

## ***EXPERIENCE STUDY – STATE RETIREMENT SYSTEM***

### **Methodology**

#### **General methodology for all assumptions**

- ❑ Study comprises the years January 1, 1995 through January 1, 2000
- ❑ Data used in this study was provided by the State Retirement Board and reflects the January 1, 1995, 1996, 1998, 1999 and 2000 data used in the State actuarial valuations
- ❑ Reconciliation of members completed for each year
- ❑ Adjustments made to account for the two-year period January 1, 1996 to January 1, 1998
- ❑ For each period in the 5 year experience study period (1/95 to 1/96, 1/96 to 1/98, 1/98 to 1/99, and 1/99 to 1/00), we determined the member experience relating to:
  - Retirement
  - Disability
  - Withdrawal (Turnover)
  - Post-retirement mortality
  - Salary increases
- ❑ Actual experience determined at each age (and/or years of service) for each assumption. For example, for retirement, we determined the actual number of members retiring at each age.
- ❑ Expected experience determined for each assumption. For example, for retirement, we determined the expected number of members retiring at each age based on the plan assumptions.
- ❑ An actual/expected (A/E) ratio was computed at each age for each assumption.
- ❑ Graphed experience results and used various smoothing techniques to select assumptions
- ❑ Analysis reflects a review by age and job group:
  - Group 1- general employees
  - Group 2- certain employees with hazardous positions
  - Group 3- state police
  - Group 4- generally public safety and correction officers
- ❑ In some cases, experience analyzed within the same job group by isolating certain departments and/or agencies.

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### **Methodology (continued)**

In addition to the general methodology that was used for each assumption outlined on the previous page, the following specific analysis was conducted:

- **Retirement**
  - Assumed a member retired if the member was eligible to retire at the beginning of a period and is not in the active file at the end of the period
  - Analyzed results by gender
  - Analyzed results separately for members retiring before or after age 55
  - Analyzed results both including and excluding UMASS Medical Center employees due to the merger with Memorial Healthcare and transfer of some employees (applicable only for Groups 1 and 2)
  
- **Disability**
  - Results modified to reflect that some members retire from an inactive status as opposed to an active status
  - Compared results to historical disability counts from PERAC disability unit
  - Analyzed results by the percentage of disabilities that are job related (accidental) compared to non-job-related (ordinary)
  
- **Withdrawal**
  - Assumed a member withdrew if the member was not eligible to retire at the beginning of the period and is not in the active file at the end of the period
  - Analyzed results both including and excluding UMASS Medical Center employees due to the merger with Memorial Healthcare and transfer of some employees (applicable only for Groups 1 and 2)
  - Analyzed results by service and age/service combined in addition to age
  - Analyzed results in 5 year age brackets in selecting assumptions

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### **Methodology (continued)**

- **Post-Retirement Mortality**

- Analyzed results by gender
- Adjusted results for each Group to reflect retiree deaths with continuing payments to beneficiaries
- Compared actual experience for each Group to several standard mortality tables (83GAM, 94GAM, UP94 and RP-2000)
- Performed testing for disabled retired members separately by gender

- **Salary Increases**

- Analyzed results both including and excluding UMASS Medical Center employees due to the merger with Memorial Healthcare and transfer of some employees (applicable only for Groups 1 and 2)
- Determined ratios of salaries at the end of the year to salaries at the beginning of the year for continuing members
- Analyzed results by service and age/service combined in addition to age