2000 Disabled Mortality Table. In our opinion, the projection of the RP2000 mortality rates with Scale AA continues to provide a sufficient margin in the assumed rates of mortality to allow for additional improvement in mortality experience.

DEATH IN ACTIVE SERVICE BENEFIT: For those eligible for service retirement who die in active service, it is assumed that $75 \%$ of beneficiaries will elect the lump sum death benefit and $25 \%$ will elect the Option 3 allowance.

BENEFITS PAYABLE UPON SEPARATION FROM SERVICE: For active members who separate from service prior to eligibility for a service retirement allowance, the liability is assumed to be the greater of the value of the refund of contributions and the value of the deferred annuity.

UNUSED SICK LEAVE: $2.25 \%$ load on service retirement liabilities for active members (No load for Tier II members).

PERCENT MARRIED: 100\% of employees are assumed to be married, with the wife 3 years younger than the husband.

ACTUARIAL METHOD: Individual entry age normal cost method. Actuarial gains and losses are reflected in the unfunded actuarial accrued liability.

ASSET METHOD: Actuarial value, as developed in Schedule B. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected value of assets, based on the assumed valuation rate of return. The amount recognized each year is $20 \%$ of the difference between market value and expected market value. In order to reduce short-term volatility in valuation results and because the market value and actuarial value of assets were close in value, the actuarial value of assets was set equal to the market value on September 30, 2012. 5-year smoothing commenced again beginning September 30, 2013.

LIABILITY FOR CURRENT INACTIVE MEMBERS: Member Contribution Balance is multiplied by a factor of 2.5 for State Employees, and 3.0 for Local Employees and State Policemen.

VALUATION INTEREST RATE SMOOTHING: The valuation liabilities are calculated using a smoothed interest rate method. The interest rate assumed during the look forward period (currently 25 years from the valuation date) is the investment rate of return expected to be earned during the look forward period based on the actual rate of return earned during the look back period (currently 5 years) such that the average assumed rate of return over the combined 30 year period is equivalent to the assumed ultimate investment rate of return (currently $8.00 \%$ ). The interest rate after the 25 year look forward period is the ultimate investment rate of return of $8.00 \%$.

CORRIDOR LIMIT ON INTEREST SMOOTHING: The smoothed interest rate used during the 25 year look forward period is limited to a corridor of $0.50 \%$ around the ultimate investment rate of return. In addition, the limited smoothed interest rate may not increase or decrease by more than $1 / 8^{\text {th }} \%$ each year.

## SCHEDULE F

## ACTUARIAL COST METHOD

1. The valuation is prepared on the projected benefit basis, which is used to determine the present value of each member's expected benefit payable at retirement or death. The calculations are based on the member's age, years of service, sex, compensation, expected future salary increases, and an assumed future interest earnings rate (See Schedules D and E for a description of the interest rate used). The calculations consider the probability of a member's death or termination of employment prior to becoming eligible for a benefit and the probability of the member terminating with a service, disability, or survivor's benefit. The present value of the expected benefits payable to active members is added to the present value of the expected future payments to retired members and beneficiaries to obtain the present value of all expected benefits payable to the present group of members and beneficiaries.
2. The employer contributions required to support the benefits of the System are determined following a level funding approach, and consist of a normal contribution and an accrued liability contribution.
3. The normal contribution is determined using the "individual entry age normal" method. Under this method, a calculation is made to determine the uniform and constant percentage rate of employer contribution which, if applied to the compensation of each new member during the entire period of his anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his behalf.
4. The unfunded accrued liability is determined by subtracting the current assets and the present value of prospective employer normal contributions and member contributions from the present value of expected benefits to be paid from the System. The accrued liability contribution amortizes the balance of the unfunded accrued liability over a period of years from the valuation date.

## SCHEDULE G

## FUNDING POLICY OF THE ERS BOARD OF CONTROL

The purpose of the funding policy is to state the overall funding objectives for the Employees Retirement System of Alabama (System), the benchmarks that will be used to measure progress in achieving those goals, and the methods and assumptions that will be employed to develop the benchmarks.

The Board's funding policy applies to all plans administered by the Board of Control. The funding policy reflects the Board's long-term strategy for stability in funding of the plans.

## I.Funding Objectives

The goal in requiring employer and member contributions to the System is to accumulate sufficient assets during a member's employment to fully finance the benefits the member is expected to receive throughout retirement. In meeting this objective, the System will strive to meet the following funding objectives:

- To maintain an increasing funded ratio (ratio of system actuarial value of assets to actuarial accrued liabilities) that reflects a trend of improved actuarial condition. The long-term objective is to attain a funded ratio which is consistent with the fiscal health and long-term stability of the System.
- To maintain adequate asset levels to finance the benefits promised to members and monitor the future demands for liquidity.
- To develop a pattern of contribution rates expressed as a percentage of member payroll or as a dollar amount for employers with no active members as measured by valuations prepared in accordance with applicable State laws and the principles of practice prescribed by the Actuarial Standards Board. In no event will the employer contribution rate be negative.
- To provide intergenerational equity for taxpayers with respect to System costs.


## II.Benchmarks

To track progress in achieving the previously outlined funding objectives, the following benchmarks will be measured annually as of the valuation date. The valuation date is the date that the annual actuarial valuation of the System's assets and liabilities is prepared. This date is currently September $30^{\text {th }}$ each year with due recognition that a single year's results may not be indicative of long-term trends:

- Funded ratio - The funded ratio, defined as the actuarial value of assets divided by the actuarial accrued liability, should increase over time, before adjustments for changes in benefits, actuarial methods, and/or actuarial assumptions. An open amortization period is one for which the amortization period is recalculated on a yearly basis and the ending date of the amortization
period is a variable with each recalculation. A closed amortization period is one which is calculated over a fixed period and at the end of that period, the amount is fully amortized.


## - Unfunded Actuarial Accrued Liability (UAAL)

$>$ Transitional UAAL - The UAAL established as of the initial valuation date for which this funding policy is adopted shall be known as the Transitional UAAL (applicable only to employers participating in the System as of the adoption date of the funding policy).
$>$ New Incremental UAAL - Each subsequent valuation will produce a New Incremental UAAL consisting of all benefit changes, assumption and method changes and experience gains and/or losses that have occurred since the previous valuation.

## - UAAL Amortization Period and Contribution Rates for All Employers

$\Rightarrow$ For those employers with a funded percentage less than $100 \%$ in the valuation prior to the adoption of the funding policy: In each valuation $1 / 15^{\text {th }}$ of the Transitional UAAL will be amortized over a closed period. The closed period shall be the amortization period for the valuation preceding the adoption of the funding policy not to exceed 30 years. The remaining Transitional UAAL each year will be amortized over an open period. The open period shall be the amortization period for the valuation preceding the adoption of the funding policy not to exceed 30 years. After 15 years the entire Transitional UAAL will be closed.
$>$ For those employers with a funded percentage 100\% or greater in the valuation prior to the adoption of the funding policy: In each valuation $1 / 15^{\text {th }}$ of the Transitional UAAL will be amortized over a 30 year closed period. The remaining Transitional UAAL each year will be amortized over a 30 year open period. After 15 years the entire Transitional UAAL will be closed.
$>$ Each New Incremental UAAL shall be amortized over a closed 30 year period.
-Employer Normal Contribution Rate - the contribution rate determined as of the valuation date each year based on the provisions of Alabama Code Section 36-27-24.
$>$ In each valuation subsequent to the adoption of this funding policy the required employer contribution rate will be determined by the summation of the employer Normal Contribution Rate, a contribution rate for administrative expenses, a contribution rate for the pre-retirement death benefit fund, the individual amortization rate for each of the New Incremental UAAL bases, the individual amortization rate for each of the 15 closed periods for the Transitional UAAL and the amortization of any remaining open portion of the Transitional UAAL. If the resulting contribution rate will not support the cash flow and
projected benefit payment needs of a particular unit or employer then the RSA staff may approve a more aggressive funding policy for these units or employers.

## -UAAL Amortization Period for Employers joining the System after the Implementation of this Funding Policy

>For Employers joining the System after the implementation of this Funding Policy, the employer contribution rate shall be computed as the sum of the employer Normal Contribution rate, a contribution rate for administrative expenses, a contribution rate for the pre-retirement death benefit fund and the initial UAAL contribution rate. The initial UAAL contribution rate shall be determined by amortizing the initial UAAL over a closed period equal to the expected future working lifetime of the active membership. This initial amortization period shall not be less than 10 years nor greater than 30 years.
> In subsequent years the UAAL and employer contribution rate shall be determined in accordance with the rules of the Funding Policy described in the previous section.
-Special Consideration--If the resulting contribution rate will not support the cash flow and projected benefit payment needs of a particular unit or employer then the RSA staff may approve a more aggressive funding policy for these units or employers.

## III.Methods and Assumptions

The actuarial funding method used to develop the benchmarks will be the Entry Age Normal (EAN) actuarial cost method. The actuarial methods and assumptions used will be those last adopted by the Board based upon the advice and recommendation of the actuary including the Interest Smoothing methodology. The actuary shall conduct an investigation into the system's experience at least every five years and utilize the results of the investigation to form the basis for those recommendations which shall include the Interest Smoothing Methodology.

## IV.Funding Policy Progress

The Board will periodically have projections of funded status performed to assess the current and expected future progress towards the overall funding goals of the System.

## SCHEDULE H

## PROJECTION OF TRANSITIONAL UAAL AND AMORTIZATION OF BASES

## PROJECTION OF THE OPEN TRANSITIONAL UAAL

STATE EMPLOYEES

| Valuation Date | Transitional UAL Beginning of Year <br> (1) | Transitional closed (2) | Transitional remaining open $(3)=(1)-(2)$ | 8\% interest (4)=(3)*.08 | Amortization Payment (5) | Transitional Open UAL End of Year $(6)=(3)+(4)-(5)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9/30/2012 | \$2,483,987,366 | \$165,599,158 | \$2,318,388,208 | \$185,471,057 | \$148,697,195 | \$2,355,162,070 |
| 9/30/2013 | 2,355,162,070 | 168,225,862 | 2,186,936,208 | 174,954,897 | 140,266,104 | 2,221,625,001 |
| 9/30/2014 | 2,221,625,001 | 170,894,231 | 2,050,730,770 | 164,058,462 | 131,530,135 | 2,083,259,097 |
| 9/30/2015 | 2,083,259,097 | 173,604,925 | 1,909,654,172 | 152,772,334 | 122,481,739 | 1,939,944,767 |
| 9/30/2016 | 1,939,944,767 | 176,358,615 | 1,763,586,151 | 141,086,892 | 113,113,202 | 1,791,559,841 |
| 9/30/2017 | 1,791,559,841 | 179,155,984 | 1,612,403,857 | 128,992,309 | 103,416,645 | 1,637,979,520 |
| 9/30/2018 | 1,637,979,520 | 181,997,725 | 1,455,981,796 | 116,478,544 | 93,384,019 | 1,479,076,320 |
| 9/30/2019 | 1,479,076,320 | 184,884,540 | 1,294,191,780 | 103,535,342 | 83,007,103 | 1,314,720,020 |
| 9/30/2020 | 1,314,720,020 | 187,817,146 | 1,126,902,874 | 90,152,230 | 72,277,497 | 1,144,777,607 |
| 9/30/2021 | 1,144,777,607 | 190,796,268 | 953,981,339 | 76,318,507 | 61,186,625 | 969,113,221 |
| 9/30/2022 | 969,113,221 | 193,822,644 | 775,290,577 | 62,023,246 | 49,725,725 | 787,588,098 |
| 9/30/2023 | 787,588,098 | 196,897,025 | 590,691,073 | 47,255,286 | 37,885,849 | 600,060,510 |
| 9/30/2024 | 600,060,510 | 200,020,170 | 400,040,340 | 32,003,227 | 25,657,859 | 406,385,708 |
| 9/30/2025 | 406,385,708 | 203,192,855 | 203,192,854 | 16,255,428 | 13,032,419 | 206,415,864 |
| 9/30/2026 | 206,415,864 | 206,415,864 | 0 | 0 | 0 | 0 |

STATE POLICEMEN

| Valuation Date | Transitional UAL Beginning of Year (1) | Transitional closed (2) | Transitional remaining open $(3)=(1)-(2)$ | 8\% interest $(4)=(3) * .08$ | Amortization Payment* <br> (5) | Transitional Open UAL End of Year $(6)=(3)+(4)-(5)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9/30/2012 | \$223,751,421 | \$14,916,761 | \$208,834,660 | \$16,706,773 | \$13,394,275 | \$212,147,158 |
| 9/30/2013 | 212,147,158 | 15,153,368 | 196,993,790 | 15,759,503 | 12,634,823 | 200,118,470 |
| 9/30/2014 | 200,118,470 | 15,393,728 | 184,724,742 | 14,777,979 | 16,408,625 | 183,094,096 |
| 9/30/2015 | 183,094,096 | 15,257,841 | 167,836,255 | 13,426,900 | 14,908,464 | 166,354,691 |
| 9/30/2016 | 166,354,691 | 15,123,154 | 151,231,537 | 12,098,523 | 13,433,509 | 149,896,551 |
| 9/30/2017 | 149,896,551 | 14,989,655 | 134,906,896 | 10,792,552 | 11,983,433 | 133,716,015 |
| 9/30/2018 | 133,716,015 | 14,857,335 | 118,858,680 | 9,508,694 | 10,557,911 | 117,809,462 |
| 9/30/2019 | 117,809,462 | 14,726,183 | 103,083,279 | 8,246,662 | 9,156,623 | 102,173,318 |
| 9/30/2020 | 102,173,318 | 14,596,188 | 87,577,130 | 7,006,170 | 7,779,252 | 86,804,048 |
| 9/30/2021 | 86,804,048 | 14,467,342 | 72,336,707 | 5,786,937 | 6,425,484 | 71,698,159 |
| 9/30/2022 | 71,698,159 | 14,339,632 | 57,358,527 | 4,588,682 | 5,095,011 | 56,852,199 |
| 9/30/2023 | 56,852,199 | 14,213,050 | 42,639,149 | 3,411,132 | 3,787,526 | 42,262,754 |
| 9/30/2024 | 42,262,754 | 14,087,585 | 28,175,169 | 2,254,014 | 2,502,728 | 27,926,455 |
| 9/30/2025 | 27,926,455 | 13,963,228 | 13,963,227 | 1,117,058 | 1,240,318 | 13,839,968 |
| 9/30/2026 | 13,839,968 | 13,839,968 | 0 | 0 | 0 | 0 |

[^4]SCHEDULE H (Continued)

## AMORTIZATION SCHEDULE FOR BASES CLOSED ON SEPTEMBER 30, 2012

STATE EMPLOYEES

| Valuation <br> Date | Balance of <br> Transitional <br> Closed 9/30/2012 | Annual <br> Amortization <br> Payment |
| :---: | :---: | :---: |
| $9 / 30 / 2012$ | $\$ 165,599,158$ | $\$ 10,621,228$ |
| $9 / 30 / 2013$ | $168,225,862$ | $10,966,418$ |
| $9 / 30 / 2014$ | $170,717,514$ | $11,322,827$ |
| $9 / 30 / 2015$ | $173,052,088$ | $11,690,819$ |
| $9 / 30 / 2016$ | $175,205,436$ | $12,070,770$ |
| $9 / 30 / 2017$ | $177,151,101$ | $12,463,070$ |
| $9 / 30 / 2018$ | $178,860,119$ | $12,868,120$ |
| $9 / 30 / 2019$ | $180,300,809$ | $13,286,334$ |
| $9 / 30 / 2020$ | $181,438,540$ | $13,718,140$ |
| $9 / 30 / 2021$ | $182,235,483$ | $14,163,979$ |
| $9 / 30 / 2022$ | $182,650,343$ | $14,624,309$ |
| $9 / 30 / 2023$ | $182,638,061$ | $15,099,599$ |
| $9 / 30 / 2024$ | $182,149,507$ | $15,590,336$ |
| $9 / 30 / 2025$ | $181,131,132$ | $16,097,022$ |
| $9 / 30 / 2026$ | $179,524,601$ | $16,620,175$ |
| $9 / 30 / 2027$ | $177,266,394$ | $17,160,331$ |
| $9 / 30 / 2028$ | $174,287,375$ | $17,718,041$ |
| $9 / 30 / 2029$ | $170,512,324$ | $18,293,878$ |
| $9 / 30 / 2030$ | $165,859,432$ | $18,888,429$ |
| $9 / 30 / 2031$ | $160,239,758$ | $19,502,303$ |
| $9 / 30 / 2032$ | $153,556,636$ | $20,136,128$ |
| $9 / 30 / 2033$ | $145,705,039$ | $20,790,552$ |
| $9 / 30 / 2034$ | $136,570,890$ | $21,466,245$ |
| $9 / 30 / 2035$ | $126,030,316$ | $22,163,897$ |
| $9 / 30 / 2036$ | $113,948,844$ | $22,884,224$ |
| $9 / 30 / 2037$ | $100,180,528$ | $23,627,962$ |
| $9 / 30 / 2038$ | $84,567,008$ | $24,395,870$ |
| $9 / 30 / 2039$ | $66,936,499$ | $25,188,736$ |
| $9 / 30 / 2040$ | $47,102,683$ | $26,007,370$ |
| $9 / 30 / 2041$ | $24,863,528$ | $26,852,610$ |
| $9 / 30 / 2042$ |  | 0 |
|  |  |  |
|  |  |  |

STATE POLICE

| Valuation <br> Date | Balance of <br> Transitional <br> Closed $9 / 30 / 2012$ | Annual <br> Amortization <br> Payment |
| :---: | ---: | :---: |
| $9 / 30 / 2012$ | $\$ 14,916,761$ | $\$ 956,734$ |
| $9 / 30 / 2013$ | $15,153,368$ | 987,828 |
| $9 / 30 / 2014$ | $15,377,809$ | $1,391,521$ |
| $9 / 30 / 2015$ | $15,216,513$ | $1,391,521$ |
| $9 / 30 / 2016$ | $15,042,313$ | $1,391,521$ |
| $9 / 30 / 2017$ | $14,854,177$ | $1,391,521$ |
| $9 / 30 / 2018$ | $14,650,990$ | $1,391,521$ |
| $9 / 30 / 2019$ | $14,431,548$ | $1,391,521$ |
| $9 / 30 / 2020$ | $14,194,551$ | $1,391,521$ |
| $9 / 30 / 2021$ | $13,938,594$ | $1,391,521$ |
| $9 / 30 / 2022$ | $13,662,160$ | $1,391,521$ |
| $9 / 30 / 2023$ | $13,363,612$ | $1,391,521$ |
| $9 / 30 / 2024$ | $13,041,180$ | $1,391,521$ |
| $9 / 30 / 2025$ | $12,692,953$ | $1,391,521$ |
| $9 / 30 / 2026$ | $12,316,868$ | $1,391,521$ |
| $9 / 30 / 2027$ | $11,910,696$ | $1,391,521$ |
| $9 / 30 / 2028$ | $11,472,030$ | $1,391,521$ |
| $9 / 30 / 2029$ | $10,998,271$ | $1,391,521$ |
| $9 / 30 / 2030$ | $10,486,612$ | $1,391,521$ |
| $9 / 30 / 2031$ | $9,934,020$ | $1,391,521$ |
| $9 / 30 / 2032$ | $9,337,220$ | $1,391,521$ |
| $9 / 30 / 2033$ | $8,692,676$ | $1,391,521$ |
| $9 / 30 / 2034$ | $7,996,569$ | $1,391,521$ |
| $9 / 30 / 2035$ | $7,244,773$ | $1,391,521$ |
| $9 / 30 / 2036$ | $6,432,834$ | $1,391,521$ |
| $9 / 30 / 2037$ | $5,555,940$ | $1,391,521$ |
| $9 / 30 / 2038$ | $4,608,894$ | $1,391,521$ |
| $9 / 30 / 2039$ | $3,586,085$ | $1,391,521$ |
| $9 / 30 / 2040$ | $2,481,451$ | $1,391,521$ |
| $9 / 30 / 2041$ | $1,288,446$ | $1,391,522$ |
| $9 / 30 / 2042$ |  | - |
|  |  |  |
|  |  |  |

* Amortization method is level dollar as a percent of expected payroll to reflect the impact of Act 2013-67.

SCHEDULE H (Continued)

## AMORTIZATION SCHEDULE FOR BASES CLOSED ON SEPTEMBER 30, 2013

STATE EMPLOYEES

|  | Balance of Transitional Closed 9/30/2013 | Annual Amortization Payment | Balance of New Incremental UAAL 9/30/2013 | Annual Amortization Payment |
| :---: | :---: | :---: | :---: | :---: |
| 9/30/2013 | \$168,225,862 | \$10,789,700 | \$36,709,210 | \$2,354,462 |
| 9/30/2014 | 170,894,231 | 11,140,366 | 37,291,485 | 2,430,982 |
| 9/30/2015 | 173,425,404 | 11,502,427 | 37,843,822 | 2,509,989 |
| 9/30/2016 | 175,797,009 | 11,876,256 | 38,361,339 | 2,591,563 |
| 9/30/2017 | 177,984,513 | 12,262,235 | 38,838,683 | 2,675,789 |
| 9/30/2018 | 179,961,039 | 12,660,757 | 39,269,988 | 2,762,752 |
| 9/30/2019 | 181,697,165 | 13,072,232 | 39,648,835 | 2,852,542 |
| 9/30/2020 | 183,160,707 | 13,497,079 | 39,968,200 | 2,945,249 |
| 9/30/2021 | 184,316,484 | 13,935,734 | 40,220,406 | 3,040,970 |
| 9/30/2022 | 185,126,068 | 14,388,646 | 40,397,069 | 3,139,802 |
| 9/30/2023 | 185,547,508 | 14,856,277 | 40,489,033 | 3,241,845 |
| 9/30/2024 | 185,535,031 | 15,339,106 | 40,486,310 | 3,347,205 |
| 9/30/2025 | 185,038,728 | 15,837,627 | 40,378,010 | 3,455,989 |
| 9/30/2026 | 184,004,200 | 16,352,350 | 40,152,261 | 3,568,309 |
| 9/30/2027 | 182,372,186 | 16,883,801 | 39,796,134 | 3,684,279 |
| 9/30/2028 | 180,078,160 | 17,432,525 | 39,295,545 | 3,804,018 |
| 9/30/2029 | 177,051,888 | 17,999,082 | 38,635,171 | 3,927,649 |
| 9/30/2030 | 173,216,957 | 18,584,052 | 37,798,336 | 4,055,297 |
| 9/30/2031 | 168,490,262 | 19,188,033 | 36,766,906 | 4,187,094 |
| 9/30/2032 | 162,781,450 | 19,811,644 | 35,521,164 | 4,323,175 |
| 9/30/2033 | 155,992,321 | 20,455,523 | 34,039,682 | 4,463,678 |
| 9/30/2034 | 148,016,184 | 21,120,327 | 32,299,179 | 4,608,748 |
| 9/30/2035 | 138,737,151 | 21,806,738 | 30,274,365 | 4,758,532 |
| 9/30/2036 | 128,029,385 | 22,515,457 | 27,937,783 | 4,913,184 |
| 9/30/2037 | 115,756,279 | 23,247,209 | 25,259,621 | 5,072,863 |
| 9/30/2038 | 101,769,572 | 24,002,744 | 22,207,528 | 5,237,731 |
| 9/30/2039 | 85,908,394 | 24,782,833 | 18,746,400 | 5,407,957 |
| 9/30/2040 | 67,998,233 | 25,588,275 | 14,838,155 | 5,583,716 |
| 9/30/2041 | 47,849,816 | 26,419,894 | 10,441,492 | 5,765,186 |
| 9/30/2042 | 25,257,908 | 27,278,540 | 5,511,625 | 5,952,555 |
| 9/30/2043 | 0 | 0 | 0 | 0 |

SCHEDULE H (Continued)

## AMORTIZATION SCHEDULE FOR BASES CLOSED ON SEPTEMBER 30, 2013

STATE POLICE

|  | Balance of Transitional Closed 9/30/2013 | Annual Amortization Payment* | Balance of New Incremental UAAL 9/30/2013 | Annual Amortization Payment* |
| :---: | :---: | :---: | :---: | :---: |
| 9/30/2013 | \$15,153,368 | \$971,909 | \$170,613 | \$10,943 |
| 9/30/2014 | 15,393,728 | 1,379,563 | 173,319 | 15,533 |
| 9/30/2015 | 15,245,663 | 1,379,563 | 171,652 | 15,533 |
| 9/30/2016 | 15,085,753 | 1,379,563 | 169,852 | 15,533 |
| 9/30/2017 | 14,913,049 | 1,379,563 | 167,907 | 15,533 |
| 9/30/2018 | 14,726,530 | 1,379,563 | 165,807 | 15,533 |
| 9/30/2019 | 14,525,089 | 1,379,563 | 163,539 | 15,533 |
| 9/30/2020 | 14,307,533 | 1,379,563 | 161,090 | 15,533 |
| 9/30/2021 | 14,072,572 | 1,379,563 | 158,444 | 15,533 |
| 9/30/2022 | 13,818,815 | 1,379,563 | 155,587 | 15,533 |
| 9/30/2023 | 13,544,756 | 1,379,563 | 152,502 | 15,533 |
| 9/30/2024 | 13,248,774 | 1,379,563 | 149,169 | 15,533 |
| 9/30/2025 | 12,929,112 | 1,379,563 | 145,570 | 15,533 |
| 9/30/2026 | 12,583,878 | 1,379,563 | 141,683 | 15,533 |
| 9/30/2027 | 12,211,025 | 1,379,563 | 137,485 | 15,533 |
| 9/30/2028 | 11,808,343 | 1,379,563 | 132,951 | 15,533 |
| 9/30/2029 | 11,373,447 | 1,379,563 | 128,055 | 15,533 |
| 9/30/2030 | 10,903,760 | 1,379,563 | 122,766 | 15,533 |
| 9/30/2031 | 10,396,497 | 1,379,563 | 117,055 | 15,533 |
| 9/30/2032 | 9,848,653 | 1,379,563 | 110,887 | 15,533 |
| 9/30/2033 | 9,256,982 | 1,379,563 | 104,225 | 15,533 |
| 9/30/2034 | 8,617,978 | 1,379,563 | 97,031 | 15,533 |
| 9/30/2035 | 7,927,852 | 1,379,563 | 89,260 | 15,533 |
| 9/30/2036 | 7,182,517 | 1,379,563 | 80,869 | 15,533 |
| 9/30/2037 | 6,377,555 | 1,379,563 | 71,805 | 15,533 |
| 9/30/2038 | 5,508,196 | 1,379,563 | 62,017 | 15,533 |
| 9/30/2039 | 4,569,289 | 1,379,563 | 51,446 | 15,533 |
| 9/30/2040 | 3,555,269 | 1,379,563 | 40,029 | 15,533 |
| 9/30/2041 | 2,460,127 | 1,379,563 | 27,699 | 15,533 |
| 9/30/2042 | 1,277,373 | 1,379,563 | 14,382 | 15,533 |
| 9/30/2043 | 0 | 0 | 0 | 0 |

* Amortization method is level dollar as a percent of expected payroll to reflect the impact of Act 2013-67.

SCHEDULE H (Continued)

## AMORTIZATION SCHEDULE FOR BASES CLOSED ON SEPTEMBER 30, 2014

## STATE EMPLOYEES

|  | Balance of Transitional Closed 9/30/2014 | Annual Amortization Payment | Balance of New Incremental UAAL 9/30/2014 | Annual Amortization Payment |
| :---: | :---: | :---: | :---: | :---: |
| 9/30/2014 | \$170,894,231 | \$10,960,845 | $(\$ 40,029,335)$ | $(\$ 2,567,409)$ |
| 9/30/2015 | 173,604,925 | 11,317,072 | $(40,664,273)$ | (2,650,849) |
| 9/30/2016 | 176,176,247 | 11,684,877 | $(41,266,566)$ | $(2,737,002)$ |
| 9/30/2017 | 178,585,470 | 12,064,635 | $(41,830,889)$ | $(2,825,955)$ |
| 9/30/2018 | 180,807,672 | 12,456,736 | $(42,351,405)$ | $(2,917,798)$ |
| 9/30/2019 | 182,815,549 | 12,861,580 | $(42,821,720)$ | $(3,012,627)$ |
| 9/30/2020 | 184,579,214 | 13,279,581 | $(43,234,831)$ | $(3,110,537)$ |
| 9/30/2021 | 186,065,969 | 13,711,168 | $(43,583,080)$ | $(3,211,629)$ |
| 9/30/2022 | 187,240,079 | 14,156,781 | $(43,858,098)$ | $(3,316,007)$ |
| 9/30/2023 | 188,062,505 | 14,616,876 | $(44,050,738)$ | $(3,423,778)$ |
| 9/30/2024 | 188,490,629 | 15,091,924 | $(44,151,020)$ | $(3,535,050)$ |
| 9/30/2025 | 188,477,955 | 15,582,412 | $(44,148,051)$ | $(3,649,939)$ |
| 9/30/2026 | 187,973,780 | 16,088,840 | $(44,029,956)$ | $(3,768,562)$ |
| 9/30/2027 | 186,922,842 | 16,611,728 | $(43,783,790)$ | $(3,891,041)$ |
| 9/30/2028 | 185,264,941 | 17,151,609 | $(43,395,452)$ | $(4,017,500)$ |
| 9/30/2029 | 182,934,528 | 17,709,036 | $(42,849,589)$ | $(4,148,068)$ |
| 9/30/2030 | 179,860,254 | 18,284,580 | $(42,129,487)$ | $(4,282,881)$ |
| 9/30/2031 | 175,964,494 | 18,878,829 | $(41,216,966)$ | $(4,422,074)$ |
| 9/30/2032 | 171,162,825 | 19,492,391 | $(40,092,249)$ | $(4,565,792)$ |
| 9/30/2033 | 165,363,460 | 20,125,893 | $(38,733,837)$ | $(4,714,180)$ |
| 9/30/2034 | 158,466,644 | 20,779,985 | $(37,118,365)$ | $(4,867,391)$ |
| 9/30/2035 | 150,363,991 | 21,455,334 | $(35,220,443)$ | $(5,025,581)$ |
| 9/30/2036 | 140,937,776 | 22,152,633 | $(33,012,498)$ | $(5,188,912)$ |
| 9/30/2037 | 130,060,165 | 22,872,593 | $(30,464,586)$ | $(5,357,552)$ |
| 9/30/2038 | 117,592,385 | 23,615,953 | $(27,544,201)$ | $(5,531,672)$ |
| 9/30/2039 | 103,383,823 | 24,383,471 | $(24,216,064)$ | $(5,711,452)$ |
| 9/30/2040 | 87,271,058 | 25,175,934 | $(20,441,898)$ | $(5,897,074)$ |
| 9/30/2041 | 69,076,809 | 25,994,152 | $(16,180,176)$ | $(6,088,729)$ |
| 9/30/2042 | 48,608,802 | 26,838,962 | $(11,385,861)$ | $(6,286,612)$ |
| 9/30/2043 | 25,658,544 | 27,711,228 | $(6,010,118)$ | $(6,490,927)$ |
| 9/30/2044 | 0 | 0 | 0 | 0 |

SCHEDULE H (Continued)

## AMORTIZATION SCHEDULE FOR BASES CLOSED ON SEPTEMBER 30, 2014

STATE POLICE

|  | Balance of Transitional Closed 9/30/2014 | $\begin{gathered} \text { Annual } \\ \text { Amortization } \\ \text { Payment }^{\star} \end{gathered}$ | Balance of New Incremental UAAL 9/30/2014 | $\begin{gathered} \text { Annual } \\ \text { Amortization } \\ \underline{\text { Payment }^{*}} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| 9/30/2014 | \$15,393,728 | \$1,367,385 | \$78,767 | \$6,997 |
| 9/30/2015 | 15,257,841 | 1,367,385 | 78,072 | 6,997 |
| 9/30/2016 | 15,111,083 | 1,367,385 | 77,321 | 6,997 |
| 9/30/2017 | 14,952,585 | 1,367,385 | 76,510 | 6,997 |
| 9/30/2018 | 14,781,406 | 1,367,385 | 75,634 | 6,997 |
| 9/30/2019 | 14,596,533 | 1,367,385 | 74,688 | 6,997 |
| 9/30/2020 | 14,396,870 | 1,367,385 | 73,666 | 6,997 |
| 9/30/2021 | 14,181,234 | 1,367,385 | 72,563 | 6,997 |
| 9/30/2022 | 13,948,348 | 1,367,385 | 71,371 | 6,997 |
| 9/30/2023 | 13,696,830 | 1,367,385 | 70,084 | 6,997 |
| 9/30/2024 | 13,425,191 | 1,367,385 | 68,694 | 6,997 |
| 9/30/2025 | 13,131,821 | 1,367,385 | 67,193 | 6,997 |
| 9/30/2026 | 12,814,982 | 1,367,385 | 65,572 | 6,997 |
| 9/30/2027 | 12,472,795 | 1,367,385 | 63,821 | 6,997 |
| 9/30/2028 | 12,103,233 | 1,367,385 | 61,930 | 6,997 |
| 9/30/2029 | 11,704,106 | 1,367,385 | 59,888 | 6,997 |
| 9/30/2030 | 11,273,049 | 1,367,385 | 57,682 | 6,997 |
| 9/30/2031 | 10,807,508 | 1,367,385 | 55,300 | 6,997 |
| 9/30/2032 | 10,304,723 | 1,367,385 | 52,727 | 6,997 |
| 9/30/2033 | 9,761,715 | 1,367,385 | 49,949 | 6,997 |
| 9/30/2034 | 9,175,267 | 1,367,385 | 46,948 | 6,997 |
| 9/30/2035 | 8,541,903 | 1,367,385 | 43,707 | 6,997 |
| 9/30/2036 | 7,857,870 | 1,367,385 | 40,207 | 6,997 |
| 9/30/2037 | 7,119,114 | 1,367,385 | 36,427 | 6,997 |
| 9/30/2038 | 6,321,258 | 1,367,385 | 32,345 | 6,997 |
| 9/30/2039 | 5,459,573 | 1,367,385 | 27,936 | 6,997 |
| 9/30/2040 | 4,528,954 | 1,367,385 | 23,174 | 6,997 |
| 9/30/2041 | 3,523,885 | 1,367,385 | 18,031 | 6,997 |
| 9/30/2042 | 2,438,410 | 1,367,385 | 12,477 | 6,997 |
| 9/30/2043 | 1,266,098 | 1,367,385 | 6,478 | 6,997 |
| 9/30/2044 | 0 | 0 | 0 | 0 |

* Amortization method is level dollar as a percent of expected payroll to reflect the impact of Act 2013-67.

SCHEDULE H (Continued)

## AMORTIZATION SCHEDULE FOR BASES CLOSED ON SEPTEMBER 30, 2015

## STATE EMPLOYEES

|  | Balance of Transitional Closed 9/30/2015 | Annual Amortization Payment | Balance of New Incremental UAAL 9/30/2015 | Annual Amortization Payment |
| :---: | :---: | :---: | :---: | :---: |
| 9/30/2015 | \$173,604,925 | \$11,134,704 | \$54,809,112 | \$3,515,357 |
| 9/30/2016 | \$176,358,615 | \$11,496,581 | \$55,678,484 | \$3,629,606 |
| 9/30/2017 | \$178,970,723 | \$11,870,220 | \$56,503,157 | \$3,747,568 |
| 9/30/2018 | \$181,418,161 | \$12,256,002 | \$57,275,842 | \$3,869,364 |
| 9/30/2019 | \$183,675,611 | \$12,654,323 | \$57,988,546 | \$3,995,118 |
| 9/30/2020 | \$185,715,337 | \$13,065,588 | \$58,632,511 | \$4,124,959 |
| 9/30/2021 | \$187,506,976 | \$13,490,220 | \$59,198,153 | \$4,259,021 |
| 9/30/2022 | \$189,017,315 | \$13,928,652 | \$59,674,984 | \$4,397,439 |
| 9/30/2023 | \$190,210,048 | \$14,381,333 | \$60,051,544 | \$4,540,356 |
| 9/30/2024 | \$191,045,519 | \$14,848,726 | \$60,315,312 | \$4,687,917 |
| 9/30/2025 | \$191,480,434 | \$15,331,310 | \$60,452,620 | \$4,840,274 |
| 9/30/2026 | \$191,467,559 | \$15,829,577 | \$60,448,555 | \$4,997,583 |
| 9/30/2027 | \$190,955,386 | \$16,344,039 | \$60,286,856 | \$5,160,005 |
| 9/30/2028 | \$189,887,778 | \$16,875,220 | \$59,949,800 | \$5,327,705 |
| 9/30/2029 | \$188,203,581 | \$17,423,665 | \$59,418,079 | \$5,500,855 |
| 9/30/2030 | \$185,836,203 | \$17,989,934 | \$58,670,670 | \$5,679,633 |
| 9/30/2031 | \$182,713,165 | \$18,574,607 | \$57,684,690 | \$5,864,221 |
| 9/30/2032 | \$178,755,612 | \$19,178,281 | \$56,435,244 | \$6,054,808 |
| 9/30/2033 | \$173,877,779 | \$19,801,575 | \$54,895,255 | \$6,251,590 |
| 9/30/2034 | \$167,986,426 | \$20,445,127 | \$53,035,286 | \$6,454,766 |
| 9/30/2035 | \$160,980,214 | \$21,109,593 | \$50,823,343 | \$6,664,546 |
| 9/30/2036 | \$152,749,037 | \$21,795,655 | \$48,224,664 | \$6,881,144 |
| 9/30/2037 | \$143,173,305 | \$22,504,014 | \$45,201,493 | \$7,104,781 |
| 9/30/2038 | \$132,123,156 | \$23,235,394 | \$41,712,831 | \$7,335,687 |
| 9/30/2039 | \$119,457,614 | \$23,990,545 | \$37,714,171 | \$7,574,096 |
| 9/30/2040 | \$105,023,679 | \$24,770,237 | \$33,157,208 | \$7,820,255 |
| 9/30/2041 | \$88,655,336 | \$25,575,270 | \$27,989,530 | \$8,074,413 |
| 9/30/2042 | \$70,172,493 | \$26,406,466 | \$22,154,279 | \$8,336,831 |
| 9/30/2043 | \$49,379,826 | \$27,264,676 | \$15,589,791 | \$8,607,778 |
| 9/30/2044 | \$26,065,536 | \$28,150,778 | \$8,229,195 | \$8,887,531 |
| 9/30/2045 | \$0 | \$0 | \$0 | \$0 |

SCHEDULE H (Continued)

## AMORTIZATION SCHEDULE FOR BASES CLOSED ON SEPTEMBER 30, 2015

STATE POLICE

|  | Balance of Transitional Closed 9/30/2015 | $\begin{gathered} \text { Annual } \\ \text { Amortization } \\ \text { Payment }^{*} \end{gathered}$ | Balance of New Incremental UAAL 9/30/2015 | Annual Amortization Payment* |
| :---: | :---: | :---: | :---: | :---: |
| 9/30/2015 | \$15,257,841 | \$1,355,315 | \$17,357,914 | \$1,541,859 |
| 9/30/2016 | \$15,123,154 | \$1,355,315 | \$17,204,688 | \$1,541,859 |
| 9/30/2017 | \$14,977,691 | \$1,355,315 | \$17,039,204 | \$1,541,859 |
| 9/30/2018 | \$14,820,592 | \$1,355,315 | \$16,860,482 | \$1,541,859 |
| 9/30/2019 | \$14,650,924 | \$1,355,315 | \$16,667,461 | \$1,541,859 |
| 9/30/2020 | \$14,467,683 | \$1,355,315 | \$16,458,999 | \$1,541,859 |
| 9/30/2021 | \$14,269,783 | \$1,355,315 | \$16,233,860 | \$1,541,859 |
| 9/30/2022 | \$14,056,051 | \$1,355,315 | \$15,990,710 | \$1,541,859 |
| 9/30/2023 | \$13,825,220 | \$1,355,315 | \$15,728,108 | \$1,541,859 |
| 9/30/2024 | \$13,575,922 | \$1,355,315 | \$15,444,498 | \$1,541,859 |
| 9/30/2025 | \$13,306,681 | \$1,355,315 | \$15,138,198 | \$1,541,859 |
| 9/30/2026 | \$13,015,901 | \$1,355,315 | \$14,807,395 | \$1,541,859 |
| 9/30/2027 | \$12,701,858 | \$1,355,315 | \$14,450,128 | \$1,541,859 |
| 9/30/2028 | \$12,362,692 | \$1,355,315 | \$14,064,279 | \$1,541,859 |
| 9/30/2029 | \$11,996,392 | \$1,355,315 | \$13,647,563 | \$1,541,859 |
| 9/30/2030 | \$11,600,789 | \$1,355,315 | \$13,197,509 | \$1,541,859 |
| 9/30/2031 | \$11,173,537 | \$1,355,315 | \$12,711,451 | \$1,541,859 |
| 9/30/2032 | \$10,712,105 | \$1,355,315 | \$12,186,508 | \$1,541,859 |
| 9/30/2033 | \$10,213,759 | \$1,355,315 | \$11,619,569 | \$1,541,859 |
| 9/30/2034 | \$9,675,545 | \$1,355,315 | \$11,007,276 | \$1,541,859 |
| 9/30/2035 | \$9,094,273 | \$1,355,315 | \$10,345,999 | \$1,541,859 |
| 9/30/2036 | \$8,466,500 | \$1,355,315 | \$9,631,820 | \$1,541,859 |
| 9/30/2037 | \$7,788,505 | \$1,355,315 | \$8,860,507 | \$1,541,859 |
| 9/30/2038 | \$7,056,271 | \$1,355,315 | \$8,027,488 | \$1,541,859 |
| 9/30/2039 | \$6,265,458 | \$1,355,315 | \$7,127,828 | \$1,541,859 |
| 9/30/2040 | \$5,411,379 | \$1,355,315 | \$6,156,196 | \$1,541,859 |
| 9/30/2041 | \$4,488,975 | \$1,355,315 | \$5,106,832 | \$1,541,859 |
| 9/30/2042 | \$3,492,778 | \$1,355,315 | \$3,973,520 | \$1,541,859 |
| 9/30/2043 | \$2,416,885 | \$1,355,315 | \$2,749,543 | \$1,541,859 |
| 9/30/2044 | \$1,254,921 | \$1,355,315 | \$1,427,647 | \$1,541,859 |
| 9/30/2045 | \$0 | \$0 | \$0 | \$0 |

* Amortization method is level dollar as a percent of expected payroll to reflect the impact of Act 2013-67.


## SCHEDULE I

## SUMMARY OF MAIN SYSTEM PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES

The Employees' Retirement System of Alabama was established on October 1, 1945. The valuation took into account amendments to the System effective through the valuation date. There is a new tier (Tier II) of benefits for all members initially joining the System on and after January 1, 2013. Act 2013-67 provides that State policemen hired on or after January 1, 2015 will no longer be eligible for benefits under the code section covering State policemen, but instead will be covered under the provisions pertaining to State employees who are law enforcement officers. The following summary describes the main benefit and contribution provisions of the System as interpreted for the valuation.

## 1 - DEFINITIONS

Average Final Compensation - the average compensation of a member for:

- Tier 1 - the 3 highest years in the last 10 years of creditable service
- Tier 2 - the 5 highest years in the last 10 years of creditable service

Membership Service - all service rendered while a member of the Retirement System and for which contributions are made.

Creditable Service - the sum of membership service, prior service, and any other previous service established as creditable in accordance with the provisions of the retirement law.

Annuity - payments for life derived from accumulated contributions of a member.
Pension - payments for life derived from the accumulated contributions of an employer.
Retirement Allowance - the sum of the annuity and pension payments.

2 - BENEFITS
MEMBERS CLASSIFIED OTHER THAN STATE POLICEMEN

## Service Retirement Allowance

Condition for Allowance
Tier I
A retirement allowance is payable upon the request of any member who has completed 25 years of creditable service,

Tier II

Amount of Allowance

Tier I

Tier II

Disability Retirement Allowance
Condition for Allowance

Amount of Allowance
Tier I

Tier II
(except for employees of local employers who did not elect 25 -year retirement), or who has attained age 60 and completed at least 10 years of creditable service.

A retirement allowance is payable upon the request of any member who has attained age 62 and completed at least 10 years of creditable service (age 56 with 10 years of creditable service for a full-time certified firefighter, police officer or correctional officer).

Upon service retirement a member receives a retirement allowance equal to $2.0125 \%$ of the member's average final compensation multiplied by the number of years of his creditable service. At retirement, a member receives one additional year of creditable service in determining the retirement allowance for each five years of service as a fulltime certified firefighter, police officer or correctional officer.

Upon service retirement a member receives a retirement allowance equal to $1.65 \%$ of the member's average final compensation multiplied by the number of years of creditable service. The benefit is capped at $80 \%$ of the member's average final compensation.

A disability retirement allowance may be granted to a member who has 10 or more years of creditable service and becomes permanently incapacitated for duty before reaching eligibility for service retirement.

Upon retirement for disability, a member receives a retirement allowance equal to $2.0125 \%$ of the member's average final compensation multiplied by the number of years of his creditable service. At retirement, a member receives one additional year of creditable service in determining the retirement allowance for each five years of service as a fulltime certified firefighter, police officer or correctional officer.

Upon disability retirement a member receives a retirement allowance equal to $1.65 \%$ of the member's average final compensation multiplied by the number of years of creditable service. The benefit is capped at $80 \%$ of the member's average final compensation.

Benefits Payable on Separation from Service

Benefits Payable upon Death in Active Service

Any member who withdraws from service is entitled to receive a return of member contributions with allowable interest. A member who has completed 10 years of creditable service may, after separation from service, continue in the membership of the System and file for service retirement after reaching age 60 (age 62 for Tier II members).

In the event of the death of a member eligible for service retirement, the designated beneficiary may elect: (1) to exercise option 3 as defined below under "Special Privileges at Retirement - All Employees" or (2) to receive a return of member contributions and total interest earned plus a death benefit payable from the pre-retirement death benefit fund equal to the salary on which the member made retirement contributions for the previous fiscal year (October 1 September 30).*

In the event of the death of a member with more than one year of service who is not eligible for retirement, the designated beneficiary shall receive a return of member contributions and total interest earned. Also, the designated beneficiary shall receive an additional death benefit payable from the pre-retirement death benefit fund equal to the salary on which their retirement contributions were made for the previous fiscal year (October 1 - September 30).*

In the event of a job-related death of a member at any age with less than 1 year of service, the designated beneficiary shall receive the return of member contributions and total earned interest plus a death benefit payable from the preretirement death benefit fund equal to the annual earnable compensation of the member at the time death occurs.*

In the event of a non job-related death of a member with less than 1 year of service, the beneficiary shall receive the return of member contributions and total interest earned plus a matching death benefit which is limited to a maximum of \$5,000.

* However, if the death occurred more than 180 calendar days after the member's last day in pay status, or if the deceased had applied for a refund of contributions or terminated employment, the lump sum will be the same as if the member had less than one year of service and the death was not job-related.

A member may elect to participate in the Deferred Retirement Option Plan (DROP) upon completion of at least 25 years of service (at least 30 years for employers that did not elect 25 year retirement) of creditable service (excluding sick leave) and attainment of at least 55 years of age. Under the DROP, the member may defer receipt of a retirement allowance and continue employment for a period not to exceed five years, nor to be less than three years. At the end of this period, the member may withdraw from active service and receive the retirement benefit based on his or her years of service credit at the time of enrollment in the DROP, and also receive a payment for the deferred retirement benefits, employee contributions while participating in the DROP, and interest earned on DROP deposits.

The effect of Act 2011-27 is that no new participants will be allowed to enter DROP with an effective participation date after June 1, 2011.

## Member Contributions

Tier I

Tier II

Both

Prior to October 1, 2011, regular members contributed 5.0\% of salary. Full-time certified police officers, firefighters and correctional officers contributed $6.0 \%$ of salary. DROP participants continue to contribute during the DROP period, but receive a refund of these contributions and regular interest upon retirement.

Beginning October 1, 2011, the contribution rates were increased to $7.25 \%$ for regular members and $8.25 \%$ for fulltime certified police officers, firefighters and correctional officers, for all State employees and for local employees whose employers elect to do so.

Beginning October 1, 2012, the contribution rates were increased to $7.50 \%$ for regular members and $8.50 \%$ for fulltime certified police officers, firefighters and correctional officers, for all State employees and for local employees whose employers elect to do so.

Regular members contribute $6 \%$ of salary and full-time certified firefighters, police officers and correctional officers contribute 7\% of salary.

If positive investment performance results in a decrease in the total contribution rate paid by employers and employees participating in the System, the Retirement System of Alabama shall first reduce the employee contribution rate.
"Regular Interest" is $4 \%$ which is the rate adopted by the Board and applied to the balance in each member's' account every year; however, if a member receives a refund of contributions, the interest rate applied to the refund is lower than the $4 \%$ regular rate (Based on Section 36-2716.3(c)(1)).

## MEMBERS CLASSIFIED AS STATE POLICEMEN

Service Retirement Allowance

Condition for Allowance

Tier I

Tier II

Amount of Allowance

Tier I

Tier II
A retirement allowance is payable upon the request of any member who has completed 25 years of creditable service or who has attained age 52 and completed at least 10 years of creditable service.

A retirement allowance is payable upon the request of any member who has attained age 56 and completed at least 10 years of creditable service.
ier II
Upon service retirement a member receives a retirement allowance equal to $2.875 \%$ of the member's average final compensation multiplied by the number of years of his creditable service.

A member who has attained 20 or more years of creditable service and retires prior to age 60 is eligible to receive a "bonus service credit" up to 4 years as follows:

- Age 56 or older - bonus service of 4 years reduced by 1 month for each month over the age of 56 .
- Age 52 to 56 - bonus service of 4 years.
- Age 52 or less (disability retirement only) - bonus service of 4 years.
- Age 52 or less with 25 or more years of service - bonus service of 4 years.

Upon service retirement a member receives a retirement allowance equal to $2.375 \%$ of the member's average final compensation multiplied by the number of years of his creditable service. The benefit is capped at $80 \%$ of the member's average final compensation.

Condition for Allowance

Amount of Allowance
Tier I

Tier II

Benefits Payable on<br>Separation from Service

Benefits Payable upon
Death in Active Service

A disability retirement allowance may be granted to a member who has 10 or more years of creditable service or who becomes disabled as a result of his employment in line of duty without regard to his years of creditable service, and who becomes permanently incapacitated, mentally or physically, for the further performance of duty before reaching the minimum age for service retirement.

Upon retirement for disability, a member receives a retirement allowance equal to $2.875 \%$ of the member's average final compensation multiplied by the number of years of his creditable service.

Upon retirement for disability, a member receives a retirement allowance equal to $2.375 \%$ of the member's average final compensation multiplied by the number of years of his creditable service. The benefit is capped at $80 \%$ of the member's average final compensation.

Any member who withdraws from service is entitled to receive a return of member contributions with allowable interest. A member who has completed 10 years of creditable service may, after separation from service, continue in the membership of the System and file for service retirement after reaching age 52 (age 56 for Tier II members).

In the event of the death of a member who is eligible for service retirement, the designated beneficiary may elect: (1) to exercise option 3 as defined below under "Special Privileges at Retirement - All Employees" or (2) to receive a return of member contributions and total interest earned plus a death benefit payable from the pre-retirement death benefit fund equal to the salary on which the member made retirement contributions for the previous fiscal year (October 1 - September 30).*

In the event of the death of a member with more than one year of service who is not eligible for retirement, the designated beneficiary shall receive a return of member contributions and total interest earned. Also, the designated beneficiary shall receive an additional death benefit payable from the pre-retirement death benefit fund equal to the salary
on which their retirement contributions were made for the previous fiscal year (October 1 - September 30).*

In the event of a job-related death of a member at any age with less than 1 year of service, the designated beneficiary shall receive the return of member contributions and total earned interest plus a death benefit payable from the preretirement death benefit fund equal to the annual earnable compensation of the member at the time death occurs.*

In the event of a non job-related death of a member with less than 1 year of service, the beneficiary shall receive the return of member contributions and total interest earned plus a matching death benefit which is limited to a maximum of \$5,000.

* However, if the death occurred more than 180 calendar days after the member's last day in pay status, or if the deceased had applied for a refund of contributions or terminated employment, the lump sum will be the same as if the member had less than one year of service and the death was not job-related.

Deferred Retirement Option Plan (DROP)

A member may elect to participate in the Deferred Retirement Option Plan (DROP) upon completion of at least 25 years of creditable service (excluding sick leave) and attainment of at least 52 years of age. Under the DROP, the member may defer receipt of a retirement allowance and continue employment for a period not to exceed five years, nor to be less than three years. At the end of this period, the member may withdraw from active service and receive the retirement benefit based on his or her years of service credit at the time of enrollment in the DROP, and also receive a payment for the deferred retirement benefits, employee contributions while participating in the DROP, and interest earned on DROP deposits.

The effect of Act 2011-27 is that no new participants will be allowed to enter DROP with an effective participation date after June 1, 2011.

Each member contributes 10\% of salary. DROP participants continue to contribute during the DROP period, but receive a refund of these contributions with interest upon retirement.

In lieu of the full retirement allowance, any member may, at retirement, elect to receive a reduced retirement allowance equal in value to the full allowance, with the provision that:

Option 1. If the member dies before the annuity payments equal or exceed the present value of the member's annuity at the date of retirement, the balance is paid to a designated beneficiary or to the estate, or

Option 2. After the member's death, the member's allowance is continued throughout the life of the designated beneficiary, or

Option 3. After the member's death, one half of the member's allowance is continued throughout the life of the designated beneficiary, or

Option 4. Some other benefit is paid either to the member or to the designated beneficiary provided such benefit, together with the reduced retirement allowance, is of equivalent actuarial value to his retirement allowance and is approved by the Board of Control.

## SCHEDULE J

## SCHEDULE OF MEMBERSHIP DATA AS OF SEPTEMBER 30, 2015

ACTIVE STATE EMPLOYEES

| Attained Age | Completed Years of Service |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Under 1 | 1 to 4 | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 to 34 | 35 to 39 | 40 \& up | Total |
| Under 25 <br> Avg. Pay | 509 $\$ 25,866$ | 385 $\$ 30,239$ | \$33,531 ${ }^{2}$ |  |  |  |  |  |  |  | 896 $\$ 27,762$ |
| $25 \text { to } 29$ <br> Avg. Pay | 684 \$27,991 | $\begin{array}{r} 1,441 \\ \$ 32,709 \end{array}$ | $\begin{array}{r} 381 \\ \$ 35,725 \end{array}$ | $\begin{array}{r} 8 \\ \$ 30,918 \end{array}$ |  |  |  |  |  |  | $\begin{array}{r} 2,514 \\ \$ 31,877 \end{array}$ |
| $30 \text { to } 34$ <br> Avg. Pay | 413 $\$ 28,601$ | $\begin{array}{r} 1,062 \\ \$ 34,258 \end{array}$ | 1,253 $\$ 38,440$ | $\begin{array}{r} 334 \\ \$ 38,755 \end{array}$ | $\begin{array}{r} 4 \\ \$ 36,514 \end{array}$ |  |  |  |  |  | $\begin{array}{r} 3,066 \\ \$ 35,698 \end{array}$ |
| $35 \text { to } 39$ <br> Avg. Pay | 305 $\$ 30,054$ | $\begin{array}{r} 729 \\ \$ 34,518 \end{array}$ | $\begin{array}{r} 989 \\ \$ 39,198 \end{array}$ | $\begin{array}{r} 1,151 \\ \$ 43,145 \end{array}$ | $\begin{array}{r} 236 \\ \$ 43,938 \end{array}$ | $\begin{array}{r} 3 \\ \$ 42,721 \end{array}$ |  |  |  |  | $\begin{array}{r} 3,413 \\ \$ 39,043 \end{array}$ |
| $40 \text { to } 44$ <br> Avg. Pay | 265 $\$ 32,250$ | $\begin{array}{r} 599 \\ \$ 34,381 \end{array}$ | 837 $\$ 39,956$ | 943 $\$ 45,635$ | 698 $\$ 49,231$ | 195 $\$ 50,556$ | $\begin{array}{r} 4 \\ \$ 49,532 \end{array}$ |  |  |  | $\begin{array}{r} 3,541 \\ \$ 42,371 \end{array}$ |
| 45 to 49 <br> Avg. Pay | 225 $\$ 29,672$ | 539 $\$ 36,406$ | 678 $\$ 38,276$ | 768 $\$ 43,506$ | 632 $\$ 49,527$ | 853 $\$ 57,052$ | 302 $\$ 54,935$ | \$ $\begin{array}{r}3 \\ \$ 50,550\end{array}$ |  |  | $\begin{array}{r} 4,000 \\ \$ 45,593 \end{array}$ |
| 50 to 54 <br> Avg. Pay | 215 $\$ 31,992$ | 529 $\$ 33,964$ | $\begin{array}{r} 627 \\ \$ 38,845 \end{array}$ | 667 $\$ 42,385$ | 517 $\$ 49,871$ | $\begin{array}{r} 789 \\ \$ 54,144 \end{array}$ | 792 $\$ 60,038$ | $\begin{array}{r} 168 \\ \$ 60,145 \end{array}$ | $\begin{array}{r} 2 \\ \$ 57,386 \end{array}$ |  | $\begin{array}{r} 4,306 \\ \$ 47,316 \end{array}$ |
| $55 \text { to } 59$ <br> Avg. Pay | 151 $\$ 35,560$ | 383 $\$ 37,095$ | 564 $\$ 38,063$ | 613 $\$ 41,096$ | 437 $\$ 44,903$ | 618 $\$ 51,778$ | 628 $\$ 59,399$ | 421 $\$ 65,753$ | 152 $\$ 60,174$ | 9 $\$ 62,571$ | $\begin{array}{r} 3,976 \\ \$ 48,428 \end{array}$ |
| 60 to 64 <br> Avg. Pay | 171 $\$ 54,329$ | 389 $\$ 50,152$ | $\begin{array}{r} 369 \\ \$ 38,328 \end{array}$ | 391 $\$ 42,803$ | 292 $\$ 46,102$ | 361 $\$ 50,557$ | 312 $\$ 56,779$ | 25 $\$ 66,895$ | 23 $\$ 62,229$ | $\begin{array}{r} 6 \\ \$ 47,334 \end{array}$ | $\begin{array}{r} 2,339 \\ \$ 48,095 \end{array}$ |
| 65 to 69 <br> Avg. Pay | 43 $\$ 47,628$ | 125 $\$ 57,299$ | $\begin{array}{r} 217 \\ \$ 51,753 \end{array}$ | 177 $\$ 49,154$ | 93 $\$ 53,012$ | 144 $\$ 52,627$ | 83 $\$ 56,077$ | \$ $\begin{array}{r}7 \\ \$ 51,058\end{array}$ | \$48,971 | \% $\begin{array}{r}2 \\ \$ 70,893\end{array}$ | $\begin{array}{r} 893 \\ \$ 52,521 \end{array}$ |
| 70 \& up <br> Avg. Pay | 12 $\$ 44,567$ | 28 $\begin{array}{r}28 \\ \$ 60,989\end{array}$ | 66 $\$ 55,848$ | 54 $\$ 48,610$ | 35 $\$ 52,629$ | 46 $\$ 59,350$ | [ 40 | 4 $\$ 64,673$ | \$58,638 | ( ${ }^{3}$ | $\begin{array}{r} 291 \\ \$ 54,819 \end{array}$ |
| Total <br> Avg. Pay | 2,993 $\$ 30,950$ | $\begin{array}{r} 6,209 \\ \$ 35,608 \end{array}$ | $\begin{array}{r} 5,983 \\ \$ 39,259 \end{array}$ | $\begin{array}{r} 5,106 \\ \$ 43,248 \end{array}$ | $\begin{array}{r} 2,944 \\ \$ 48,172 \end{array}$ | $\begin{array}{r} 3,009 \\ \$ 53,815 \end{array}$ | $\begin{array}{r} 2,161 \\ \$ 58,406 \end{array}$ | 628 $\$ 64,055$ | 182 $\$ 60,255$ | $\begin{array}{r} 20 \\ \$ 58,740 \end{array}$ | $\begin{array}{r} 29,235 \\ \$ 42,817 \end{array}$ |

Average Age:45.35 Average Service: 11.28
In addition there are 268 employees with annual compensation of $\$ 18,788,057$ participating in the DROP as of September 30, 2015.

SCHEDULE J (Continued)
SCHEDULE OF MEMBERSHIP DATA
AS OF SEPTEMBER 30, 2015
ACTIVE STATE POLICE

| Attained Age | Completed Years of Service |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Under 1 | 1 to 4 | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 to 34 | 35 to 39 | 40 \& up | Total |
| Under 25 <br> Avg. Pay |  |  |  |  |  |  |  |  |  |  |  |
| $25 \text { to } 29$ <br> Avg. Pay |  | \$40,701 ${ }^{2}$ | \% $\begin{array}{r}9 \\ \$ 46,564\end{array}$ |  |  |  |  |  |  |  | $\begin{array}{r} 11 \\ \$ 45,498 \end{array}$ |
| $30 \text { to } 34$ <br> Avg. Pay |  |  | 61 $\$ 47,743$ | $\begin{array}{r} 16 \\ \$ 49,743 \end{array}$ |  |  |  |  |  |  | 81 $\$ 47,576$ |
| 35 to 39 <br> Avg. Pay | $\begin{array}{r} 1 \\ \$ 36,932 \end{array}$ | $\begin{array}{r} 3 \\ \$ 38,200 \end{array}$ | 39 $\$ 46,904$ | $\begin{array}{r} 58 \\ \$ 51,320 \end{array}$ | $\begin{array}{r} 28 \\ \$ 60,079 \end{array}$ |  |  |  |  |  | 129 $\$ 51,469$ |
| 40 to 44 <br> Avg. Pay |  | \$41,308 | 29 $\$ 49,674$ | 40 $\$ 54,412$ | 77 $\$ 61,983$ | $\begin{array}{r} 24 \\ \$ 64,893 \end{array}$ |  |  |  |  | $\begin{array}{r}171 \\ \$ 58,412 \\ \hline\end{array}$ |
| $45 \text { to } 49$ <br> Avg. Pay |  | \$47,701 | 20 | 32 $\$ 52,241$ | 50 $\$ 64,747$ | 61 $\$ 70,428$ | $\begin{array}{r} 17 \\ \$ 81,115 \end{array}$ |  |  |  | 182 $\$ 63,959$ |
| 50 to 54 <br> Avg. Pay |  | [ ${ }^{2}$ | 11 $\$ 52,538$ | (10 | $\begin{array}{r} 18 \\ \$ 64,780 \end{array}$ | 29 $\$ 78,194$ | 13 $\$ 79,085$ | $\begin{array}{r} 5 \\ \$ 81,761 \end{array}$ |  |  | 88 $\$ 69,576$ |
| 55 to 59 <br> Avg. Pay | $\begin{array}{r} 2 \\ \$ 87,500 \end{array}$ | $\begin{array}{r} 3 \\ \$ 83,723 \end{array}$ | $\begin{array}{r} 8 \\ \$ 49,026 \end{array}$ | $\begin{array}{r} 4 \\ \$ 60,424 \end{array}$ | $\begin{array}{r} 2 \\ \$ 66,488 \end{array}$ | $\begin{array}{r} 3 \\ \$ 77,216 \end{array}$ | \$62,881 | $\begin{array}{r} 2 \\ \$ 59,823 \end{array}$ |  |  | 25 $\$ 64,289$ |
| 60 to 64 <br> Avg. Pay | $\begin{array}{r} 2 \\ \$ 64,782 \end{array}$ | $\begin{array}{r} 1 \\ \$ 60,773 \end{array}$ | $\begin{array}{r} 1 \\ \$ 52,831 \end{array}$ | $\begin{array}{r} 2 \\ \$ 62,334 \end{array}$ |  | \$64,323 ${ }^{3}$ | $\begin{array}{r} 1 \\ \$ 67,676 \end{array}$ | $\begin{array}{r} 1 \\ \$ 94,201 \end{array}$ |  |  | 11 $\$ 65,698$ |
| 65 to 69 <br> Avg. Pay |  |  |  |  |  | \$76,349 | $\begin{array}{r} 1 \\ \$ 84,276 \end{array}$ |  |  |  | 2 $\$ 80,312$ |
| 70 \& up <br> Avg. Pay |  |  |  |  | $\begin{array}{r} 1 \\ \$ 84,398 \end{array}$ |  |  |  |  |  | 1 $\$ 84,398$ |
| Total Avg. Pay | \$68,300 | $\begin{array}{r} 18 \\ \$ 50,445 \end{array}$ | $\begin{array}{r} 178 \\ \$ 48,231 \end{array}$ | $\begin{array}{r} 162 \\ \$ 52,736 \end{array}$ | 176 $\$ 62,930$ | $\begin{array}{r} 121 \\ \$ 71,257 \end{array}$ | $\begin{array}{r} 33 \\ \$ 79,452 \end{array}$ | $\begin{array}{r} 8 \\ \$ 77,831 \end{array}$ |  |  | 701 $\$ 58,945$ |

Average Age:43.20
Average Service: 14.92
In addition there are 7 employees with annual compensation of $\$ 541,154$ participating in the DROP as of September 30, 2015.

## SCHEDULE J (Continued)

## SCHEDULE OF MEMBERSHIP DATA AS OF SEPTEMBER 30, 2015

ACTIVE LOCAL EMPLOYEES

| Attained Age | Completed Years of Service |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Under 1 | 1 to 4 | 5 to 9 | 10 to 14 | 15 to 19 | 20 to 24 | 25 to 29 | 30 to 34 | 35 to 39 | 40 \& up | Total |
| Under 25 Avg. Pay | $\begin{array}{r} 1,514 \\ \$ 20,068 \end{array}$ | $\begin{array}{r} 1,282 \\ \$ 27,325 \end{array}$ | 20 $\$ 38,656$ |  |  |  |  |  |  |  | $\begin{array}{r}2,816 \\ \$ 23,503 \\ \hline\end{array}$ |
| $25 \text { to } 29$ <br> Avg. Pay | $\begin{array}{r} 1,270 \\ \$ 23,211 \end{array}$ | $\begin{array}{r} 2,923 \\ \$ 30,923 \end{array}$ | $\begin{array}{r} 1,088 \\ \$ 38,394 \end{array}$ | $\begin{array}{r} 31 \\ \$ 41,971 \end{array}$ |  |  |  |  |  |  | $\begin{array}{r} 5,312 \\ \$ 30,674 \end{array}$ |
| 30 to 34 <br> Avg. Pay | $\begin{array}{r} 851 \\ \$ 24,182 \end{array}$ | $\begin{array}{r} 2,124 \\ \$ 32,553 \end{array}$ | 2,024 $\$ 40,344$ | $\begin{array}{r} 752 \\ \$ 46,020 \end{array}$ | $\begin{array}{r} 20 \\ \$ 51,884 \end{array}$ |  |  |  |  |  | $\begin{array}{r} 5,771 \\ \$ 35,873 \end{array}$ |
| 35 to 39 <br> Avg. Pay | $\begin{array}{r} 657 \\ \$ 25,168 \end{array}$ | $\begin{array}{r} 1,574 \\ \$ 32,770 \end{array}$ | $\begin{array}{r} 1,698 \\ \$ 40,440 \end{array}$ | $\begin{array}{r} 1,502 \\ \$ 47,157 \end{array}$ | $\begin{array}{r} 654 \\ \$ 50,611 \end{array}$ | $\begin{array}{r} 16 \\ \$ 47,854 \end{array}$ |  |  |  |  | $\begin{array}{r} 6,100 \\ \$ 39,587 \end{array}$ |
| 40 to 44 <br> Avg. Pay | $\begin{array}{r} 682 \\ \$ 23,872 \end{array}$ | $\begin{array}{r} 1,553 \\ \$ 32,227 \end{array}$ | 1,527 $\$ 39,513$ | $\begin{array}{r} 1,458 \\ \$ 46,586 \end{array}$ | 1,471 $\$ 52,762$ | $\begin{array}{r} 560 \\ \$ 59,439 \end{array}$ | $\begin{array}{r} 15 \\ \$ 64,216 \end{array}$ |  |  |  | $\begin{array}{r} 7,266 \\ \$ 42,176 \end{array}$ |
| 45 to 49 <br> Avg. Pay | $\begin{array}{r} 527 \\ \$ 25,352 \end{array}$ | $\begin{array}{r} 1,421 \\ \$ 32,248 \end{array}$ | 1,315 $\$ 37,875$ | $\begin{array}{r} 1,250 \\ \$ 44,425 \end{array}$ | 1,388 $\$ 50,740$ | 1,217 $\$ 57,925$ | 402 $\$ 59,557$ | $\begin{array}{r} 10 \\ \$ 61,881 \end{array}$ |  |  | 7,530 $\$ 43,826$ |
| 50 to 54 <br> Avg. Pay | 419 $\$ 25,639$ | $\begin{array}{r} 1,194 \\ \$ 32,272 \end{array}$ | 1,286 $\$ 37,216$ | 1,139 $\$ 40,656$ | 1,157 $\$ 48,729$ | 986 $\$ 54,957$ | 713 $\$ 61,733$ | 239 $\$ 63,052$ | r 12 |  | 7,145 $\$ 43,947$ |
| 55 to 59 <br> Avg. Pay | 299 $\$ 24,899$ | $\begin{array}{r} 928 \\ \$ 31,818 \end{array}$ | 1,095 $\$ 36,756$ | 1,031 $\$ 40,758$ | 1,010 $\$ 44,301$ | 847 $\$ 51,151$ | 608 $\$ 59,106$ | 373 $\$ 63,679$ | 155 $\$ 66,909$ | 9 $\$ 63,694$ | $\begin{array}{r} 6,355 \\ \$ 43,736 \end{array}$ |
| 60 to 64 <br> Avg. Pay | $\begin{array}{r} 208 \\ \$ 39,021 \end{array}$ | $\begin{array}{r} 636 \\ \$ 35,259 \end{array}$ | 772 $\$ 34,984$ | 727 $\$ 39,953$ | 649 $\$ 43,951$ | 531 $\$ 50,820$ | 343 $\$ 53,296$ | 110 $\$ 57,757$ | 85 $\$ 68,029$ | 16 $\$ 62,147$ | $\begin{array}{r} 4,077 \\ \$ 42,559 \end{array}$ |
| 65 to 69 <br> Avg. Pay | $\begin{array}{r} 76 \\ \$ 29,942 \end{array}$ | $\begin{array}{r} 244 \\ \$ 32,320 \end{array}$ | 358 $\$ 36,957$ | 286 $\$ 39,905$ | 221 $\$ 48,135$ | 159 $\$ 48,617$ | 99 $\$ 56,816$ | r 28 | 18 $\$ 58,385$ | 10 $\$ 79,541$ | $\begin{array}{r} 1,499 \\ \$ 41,373 \end{array}$ |
| 70 \& up <br> Avg. Pay | 48 $\$ 19,795$ | $\begin{array}{r} 146 \\ \$ 23,628 \end{array}$ | 170 $\$ 33,368$ | 134 $\$ 35,758$ | 101 $\$ 40,779$ | 76 $\$ 48,363$ | [ 44 | r $\begin{array}{r}16 \\ \$ 45,629\end{array}$ | 12 $\$ 60,439$ | 9 $\$ 52,768$ | $\begin{array}{r} 756 \\ \$ 35,063 \end{array}$ |
| Total Avg. Pay | $\begin{array}{r} 6,551 \\ \$ 23,835 \end{array}$ | $\begin{array}{r} 14,025 \\ \$ 31,646 \end{array}$ | $\begin{array}{r} 11,353 \\ \$ 38,494 \end{array}$ | $\begin{array}{r} 8,310 \\ \$ 43,775 \end{array}$ | $\begin{array}{r} 6,671 \\ \$ 48,955 \end{array}$ | $\begin{array}{r} 4,391 \\ \$ 54,760 \end{array}$ | $\begin{array}{r} 2,224 \\ \$ 58,760 \end{array}$ | 776 $\$ 61,723$ | $\begin{array}{r} 282 \\ \$ 66,802 \end{array}$ | 44 $\$ 64,498$ | $\begin{array}{r} 54,627 \\ \$ 39,689 \end{array}$ |

Average Age:44.24 Average Service: 9.86
In addition there are 121 employees with annual compensation of $\$ 7,532,538$ participating in the DROP as of September 30, 2015.

SCHEDULE J (Continued)

## SCHEDULE OF MEMBERSHIP DATA

AS OF SEPTEMBER 30, 2015

## NUMBER OF SERVICE RETIREMENTS <br> AND THEIR BENEFITS BY AGE

| Age | Number of Members | Total <br> Annual Benefits |  | Average Annual Benefits |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Under 50 | 311 | \$ | 9,850,872 | \$ | 31,675 |
| 50-54 | 1521 |  | 48,586,816 |  | 31,944 |
| 55-59 | 3287 |  | 99,977,272 |  | 30,416 |
| 60-64 | 7364 |  | 184,596,994 |  | 25,067 |
| 65-69 | 9316 |  | 207,287,014 |  | 22,251 |
| 70-74 | 6355 |  | 128,062,166 |  | 20,151 |
| 75-79 | 4650 |  | 88,778,045 |  | 19,092 |
| 80-84 | 3049 |  | 51,589,830 |  | 16,920 |
| 85-89 | 1632 |  | 25,402,620 |  | 15,565 |
| 90-94 | 609 |  | 8,256,964 |  | 13,558 |
| 95 \& Over | 153 |  | 1,858,246 |  | 12,145 |
| Total | 38,247 | \$ | 854,246,839 | \$ | 22,335 |

Average Age:69.16
*Includes post-DROP members in suspended status who are also active with a second retirement account.

## NUMBER OF DROP PARTICIPANTS AND THEIR BENEFITS BY AGE



SCHEDULE J (Continued)

## SCHEDULE OF MEMBERSHIP DATA

AS OF SEPTEMBER 30, 2015
NUMBER OF BENEFICIARIES
AND THEIR BENEFITS BY AGE

| Age | Number of Members | Total Annual Benefits |  | Average Annual Benefits |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Under 50 | 156 | \$ | 1,508,426 | \$ | 9,669 |
| 50-54 | 98 |  | 1,286,197 |  | 13,124 |
| 55-59 | 208 |  | 2,861,505 |  | 13,757 |
| 60-64 | 310 |  | 3,999,540 |  | 12,902 |
| 65-69 | 456 |  | 5,962,244 |  | 13,075 |
| 70-74 | 552 |  | 6,453,942 |  | 11,692 |
| 75-79 | 629 |  | 7,720,983 |  | 12,275 |
| 80-84 | 606 |  | 6,319,164 |  | 10,428 |
| 85-89 | 439 |  | 4,363,474 |  | 9,940 |
| 90-94 | 226 |  | 1,937,809 |  | 8,574 |
| 95 \& Over | 71 |  | 536,788 |  | 7,560 |
| Total | 3,751 | \$ | 42,950,072 | \$ | 11,450 |

Average Age: 73.71

## NUMBER OF DISABLED RETIREES

AND THEIR BENEFITS BY AGE

| Age | Number of Members | Total Annual Benefits |  | Average Annual Benefits |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Under 50 | 384 | \$ | 5,774,167 | \$ | 15,037 |
| 50-54 | 479 |  | 7,270,261 |  | 15,178 |
| 55-59 | 779 |  | 11,338,525 |  | 14,555 |
| 60-64 | 929 |  | 12,882,829 |  | 13,867 |
| 65-69 | 761 |  | 9,698,094 |  | 12,744 |
| 70-74 | 427 |  | 4,942,658 |  | 11,575 |
| 75-79 | 191 |  | 2,237,514 |  | 11,715 |
| 80-84 | 115 |  | 1,270,065 |  | 11,044 |
| 85-89 | 36 |  | 417,718 |  | 11,603 |
| 90-94 | 11 |  | 108,922 |  | 9,902 |
| 95 \& Over | 8 |  | 52,175 |  | 6,522 |
| Total | 4,120 | \$ | 55,992,928 | \$ | 13,591 |


[^0]:    *Includes post-DROP members in suspended status who are also active with a second retirement account.

[^1]:    *Includes post-DROP members in suspended status who are also active with a second retirement account.
    ** Amortization method is level dollar as a percent of estimated payroll to reflect the impact of Act 2013-67.

[^2]:    *Includes post-DROP members in suspended status who are also active with a second retirement account.

[^3]:    1 Reflects changes in methods.
    2 Reflects changes in actuarial assumptions.

[^4]:    * Amortization method is level dollar as a percent of expected payroll to reflect the impact of Act 2013-67.

