

Actuarial Study and Review For a Length of Service Award Program

Maine Fire Protection Services Commission
Department of Public Safety
State of Maine

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Maine Actuarial Study and Review For a Length of Service Award Program

AGENDA

Introductions

The Cost Study

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- The Program Provisions
- The Actuarial Assumptions and Methods
- The Results

Other States as Models

- Other Programs
- LOSAP Effectiveness for recruitment and retention

Management of Program Assets

Discussion and Follow-up

Cost Study – The Data

- Original Survey Data

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- Age Distribution by decades
- Used to Estimate Total Number of Firefighters – 8,800

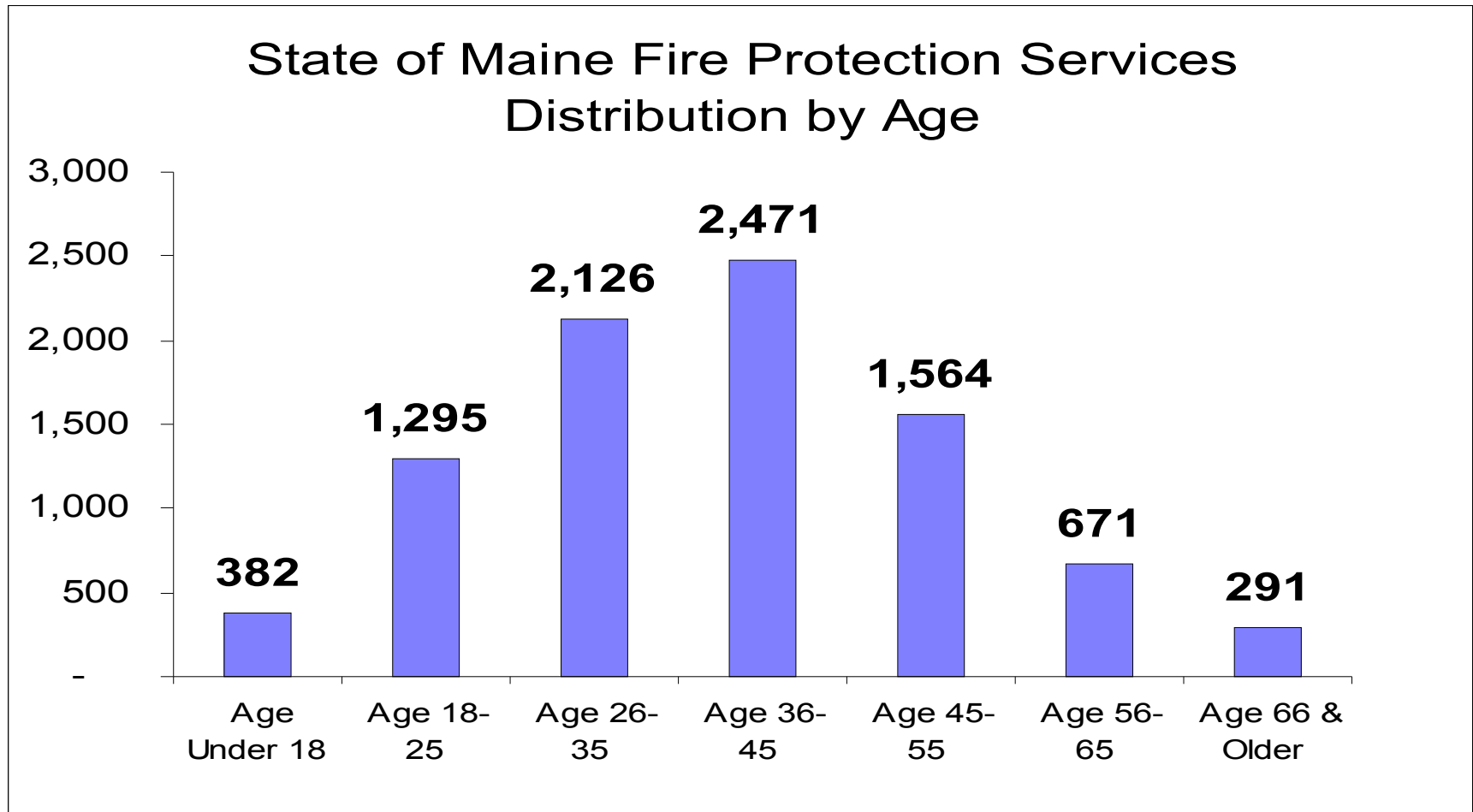
- Follow-up Survey Data
 - Sample with more detailed information – 1,095

- Extrapolation for Cost Study
 - Age Distribution
 - Years Since Joining

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Distribution by age of Original Survey Data *

* This is based only on the departments that reported information in the survey. Not all departments reported information and data does not distinguish between career and non-career firefighters.

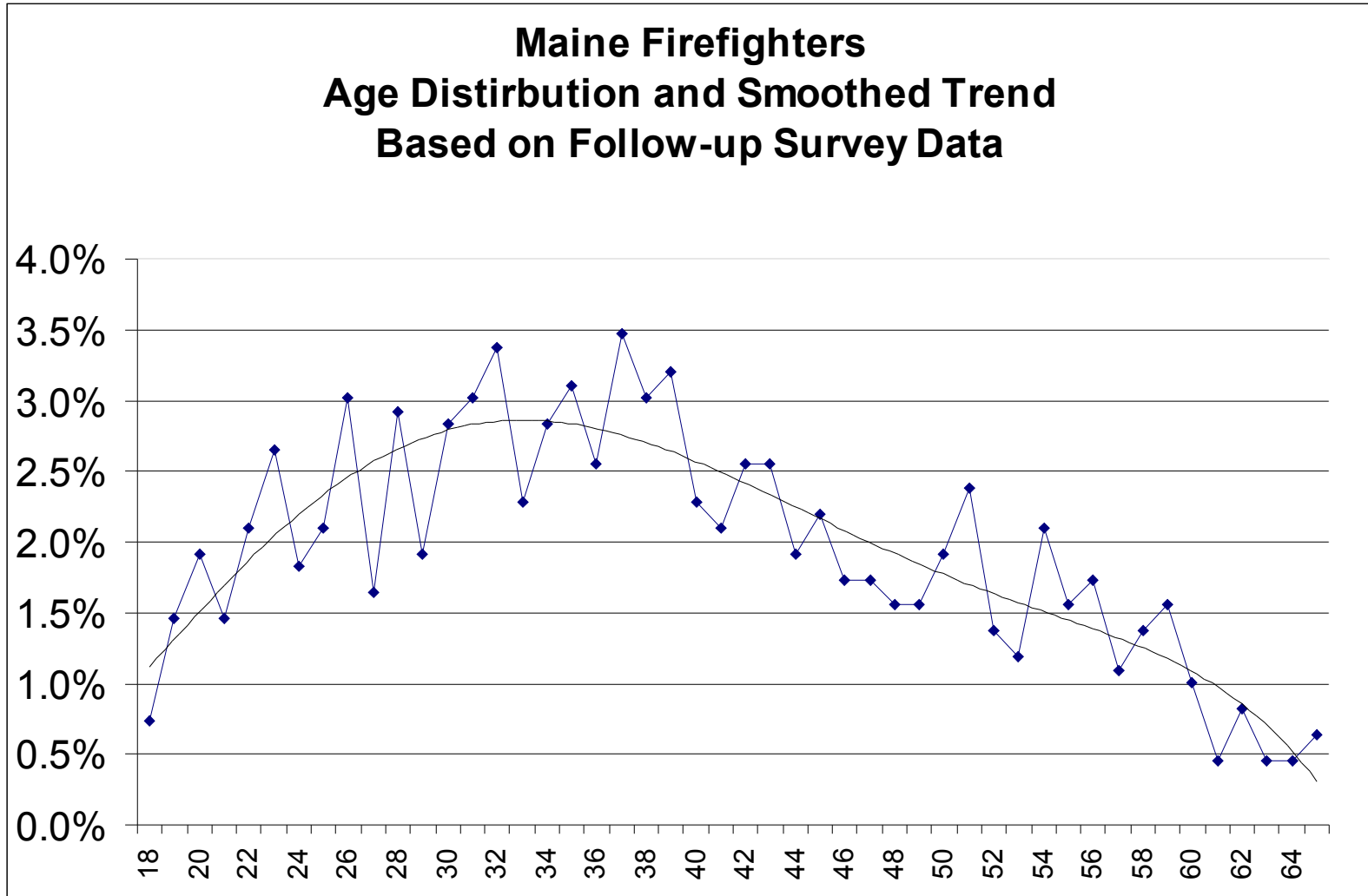


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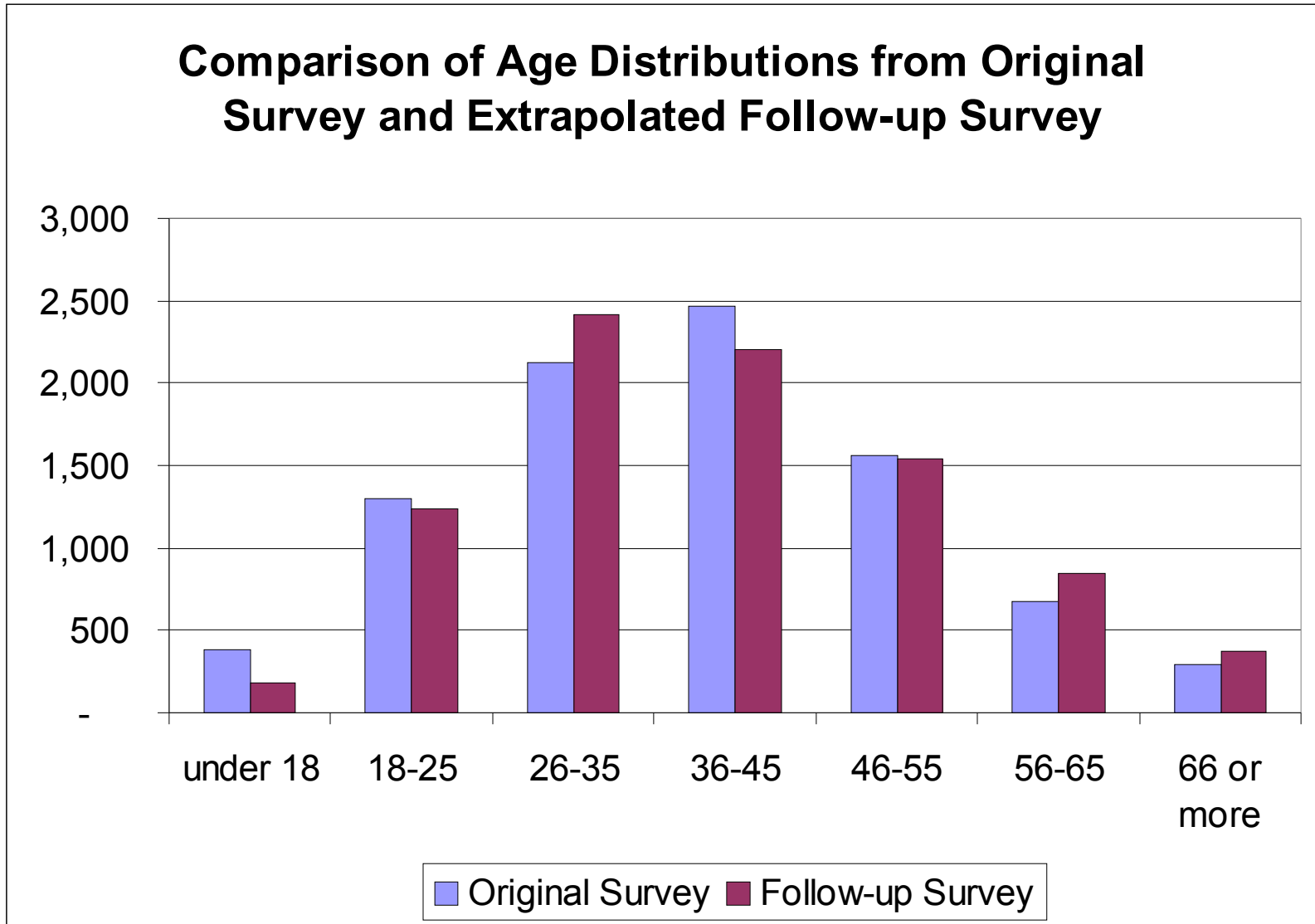
Summary Statistics of Follow-up Data

<u>Classification</u>	<u>All Reported Data</u>		<u>Usable Cost Study Data</u>	
Career	224	16%		
Call	850	61%	804	73%
Volunteer	301	22%	285	26%
Other	<u>8</u>	<u>1%</u>	<u>6</u>	<u>1%</u>
Total	1,383	100%	1,095	100%

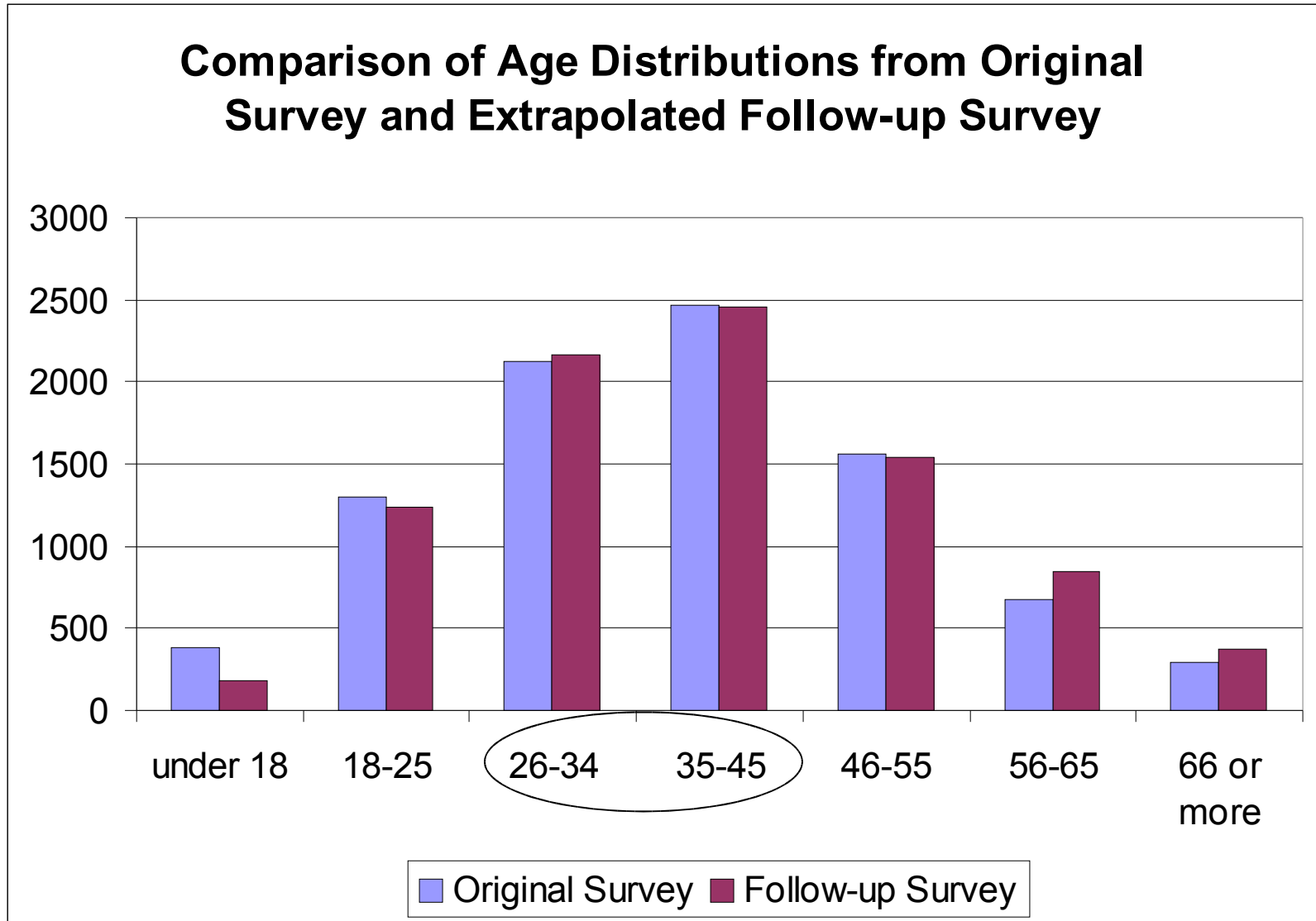
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Cost Study – The Program Provisions

- Eligibility to Participate – Age 18 with 1 year of service credit
- Benefit Levels
 - \$15 per month per year of service
 - \$20 per month per year of service
 - \$25 per month per year of service
- Service Credit Prior to the Program’s Effective Date – for Vesting purposes only

- Graded Vesting

Year of Service	Vesting Percentage
0 to 4 years	0%
5 to 9 years	20%
10 to 14 years	60%
15 to 19 years	80%
20 or more years	100%

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Cost Study – The Program Provisions (Continued)

- Entitlement Age – Monthly benefit payments commence at the later of age 60 or 1 year of service after the effective date of the program
- Normal Form of Payment – Straight Life Annuity
- Ancillary Benefits
 - Death – Greater of the Present Value of Accrued Benefits or \$5,000
 - Disability – Present Value of Accrued Benefits

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Benefit Illustration

- Average Firefighter is age 39 and entered fire service 11 years ago.
- He would enter the proposed plan with a \$0 benefit and be 60% vested based on his 11 years of vesting service.
- If he remained active every year between now and age 60, he would have 20 years of benefit service and 31 years of vesting service.
- At age 60 he would be 100% vested and his monthly lifetime benefit would be \$300 (\$15 level), \$400 (\$20 level) or \$500 (\$25 level).
- His death benefit would range in size from \$5,000 in the first 5 years of the program to almost \$50,000 if he died right before retirement with 20 years of benefit service at the \$20 benefit level.
- His disability benefit would range from a lump sum of just under \$1,000 in the first year to almost \$50,000 if disability occurred right before retirement with 20 years of benefit service at the \$20 level.

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The Cost Study – Actuarial Assumptions and Methods

- Effective Date of Program – 1/1/2003
- Valuation Date – 1/1/2003
- Interest Rate – 6.5%
- Mortality – UP94 projected with scale AA to 2003 weighted 90%male/10% female
- Withdrawal – Crocker-Sarason T-5 Table, this is an age-based table with the probability that a participant ceases to be active.

Selected Rates	
Age	Rate
25	7.8%
35	6.4%
45	4.3%
55	2.0%

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The Cost Study – Actuarial Assumptions and Methods (continued)

- Service Realization Rate – 75%, this is the assumed rate at which continuing active participants earn service credit and assumes that firefighters will meet the requirements to earn service credit under the program 75% of the time.
- Retirement Benefit Commencement - Varied under each version
- Funding Method – Aggregate

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The Cost Study – The Results

Version 1
Provisions Specific to this Version

Entitlement Age	Later of age 60 or 1 year of service
Number of Participants included	8,214 between the ages of 18 and 64 inclusive

Estimated Cost

<u>Level</u>	<u>Total</u>	<u>Average Per Participant</u>
\$15	\$4.69 million	\$571
\$20	\$6.25 million	\$761
\$25	\$7.81 million	\$951

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The Cost Study – The Results

Version 2

Provisions Specific to this Version

Entitlement Age	Later of age 60 or 1 year of service
Deferred Vested Benefit	Benefits for participants who leave before age 60 are deferred to age 65
Number of Participants included	8,214 between the ages of 18 and 64 inclusive

Estimated Cost

<u>Level</u>	<u>Total</u>	<u>Average Per Participant</u>
\$15	\$4.33 million	\$527
\$20	\$5.77 million	\$702
\$25	\$7.21 million	\$878

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Variations that may be of interest to the Commission
(All estimates based at the \$20 benefit level):

- Imposing a cap on service credit of 25 years of service would decrease the annual cost by approximately less than \$.1 million.
- Providing up to 5 years of service credit prior to the effective date of the program for benefit purposes would increase the annual cost by approximately \$3.5 to \$4.0 million.
- Increasing the eligibility age to 30 would decrease the cost by approximately \$.6 million.
- Providing a minimum benefit of \$100 per month, which would primarily benefit those participants near retirement age so they would not have the opportunity to earn at least 5 years of benefit service, would increase the annual cost by approximately \$1.0 million.
- Providing a somewhat shorter graded vesting schedule (5 year 25%, 5% increments to 10 years 50%, 10% increments to 15 years 100%) would increase the annual cost by approximately \$0.1 million.

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Other Programs

Coverage

- State-wide programs – California and Kentucky for instance
- States with legislation and with programs at the local level – Wisconsin, New Jersey and New York for instance
- States with no legislation
- Other

Types of Programs

- Defined Benefit
- Defined Contribution
- Hybrid

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Documented Evidence of Effectiveness

- NYS Comptrollers Report

Anecdotal Evidence of Effectiveness

- New York
- Wisconsin
- Connecticut
- Pennsylvania
- New Jersey
- California
- Virginia – Montgomery County

LOSAP Expectation and Objectives

NVFC Task Force Project

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Management of Program Assets

Institutionally Managed

- “Prudent Man” Rule – The Maine State Retirement Systems may serve as a model for guidelines
- Diversified Portfolio based on risk tolerance of the program Trustees
- Being what would be considered a large program, insurance products would not be advised
 - Life insurance, in particular, would be an inappropriate vehicle to fund retirement style benefits for a number of reasons.
 - Even annuity products would have to be carefully examined – annuity products only make sense when the environment creates an opportunity for arbitrage (that is the cost of an annuity purchase is less than the liabilities of the program which rarely is the case).

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Discussion

Questions and Answers

Follow-up

Final Written Report