



**Delaware State Employees'  
Pension Plan**

**Actuarial Valuation  
as of June 30, 2011**

**Produced by [Cheiron](#)**

**January 2012**

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January 25, 2012

Board of Pension Trustees  
State of Delaware  
McArdle Building  
860 Silver Lake Boulevard, Suite 1  
Dover, Delaware 19904

Dear Members of the Board:

At your request, we have conducted the annual actuarial valuation of the Delaware State Employees' Pension Plan as of June 30, 2011. The results of the valuation are contained in this report. The purpose of the valuation is discussed in the Foreword.

This report contains information on Plan assets, as well as analyses which combine asset and liability performance and projections. The report also discloses employer contribution levels, and required disclosures under the Governmental Accounting Standards Board Statement No. 25.

Your attention is called to the Foreword in which we refer to the general approach employed in the preparation of this report. We also comment on the sources and reliability of both the data and the actuarial assumptions on which our findings are based. Those comments are the basis for our certification that this report is complete and accurate to the best of our knowledge and belief. The results of this report are only applicable to the State contribution for Fiscal Year ending 2013 and rely on future plan experience conforming to the underlying assumptions. To the extent that actual plan experience deviates from the underlying assumptions, the results would vary accordingly.

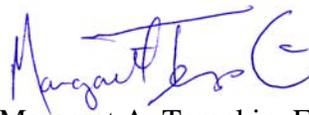
We hereby certify that, to the best of our knowledge, this report and its contents are products of Cheiron, Inc. These work products are complete and accurate and have been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinion contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our firm does not provide any legal services or advice.

This report was prepared solely for the Delaware State Employees' Pension Plan for the purposes described herein, except that the plan auditor may rely on this report solely for the purpose of completing an audit related to the matters herein. This valuation report is not intended to benefit any third party, and Cheiron assumes no duty or liability to any such party.

Sincerely,  
Cheiron



Fiona E. Liston, FSA  
Principal Consulting Actuary



Margaret A. Tempkin, FSA  
Principal Consulting Actuary



**DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011**

**FOREWORD**

Cheiron has performed the actuarial valuation of the Delaware State Employees' Pension Plan as of June 30, 2011. The purpose of this report is to:

- 1) **Measure and disclose**, as of the valuation date, the financial condition of the Plan;
- 2) **Indicate trends** in the financial progress of the Plan;
- 3) **Determine the contribution rate** to be paid by the State for Fiscal Year 2013; and
- 4) **Provide specific information** and documentation required by the Governmental Accounting Standards Board (GASB).

An actuarial valuation establishes and analyzes Plan assets and liabilities on a consistent basis, and traces the progress of both from one year to the next. It includes measurement of the Plan's investment performance as well as an analysis of actuarial liability gains and losses.

**Section I** presents a summary containing our findings and disclosing important trends experienced by the Plan in recent years.

**Section II** contains details on various asset measures, together with pertinent performance measurements.

**Section III** shows similar information on Plan liabilities, measured for actuarial, accounting, and government reporting purposes.

**Section IV** develops the State contribution rate determined using actuarial techniques.

**Section V** includes the required disclosures under GASB Statement No. 25.

The appendices to this report contain a summary of the Plan's membership at the valuation date, a summary of the major provisions of the Plan, and the actuarial methods and assumptions used in the valuations.

In preparing our report, we relied without audit, on information (some oral and some written) supplied by the Office of Pension's staff. This information includes, but is not limited to, plan provisions, employee data, and financial information.

The actuarial assumptions reflect our understanding of the likely future experience of the Plan and the assumptions as a whole represent our best estimate for the future experience of the Plan. The results of this report are dependent upon future experience conforming to these assumptions. To the extent that future experience deviates from the actuarial assumptions, the true cost of the Plan could vary from our results.

Finally, in preparing this report, we have conformed to generally accepted actuarial principles and practices which are consistent with the Code of Professional Conduct, and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board.

DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

SECTION I  
BOARD SUMMARY

**General Comments**

The actuarially determined contribution rate increased from 8.37% for FY 2012 to 8.90% for FY 2013.

During the year ended June 30, 2011, the Plan's assets made 24.0% on a market value basis. However, due to the Plan's asset-smoothing technique which recognizes only a portion of the gains and losses, the return on the actuarial asset value was 7.9%. This return was below the assumed rate of return of 8.0% for last year and resulted in an actuarial loss on investments of \$9 million. Note that with the assumption change going forward this comparison will be made against the revised 7.5% assumption in future years.

The plan experienced an actuarial gain of \$26 million on Plan liabilities resulting from salary increases different than assumed and members retiring, terminating, and becoming disabled and dying at rates different from the actuarial assumptions. This type of activity is normal in the course of plan experience. The Plan will experience actuarial gains and losses over time because we cannot predict exactly how people will behave. When a plan experiences alternating gains and losses that are small compared to the total actuarial liability, then the plan's actuarial assumptions are reasonable. In addition to the actuarial gain, the plan's liabilities also increased by \$75 million due to granting of a post retirement increase and \$98 million due to changes in assumptions as recommended in an experience study performed in 2011. The combined loss increased the actuarial liability by \$147 million (1.9% of total actuarial liability).

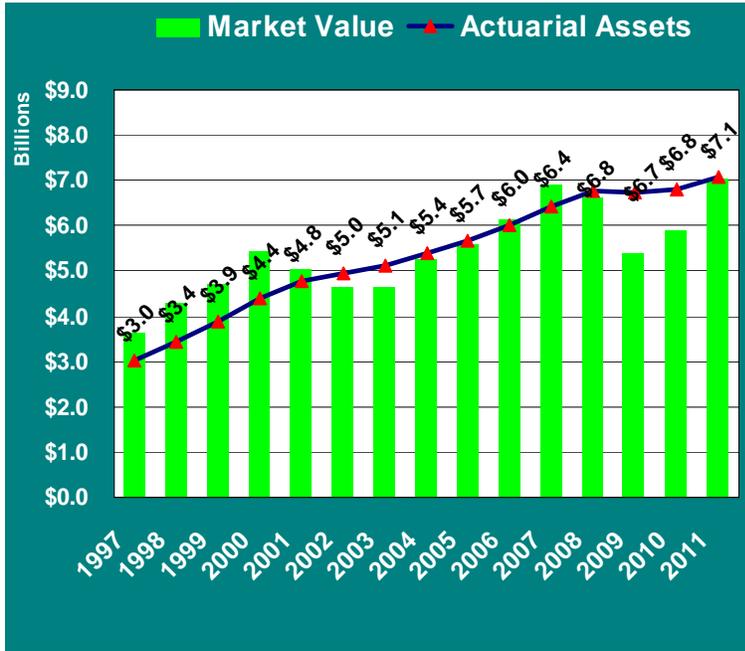
As of the June 30, 2011 actuarial valuation, the Plan's unfunded actuarial liability was \$456 million. This is an increase from last year's unfunded actuarial liability of \$287 million.

DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

SECTION I  
BOARD SUMMARY

Trends

Growth in Assets

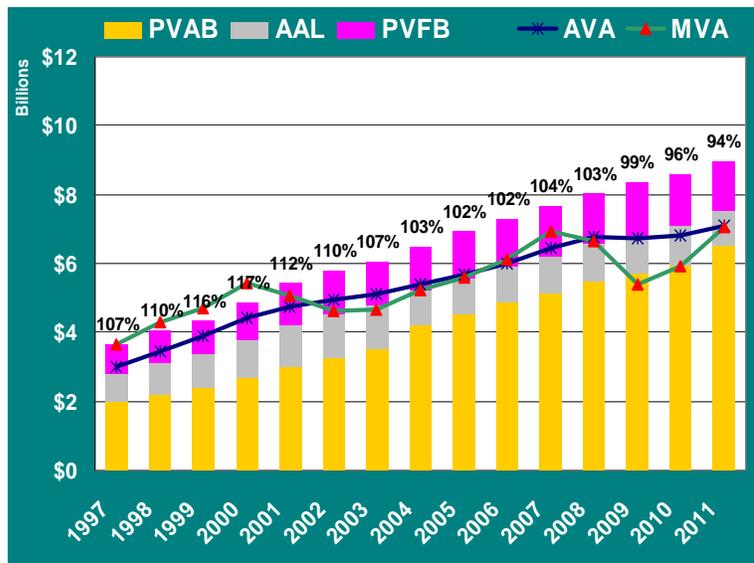


The market value of assets (MVA) returned 24.0% over the last year. The determination of the plan's actuarial value of assets reflects only a portion of the return above 8%, so an additional recognition of the 2008-2010 losses dampened the impact on the actuarial assets.

Over the period July 1, 1997 to June 30, 2011 the Plan's assets returned approximately 8.9% per year measured at actuarial value, compared to a valuation assumption of 8% per year. Starting this year the Plan's assumed return will be 7.5% per year.

Assets and Liabilities

The three colored bars represent the three different measures of liability mentioned in this report. For funding purposes, the target amount is represented by the top of the gray bar. We compare the actuarial value of assets to this measure of liability in developing the funded percent. These are the percentages shown in the graph labels.

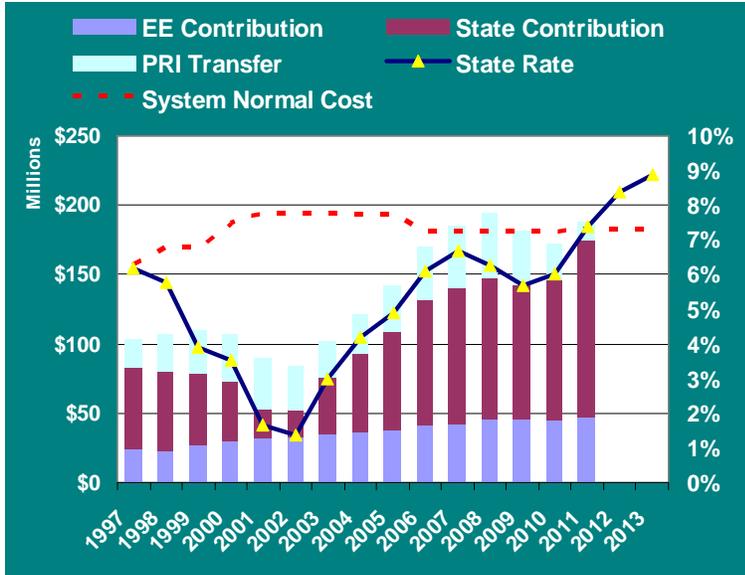


The amount represented by the top of the pink bars, the Present Value of Future Benefits (PVFB), is the amount needed to provide all benefits for the current participants and their beneficiaries. If the Plan had assets equal to the PVFB no contributions would, in theory, be needed for the current members.

**DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011**

**SECTION I  
BOARD SUMMARY**

Contribution Rates



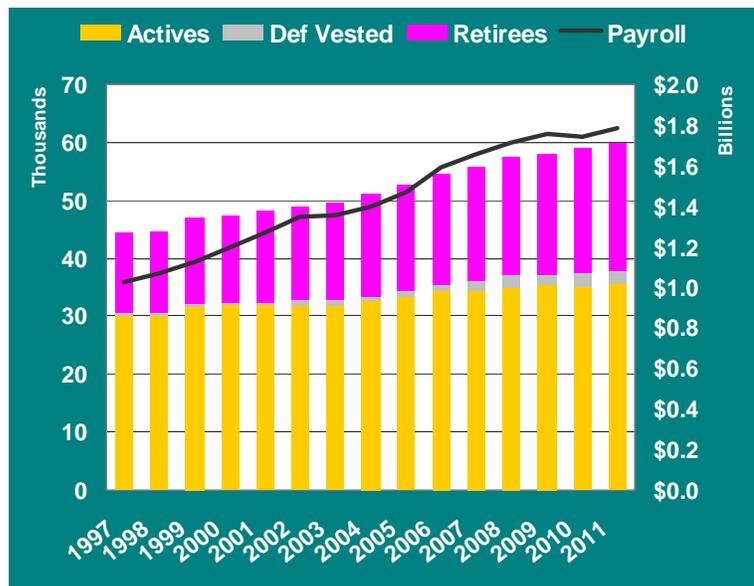
The stacked bars in this graph show the contributions made by the State, the PRI Fund, and the members (left hand scale). The black line shows the State contribution rate as a percent of payroll (right hand scale).

The member contribution rate is set by State law, depending on which plan the member participates in. The State contribution rate is set by the actuarial process and PRI Fund transfers depend on the increase granted. Please note there is a lag in the rate shown. For example, the 2011 value is the rate prepared by the 2009 valuation and implemented for the period July 1, 2010 to June 30, 2011.

Participant Trends

The bars show the number of participants in each category and should be read using the left-hand scale. As with any maturing fund, this plan continues to show growth in the number of retired members. The active-to-inactive ratio has decreased from 2.1 actives to each inactive in 1997 to 1.5 actives for each inactive today.

The black line shows the covered payroll in the Plan and is read using the right-hand scale.

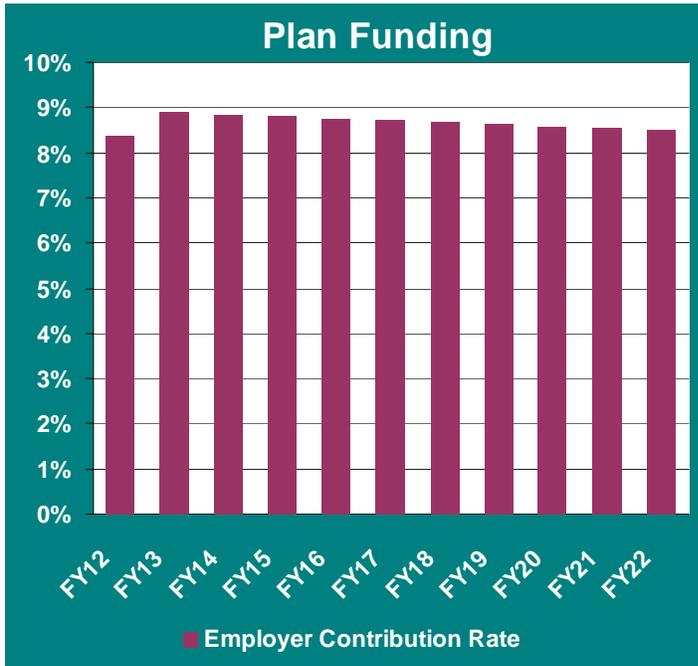


DELAWARE STATE EMPLOYEES' PENSION PLAN  
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SECTION I  
BOARD SUMMARY

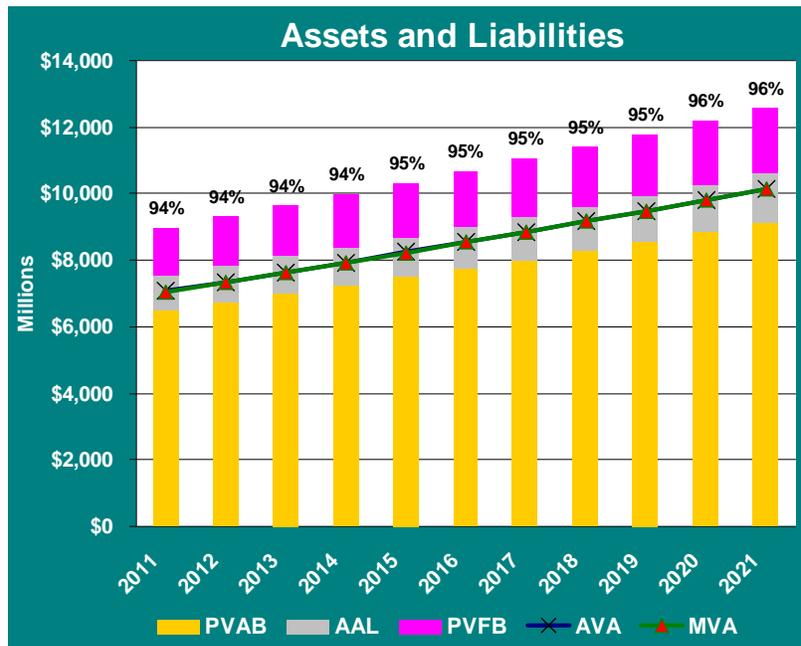
Future Outlook

Base Line Projections



These graphs show the expected progress of the Plan over the next ten years assuming the Plan's assets earn 7.5% on their market value. The chart entitled "Plan Funding" shows the increase in the State rate from 8.37% to 8.90%. In future years, absent further gains or losses, the rate is anticipated to drop slowly.

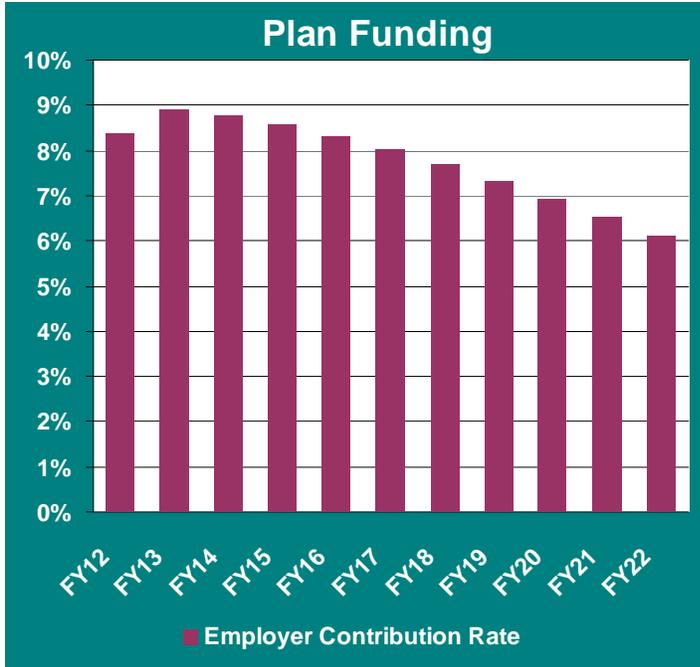
The "Assets and Liabilities" graph shows the projected funding status over the next ten years. The Plan's funded status is projected to increase slowly absent any further gains or losses. This is due to the 20 year rolling amortization method, which is slowly paying down the unfunded liability.



**DELAWARE STATE EMPLOYEES' PENSION PLAN  
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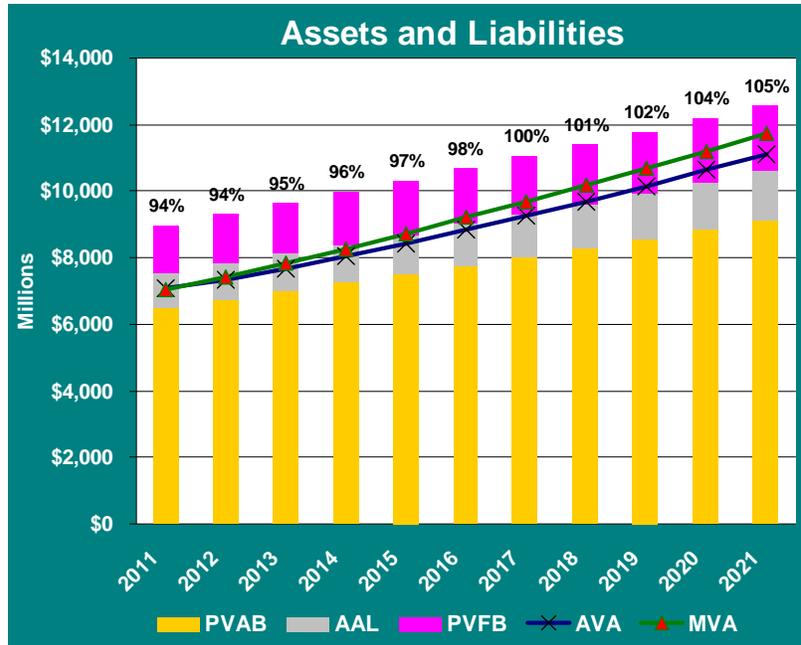
**SECTION I  
BOARD SUMMARY**

Projections with Asset Returns of 9.0%



The future funding status of this Plan will be impacted by investment earnings. These two charts show what the next ten years would look like with a 9.0% annual return in each year. The State contribution rate decreases, dropping to approximately 6.1% of payroll.

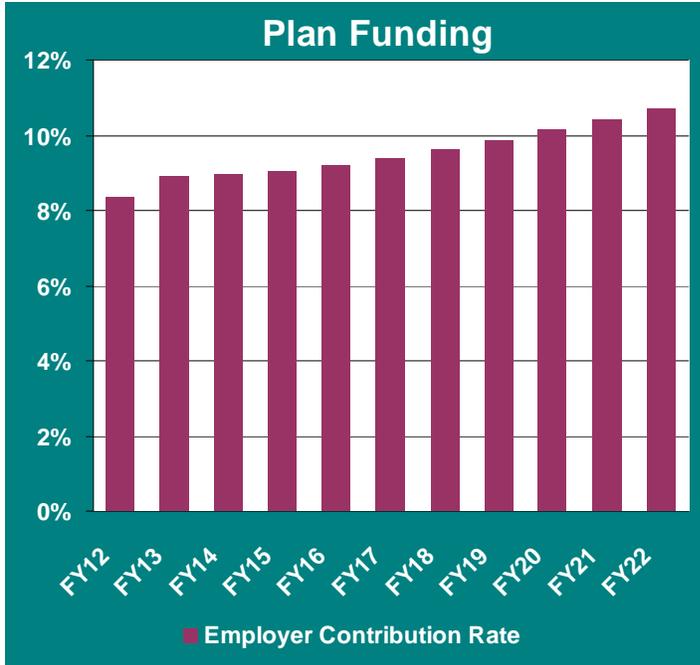
As you can see, the Plan would reach 105% funding by 2021; an improvement over the projected funded level of 96% shown on the previous page.



**DELAWARE STATE EMPLOYEES' PENSION PLAN  
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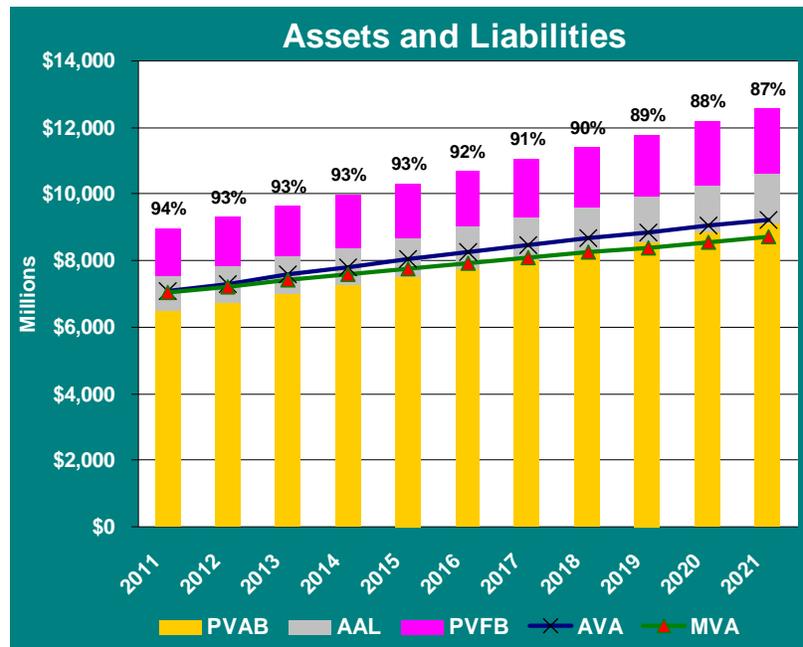
**SECTION I  
BOARD SUMMARY**

Projections with Asset Returns of 6.0%



To further demonstrate how the future funding of this Plan will be driven by investment earnings, we show the anticipated plan funding projections if the invested assets earn 6.0% per year over the entire ten-year period. This would mean that all remaining investment losses from last year will be recognized, plus additional losses will accrue annually as returns miss the 7.5% mark.

Under this scenario the State's contribution rate increases to 10.7% of payroll and the funding status declines to less than 87% by 2021.



DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

SECTION I  
BOARD SUMMARY

<b>Table I-1</b>			
<b>Delaware State Employees' Pension Plan</b>			
<b>Summary of Principal Plan Results</b>			
<b>Valuation as of:</b>	<b>June 30, 2010</b>	<b>June 30, 2011</b>	<b>% Change</b>
<b><u>Participant Counts</u></b>			
Active Participants	35,217	35,572	1.01%
Disabled Participants	1,983	1,917	(3.33)
Retirees and Beneficiaries	19,589	20,175	2.99
Terminated Vested Participants	1,800	2,008	11.56
Inactive Participants	851	830	(2.47)
LTD Participants	400	417	4.25
<b>Total</b>	<b>59,840</b>	<b>60,919</b>	<b>1.80%</b>
Annual Salaries of Active Members*	\$ 1,740,622,400	\$ 1,783,603,300	2.47%
Annual Retirement Allowances for Retired Members and Beneficiaries	\$ 403,090,900	\$ 430,713,300	6.85%
<b><u>Assets and Liabilities</u></b>			
Actuarial Accrued Liability (AAL)	\$ 7,096,326,300	\$ 7,547,950,600	6.36%
Actuarial Value of Assets	6,808,957,400	7,091,821,200	4.15
Unfunded AAL	\$ 287,368,900	\$ 456,129,400	58.73%
Funded Ratio	96.0%	94.0%	
Present Value of Accrued Benefits (PVAB)	\$ 5,978,137,200	\$ 6,510,964,000	8.91%
Market Value of Assets	5,909,159,600	7,056,915,800	19.42
Unfunded PVAB	\$ 68,977,600	\$ (545,951,800)	(891.49%)
Accrued Benefit Funding Ratio	98.8%	108.4%	
<b><u>Contributions as a Percentage of Payroll</u></b>			
	<b>Fiscal Year 2012</b>	<b>Fiscal Year 2013</b>	
Normal Cost Contribution	6.85%	7.01%	
Unfunded Actuarial Liability Contribution	1.17	1.59	
Administrative Expense	0.35	0.30	
Total State Contribution	8.37%	8.90%	

\* Assumes one year of payroll projection.

DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

SECTION II  
ASSETS

Pension Plan assets play a key role in the financial operation of the Plan and in the decisions the Trustees may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact upon benefit levels, State contributions, and the ultimate security of participants' benefits.

In this section, we present detailed information on Plan assets including:

- **Disclosure** of Plan assets at June 30, 2010 and June 30, 2011;
- Statement of the **changes** in market values during the year;
- Development of the **Actuarial Value of Assets**;
- An assessment of **investment performance**; and
- A projection of the Plan's expected **cashflows** for the next ten years.

**Disclosure**

The market value of assets represents "snap-shot" or "cash-out" values which provide the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. As a result, market values are usually not suitable for long-range planning.

The actuarial values are market values which have been smoothed to avoid overreacting to any one market event. They are used for evaluating the Plan's ongoing liability to meet its obligations.

Current methods employed by this Plan set the actuarial value equal to the expected value plus 20% of the difference between the expected value of assets and the actual market value. The expected value is equal to the prior year's actuarial value, rolled forward with actual contributions and benefit payments plus interest imputed at 8%. Next year's expected value will be rolled forward at an interest rate of 7.5%.

DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

**SECTION II  
ASSETS**

<b>Table II-1</b>	
<b>Changes in Market Values</b>	
<b>Value of Assets – June 30, 2010</b>	<b>\$ 5,909,159,600</b>
<b><u>Additions</u></b>	
Member Contributions	\$ 46,403,200
Employer Contributions	128,019,900
PRI Fund Transfer	13,640,300
Investment Return	<u>1,391,147,000</u>
<b>Total Additions</b>	<b>\$ 1,579,210,400</b>
<b><u>Deductions</u></b>	
Benefit Payments	\$ 426,418,200
Administrative Expenses	<u>5,036,000</u>
<b>Total Deductions</b>	<b>\$ 431,454,200</b>
<b>Value of Assets – June 30, 2011</b>	<b>\$ 7,056,915,800</b>

**DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011**

**SECTION II  
ASSETS**

<b>Table II-2 Development of Actuarial Value of Assets</b>	
1. Actuarial Value of Assets at June 30, 2010	\$ 6,808,957,400
2. Amount in (1) with interest to June 30, 2011	7,353,674,000
3. Employer, PRI and member contributions for the Plan Year ended June 30, 2011	188,063,400
4. Interest on contributions assuming payments made uniformly throughout the year to June 30, 2011 at 8.00% per year	7,522,500
5. Disbursements from Trust except investment expenses, June 30, 2010 through June 30, 2011	431,454,200
6. Interest on disbursements to June 30, 2011 at 8.00% per year	17,258,200
7. Expected Actuarial Value of Assets at June 30, 2011 = (2) + (3) + (4) – (5) – (6)	7,100,547,500
8. Actual Market Value of Assets at June 30, 2011	7,056,915,800
9. Excess of (8) over (7)	(43,631,700)
10. Actuarial Value of Assets at June 30, 2011 = (7) + 20% of (9)	7,091,821,200

**Actuarial Value of Assets**

The actuarial value of assets represents a “smoothed” value developed by the actuary to reduce, or eliminate, erratic results which could develop from short-term fluctuations in the market value of assets. For this Plan, the actuarial value has been calculated by adding 20% of the difference between market value and expected value to the expected value. The above table illustrates the calculation of actuarial value of assets for the June 30, 2011 valuation.

DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

SECTION II  
ASSETS

**Investment Performance**

The market value of assets (MVA) returned 24.0% during 2011, which is greater than the assumed 8% return. A return of 7.9% on the actuarial value of assets (AVA) is primarily the result of the asset smoothing method being utilized for the calculation of the actuarial value of assets. Since only 20% of the gain or loss from the performance of the Plan is recognized in a given year, in periods of very good performance, the AVA can lag significantly behind the MVA. In a period of negative returns, the AVA does not decline as rapidly as the MVA.

**Projection of Cash Flows**

<b>Year Beginning July 1,</b>	<b>Expected Benefit Payments</b>	<b>Expected Contributions*</b>
2011	\$ 448,971,000	\$ 206,248,400
2012	469,469,000	231,685,000
2013	490,963,000	239,303,000
2014	512,972,000	247,171,000
2015	535,161,000	255,298,000
2016	558,032,000	253,712,000
2017	581,379,000	251,273,000
2018	604,720,000	259,439,000
2019	627,919,000	267,871,000
2020	650,657,000	276,577,000

\* Expected contributions include State Contributions, Member Contributions, and PRI Transfers. For illustration purposes, we have assumed the State Contribution rate will remain at 7.90% from FYE 2013 forward and that payroll will increase at the actuarially assumed rate of 3.25% per year.

Expected benefit payments are projected for the closed group valued at June 30, 2011. Projecting any farther than ten years using a closed-group would not yield reliable predictions due to the omission of new hires.

### SECTION III LIABILITIES

In this section, we present detailed information on Plan liabilities including:

- **Disclosure** of Plan liabilities at June 30, 2010 and June 30, 2011; and
- Statement of **changes** in these liabilities during the year.

#### Disclosure

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the people ultimately using the figures and the purpose for which they are using them.

- **Present Value of Benefits:** Used for analyzing the financial outlook of the Plan, this represents the amount of money needed today to fully pay off all future benefits and expenses of the Plan, assuming participants continue to accrue benefits.
- **Actuarial Accrued Liability:** Used for funding calculations and GASB disclosures, this liability is calculated taking the Present Value of Benefits and subtracting the present value of future Member Contributions and future Employer Normal Costs under an acceptable actuarial funding method. This method is referred to as the **Entry Age Normal** funding method.
- **Present Value of Accrued Liabilities:** Used for communicating the current level of liabilities, this liability represents the total amount of money needed today to fully pay off the current accrued obligations of the Plan, assuming no future accruals of benefits. These liabilities are also required for accounting purposes (Topic No. 960) and used to assess whether the Plan can meet its current benefit commitments.

The following table discloses each of these liabilities for the current and prior valuations. With respect to each disclosure, a subtraction of the appropriate value of Plan assets yields, for each respective type, a **net surplus** or an **unfunded liability**.

DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

**SECTION III  
LIABILITIES**

<b>Table III-1</b>		
<b>Liabilities/Net (Surplus)/Unfunded</b>		
	<b>June 30, 2010</b>	<b>June 30, 2011</b>
<b><u>Present Value of Benefits</u></b>		
Active Participant Benefits	\$ 4,623,050,700	\$ 4,735,545,800
Retiree and Inactive Benefits	<u>3,968,295,300</u>	<u>4,232,086,200</u>
<b>Present Value of Benefits (PVB)</b>	<b>\$ 8,591,346,000</b>	<b>\$ 8,967,632,000</b>
Market Value of Assets (MVA)	\$ 5,909,159,600	\$ 7,056,915,800
Future Member Contributions	426,894,100	397,714,400
Future State Contributions & PRI Fund Transfers	<u>2,255,292,300</u>	<u>1,513,001,800</u>
<b>Total Resources</b>	<b>\$ 8,591,346,000</b>	<b>\$ 8,967,632,000</b>
<b><u>Actuarial Accrued Liability</u></b>		
Present Value of Benefits (PVB)	\$ 8,591,346,000	\$ 8,967,632,000
Present Value of Future Normal Costs (PVFNC)	1,068,125,600	1,021,967,000
Present Value of Future Member Contributions (PVFEEC)	<u>426,894,100</u>	<u>397,714,400</u>
<b>Actuarial Accrued Liability (AAL=PVB-PVFNC-PVFEEC)</b>	<b>\$ 7,096,326,300</b>	<b>\$ 7,547,950,600</b>
Actuarial Value of Assets (AVA)	<u>6,808,957,400</u>	<u>7,091,821,200</u>
<b>Net (Surplus)/Unfunded (AAL - AVA)</b>	<b>\$ 287,368,900</b>	<b>\$ 456,129,400</b>
<b><u>Present Value of Accrued Liability</u></b>		
Present Value of Benefits (PVB)	\$ 8,591,346,000	\$ 8,967,632,000
Present Value of Future Benefit Accruals (PVFBA)	<u>2,613,208,800</u>	<u>2,456,668,000</u>
<b>Present Value of Accrued Liability (PVAB=PVB-PVFBA)</b>	<b>\$ 5,978,137,200</b>	<b>\$ 6,510,964,000</b>
Market Value of Assets (MVA)	\$ 5,909,159,600	\$ 7,056,915,800
<b>Net Unfunded (PVAB - MVA)</b>	<b>\$ 68,977,600</b>	<b>\$ (545,951,800)</b>

**DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011**

**SECTION III  
LIABILITIES**

**Changes in Liabilities**

Each of the Liabilities disclosed in the prior table are expected to change at each valuation. The components of that change, depending upon which liability is analyzed, can include:

- New hires since the last valuation
- Benefits accrued since the last valuation
- Plan amendments increasing benefits
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, or dying at rates different than expected
- A change in actuarial or investment assumptions
- A change in the actuarial funding method

Unfunded liabilities will change because of all of the above, and also due to changes in Plan assets resulting from:

- Employer contributions different than expected
- Investment earnings different than expected
- A change in the method used to measure plan assets

In each valuation, we report on those elements of change which are of particular significance, potentially affecting the long-term financial outlook of the Plan. Below we present key changes in liabilities since the last valuation.

<b>Table III-2</b>			
<b>(In Millions)</b>	<b>Present Value of Benefits</b>	<b>Actuarial Accrued Liability</b>	<b>Present Value of Accrued Liability</b>
Liabilities June 30, 2010	\$ 8,591	\$ 7,096	\$ 5,978
Liabilities June 30, 2011	8,968	7,548	6,511
Liability Increase (Decrease)	377	452	533
Change Due to:			
PRI Increase	75	75	75
Actuarial (Gain)/Loss	NC *	(26)	NC *
Assumption Changes	(14)	98	213
Benefits Accumulated and Other Sources	316	305	245

\* NC = not calculated.

DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

**SECTION III  
LIABILITIES**

<b>Table III-3</b>		
<b>Actuarial Liabilities for Funding</b>		
	<b>June 30, 2010</b>	<b>June 30, 2011</b>
1. Actuarial Liabilities		
Retiree and Inactive Benefits	\$ 3,968,295,300	\$ 4,232,086,200
Active Members	<u>3,128,031,000</u>	<u>3,315,864,400</u>
<b>Total Actuarial Liability</b>	<b>\$ 7,096,326,300</b>	<b>\$ 7,547,950,600</b>
2. Actuarial Value of Assets	\$ 6,808,957,400	\$ 7,091,821,200
3. Unfunded Actuarial Liability	\$ 287,368,900	\$ 456,129,400
4. Outstanding PRI Transfers/(1 – 5 years)	\$ 13,477,600	\$ 74,711,900
<b>5. Net (Gain)/Loss Base for 20 Year Amortization (3-4)</b>	<b>\$ 273,891,300</b>	<b>\$ 381,417,500</b>

**DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011**

**SECTION IV  
CONTRIBUTIONS**

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to properly maintain the funding status of the Plan. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that are both stable and predictable.

For this Plan, the funding method employed is the **Entry Age Actuarial Cost Method**. Under this method, there are three components to the total contribution: the **normal cost rate**, the **unfunded actuarial liability rate** (UAL rate), and the **administrative expense rate**. The normal cost rate is determined in the following steps. First, for a typical new entrant an individual normal cost rate is determined by taking the value, as of entry age into the plan, of that member's projected future benefits. This value is then divided by the value, also at entry age, of the member's expected future salary. Finally, the total normal cost rate is reduced by the member contribution rate to produce the employer normal cost rate.

The UAL rate is calculated by amortizing all UAL (except for the present value of scheduled PRI transfers) over an open 20 year period. All payments are determined assuming total pay increases by the annual inflation rate of 3.25% (3.75% for 2010 results).

The assumed administrative expense rate is 0.30% (0.35% for 2010 results) of payroll. This rate, when applied to payroll, is intended to provide an allowance above the cost of funding the benefits to pay for the expense of operating the Plan.

The table below presents and compares the employer contribution rates for the Plan for this valuation and the prior one.

<b>Table IV-1</b>		
<b>Employer Contribution Rate</b>		
	<b>June 30, 2010</b>	<b>June 30, 2011</b>
Entry Age Normal Cost Rate	6.85%	7.01%
Amortization Payment	1.17	1.59
Expense	<u>0.35</u>	<u>0.30</u>
Actuarially Determined Contribution	8.37%	8.90%

**DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011**

**SECTION IV  
CONTRIBUTIONS**

<b>Table IV-2 Development of Plan Cost as of June 30, 2011</b>		
	<b>In Dollars</b>	<b>As % of Payroll</b>
1. Present value of projected benefits attributable to:		
a. Total Normal Cost	\$ 173,722,900	9.74%
b. Expected Members Contribution	<u>48,692,300</u>	<u>2.73</u>
c. Employer Paid Normal Cost (a) – (b)	\$ 125,030,600	7.01%
2. Amortization of Unfunded Liability	\$ 28,315,800	1.59%
3. Allowance for Expense	\$ 5,350,800	0.30%
4. Total Employer Contribution Rate (1) + (2) + (3)	\$ 158,697,200	8.90%

**DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011**

**SECTION V  
ACCOUNTING STATEMENT INFORMATION**

ASC Topic No. 960 of the Financial Accounting Standards Board requires the Plan to disclose certain information regarding its funded status. Statement No. 25 of the Governmental Accounting Standards Board (GASB) establishes standards for disclosure of pension information by public employee retirement systems (PERS) and governmental employers in notes to financial statements and supplementary information.

The FASB ASC Topic No. 960 disclosures provide a quasi “snap shot” view of how the Plan’s assets compare to its liabilities if contributions stopped and accrued benefit claims had to be satisfied. However, due to potential legal requirements and the possibility that alternative interest rates would have to be used to determine the liabilities, these values may not be a good indication of the amount of money it would take to buy the benefits for all members if the Plan were to terminate.

The GASB-25 actuarial accrued liability is the same as the actuarial liability amount calculated for funding purposes.

Both the present value of accrued benefits (Topic No. 960) and the actuarial accrued liability (GASB-25) are determined assuming that the Plan is on-going and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions. Liabilities are discounted at the assumed valuation interest rate of 7.5% per annum for 2011 and 8.0% per annum for 2010.

FASB ASC Topic No. 960 specifies that a comparison of the present value of accrued (accumulated) benefits with the market value of the assets as of the valuation date must be provided. GASB Statement No. 25 requires the actuarial accrued liability be compared with the actuarial value of assets for funding purposes. The relevant amounts as of June 30, 2011 are exhibited in Table V-1. Finally, Table V-2 reconciles the Topic No. 960 liabilities determined as of the prior valuation, July 1, 2010, to the liabilities as of June 30, 2011.

Tables V-3 through V-5 are exhibits to be used with the State CAFR report. Table V-3 is the Note to Required Supplementary Information, Table V-4 is a history of gains and losses in Accrued Liability, and Table V-5 is the Solvency Test which shows the portion of Accrued Liability covered by Assets.

DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

**SECTION V**  
**ACCOUNTING STATEMENT INFORMATION**

<b>Table V-1</b>		
<b>Accounting Statement Information</b>		
	<b>June 30, 2010</b>	<b>June 30, 2011</b>
<b>A. FASB ASC Topic No. 960 Basis</b>		
1. Present Value of Benefits Accrued and Vested to Date		
a. Members Currently Receiving Payments	\$ 3,873,285,500	\$ 4,123,359,900
b. Former Vested Members (and LTDs)	95,009,800	108,726,300
c. Active Members	<u>2,009,841,900</u>	<u>2,278,877,800</u>
2. Total Present Value of Accrued Benefits (1 (a) + 1(b) + 1(c))	\$ 5,978,137,200	\$ 6,510,964,000
3. Assets at Market Value	<u>5,909,159,600</u>	<u>7,056,915,800</u>
4. Unfunded Present Value of Accrued Benefits (2 – 3)	\$ 68,977,600	\$ (545,951,800)
5. Ratio of Assets to Present Value of Benefits (3 / 2)	98.8%	108.4%
<b>B. GASB No. 25 Basis</b>		
1. Actuarial Accrued Liabilities for retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$ 3,968,295,300	\$ 4,232,086,200
2. Actuarial Accrued Liabilities for current employees	<u>3,128,031,000</u>	<u>3,315,864,400</u>
3. Total Actuarial Accrued Liability (1 + 2)	\$ 7,096,326,300	\$ 7,547,950,600
4. Net Actuarial Assets available for benefits	<u>6,808,957,400</u>	<u>7,091,821,200</u>
5. Unfunded Actuarial Accrued Liability (3 – 4)	\$ 287,368,900	\$ 456,129,400

DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

SECTION V  
ACCOUNTING STATEMENT INFORMATION

<b>Table V-2</b> <b>Statement of Changes in Total Actuarial</b> <b>Present Value of All Accrued Benefits</b> <b>(in millions)</b>		<b>Accumulated Benefit</b> <b>Obligation (FASB ASC</b> <b>Topic No. 960)</b>
Actuarial Present Value of Accrued Benefits at June 30, 2010		\$ 5,978
Increase (Decrease) During Years Attributable to:		
Passage of Time		461
Benefit Paid – FY 2011		(426)
Assumption Change		213
PRI		75
Benefits Accrued, Other Gains/Losses		<u>210</u>
Net Increase (Decrease)		533
Actuarial Present Value of Accrued Benefits at June 30, 2011		\$ 6,511

**DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011**

**SECTION V  
ACCOUNTING STATEMENT INFORMATION**

**Table V-3  
Note to Required Supplementary Information**

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.

Valuation date	July 1, 2011
Actuarial cost method	Entry age
Amortization method	Percentage of Pay Open
Amortization period	20 years
Asset valuation method	5-Year smoothed market
Actuarial assumptions:	
Investment rate of return*	7.5%
Projected salary increases*	3.8%-11.8%
Cost-of-living adjustments	ad hoc
* Includes inflation at	3.25%

The actuarial assumptions used have been recommended by the actuary and adopted by the Plan's Board of Trustees based on the most recent review of the Plan's experience, completed in 2011.

The rate of employer contributions to the Plan is composed of the normal cost, amortization of the unfunded actuarial accrued liability and an allowance for administrative expenses. The normal cost is a level percent of payroll cost which, along with member contributions, will pay for projected benefits at retirement for the average plan participant. The actuarial accrued liability is that portion of the present value of projected benefits that will not be paid by future employer normal costs or member contributions. The difference between this liability and the funds accumulated as of the same date is the unfunded actuarial accrued liability. The allowance for administrative expenses is based upon the Plan's actual administrative expenses.

DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

**SECTION V**  
**ACCOUNTING STATEMENT INFORMATION**

**Table V-4**  
**Analysis of Financial Experience**

**Gain and Loss in Accrued Liability During Years Ended June 30**  
**Resulting from Differences Between Assumed Experience and Actual Experience**  
*Gain (or Loss) for Year ending June 30,*  
*(expressed in thousands)*

Type of Activity	2006	2007	2008	2009	2010	2011
Investment Income on Actuarial Assets	\$ 33,600	\$ 120,673	\$ (27,225)	\$ (337,848)	\$ (224,949)	\$ (8,726)
Combined Liability Experience	<u>(44,930)</u>	<u>(19,423)</u>	<u>(44,449)</u>	<u>31,060</u>	<u>34,271</u>	<u>26,105</u>
(Loss)/Gain During Year from Financial Experience	\$ (11,330)	\$ 101,250	\$ (71,674)	\$ (306,788)	\$ (190,678)	\$ 17,379
Non-Recurring Items	<u>1,923</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>(173,261)</u>
Composite Gain (or Loss) During Year	\$ (9,407)	\$ 101,250	\$ (71,674)	\$ (306,788)	\$ (190,678)	\$ (155,882)

**Table V-5**  
**Solvency Test**  
**Aggregate Accrued Liabilities for**  
**(expressed in thousands)**

Valuation Date June 30,	Active Member Contributions (1)	Retirants & Beneficiaries (2)	Active Member Employer Financed Contributions (3)	Actuarial Value of Reported Assets	Portion of Accrued Liabilities Covered by Reported Assets		
					(1)	(2)	(3)
2011	\$ 558,065	\$ 4,123,360	\$ 2,866,526	\$ 7,091,821	100%	100%	84%
2010	527,578	3,873,286	2,695,462	6,808,957	100	100	89
2009	508,790	3,608,850	2,709,366	6,744,050	100	100	97
2008	470,813	3,390,993	2,688,050	6,751,949	100	100	108
2007	444,376	3,182,382	2,581,267	6,437,916	100	100	109
2006	434,605	2,982,471	2,483,996	5,998,746	100	100	104

**DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Delaware State Employees' Pension Plan Distribution of Active Members  
by Age and Service as of June 30, 2011**

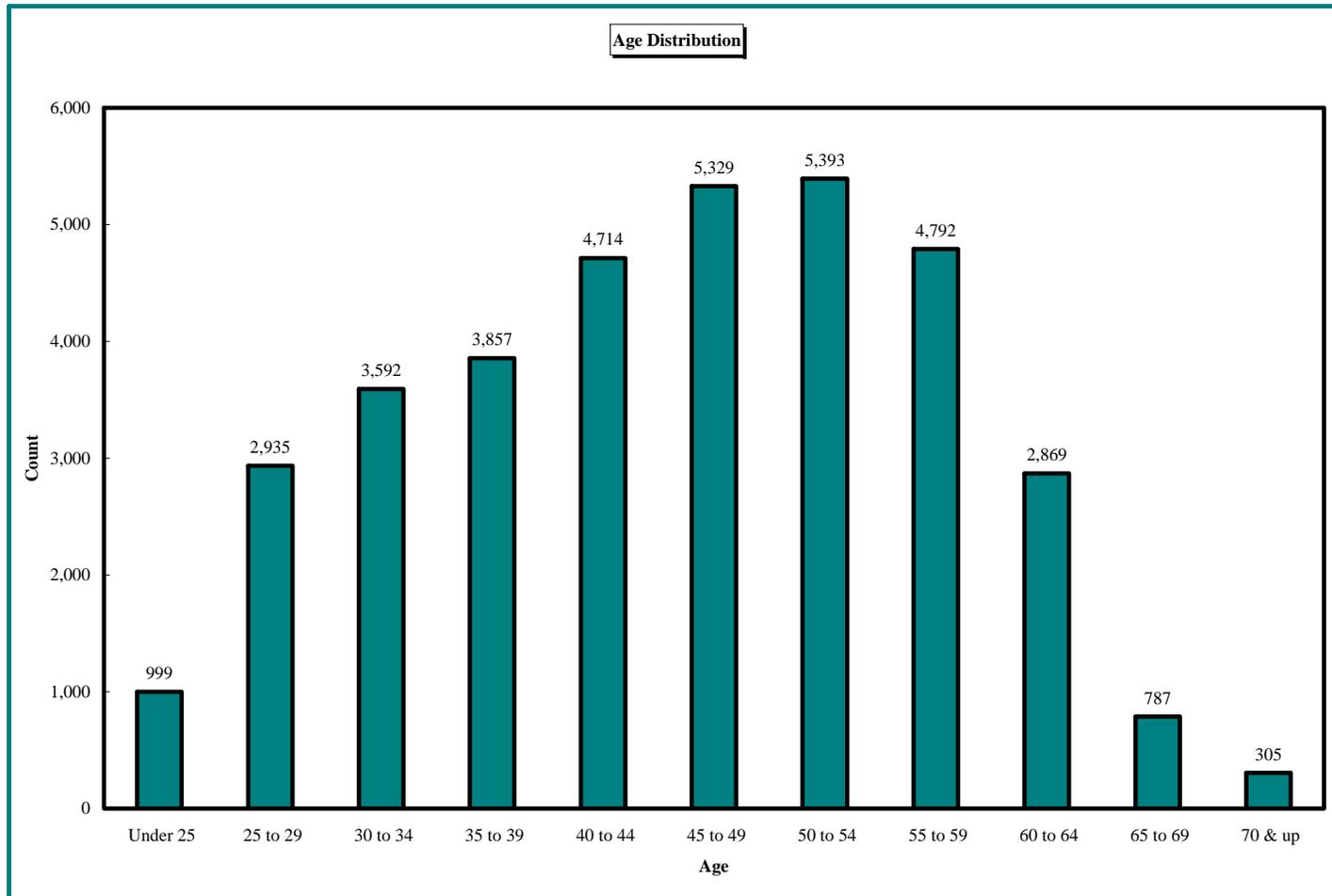
COUNTS BY AGE/SERVICE

Age	Service										Total	
	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		
Under 25	451	528	20	0	0	0	0	0	0	0	0	999
25 to 29	461	1,790	668	16	0	0	0	0	0	0	0	2,935
30 to 34	317	1,183	1,593	494	5	0	0	0	0	0	0	3,592
35 to 39	223	970	1,133	1,252	267	12	0	0	0	0	0	3,857
40 to 44	266	954	1,167	1,045	898	370	14	0	0	0	0	4,714
45 to 49	239	942	1,181	1,060	753	811	331	12	0	0	0	5,329
50 to 54	174	752	1,031	1,095	777	704	599	248	13	0	0	5,393
55 to 59	130	583	792	875	734	688	485	371	129	5	5	4,792
60 to 64	69	366	477	501	488	385	249	156	127	51	51	2,869
65 to 69	22	112	171	144	106	84	60	47	21	20	20	787
70 & up	9	51	64	60	40	27	14	20	9	11	11	305
<b>Total</b>	<b>2,361</b>	<b>8,231</b>	<b>8,297</b>	<b>6,542</b>	<b>4,068</b>	<b>3,081</b>	<b>1,752</b>	<b>854</b>	<b>299</b>	<b>87</b>	<b>87</b>	<b>35,572</b>

DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

APPENDIX A  
MEMBERSHIP INFORMATION

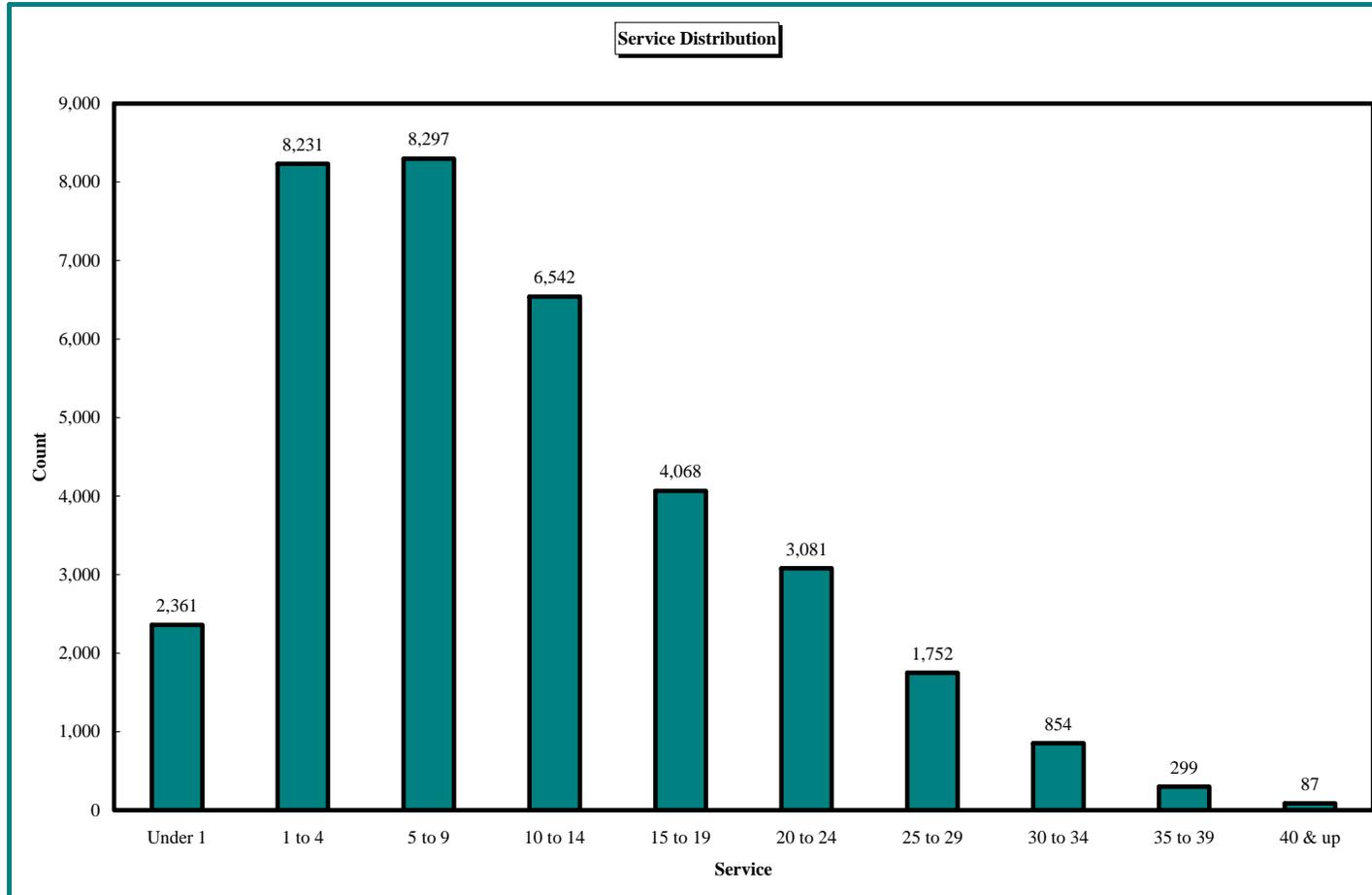
Delaware State Employees' Pension Plan Distribution of Active Members  
by Age as of June 30, 2011



DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

APPENDIX A  
MEMBERSHIP INFORMATION

Delaware State Employees' Pension Plan Distribution of Active Members  
by Service as of June 30, 2011



**DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Delaware State Employees' Pension Plan Distribution of Active Members  
by Age and Service as of June 30, 2011**

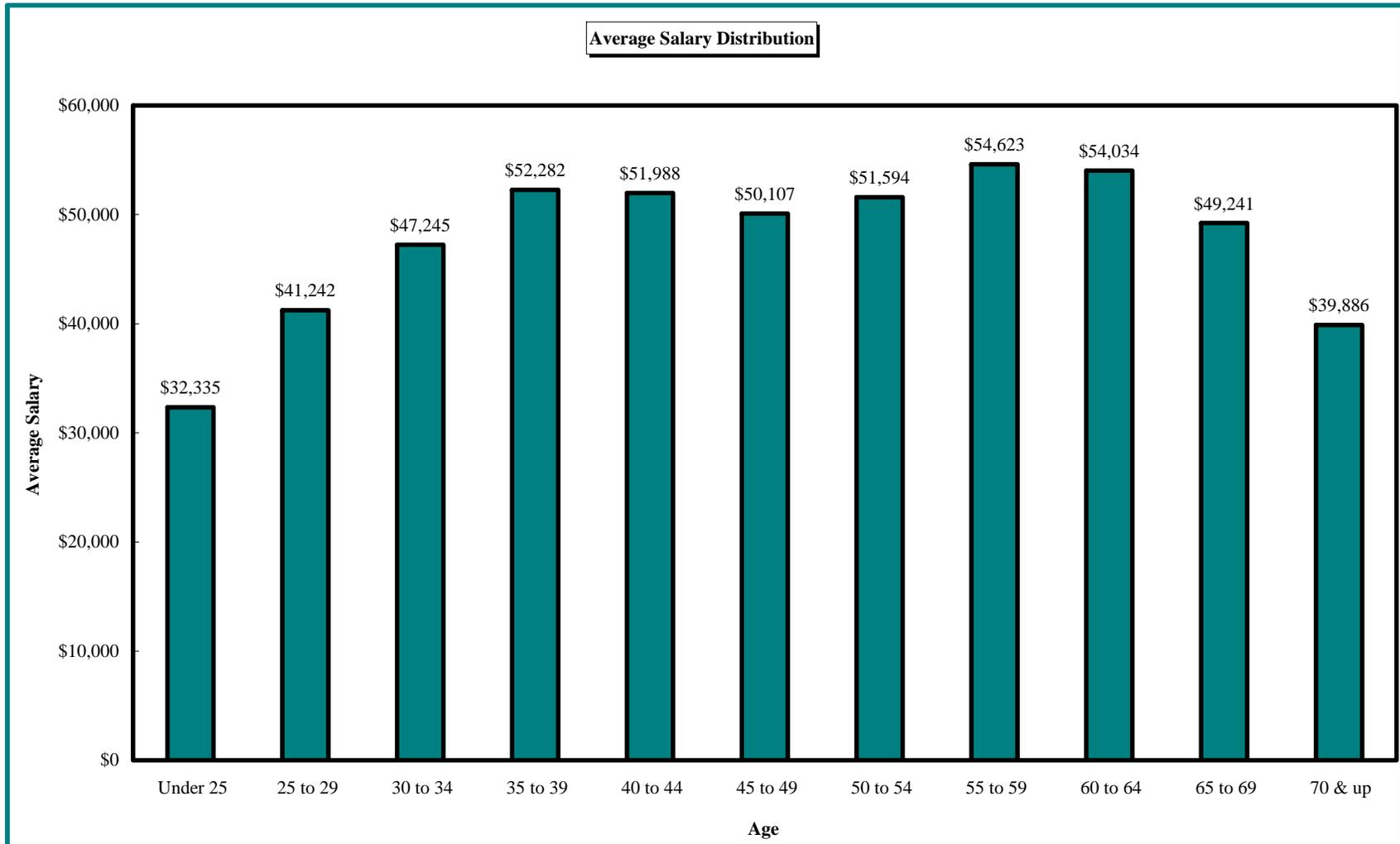
**AVERAGE SALARY BY AGE/SERVICE**

Age	Service										Total	
	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		
Under 25	\$ 28,175	\$ 35,875	\$ 32,654	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 32,335
25 to 29	32,466	42,137	44,990	37,435	0	0	0	0	0	0	0	41,242
30 to 34	32,152	42,966	51,356	53,883	51,122	0	0	0	0	0	0	47,245
35 to 39	35,537	45,269	51,171	60,292	58,936	51,387	0	0	0	0	0	52,282
40 to 44	31,275	41,524	49,010	56,694	65,496	57,431	45,285	0	0	0	0	51,988
45 to 49	31,286	40,094	45,749	50,577	59,213	61,359	58,143	44,718	0	0	0	50,107
50 to 54	31,490	39,958	45,674	50,622	55,977	59,563	65,528	59,595	56,984	0	0	51,594
55 to 59	35,498	42,506	47,555	51,269	56,744	58,941	67,345	68,702	70,856	67,885	0	54,623
60 to 64	34,162	42,114	48,219	50,781	57,705	58,166	63,040	63,409	75,199	61,158	0	54,034
65 to 69	36,524	36,559	37,851	46,096	54,273	53,453	67,209	69,764	81,135	74,285	0	49,241
70 & up	11,623	25,985	25,868	36,232	48,483	57,204	52,565	64,809	71,601	67,774	0	39,886
<b>Total</b>	<b>\$ 31,744</b>	<b>\$ 41,569</b>	<b>\$ 47,921</b>	<b>\$ 53,516</b>	<b>\$ 59,093</b>	<b>\$ 59,247</b>	<b>\$ 64,074</b>	<b>\$ 64,721</b>	<b>\$ 72,842</b>	<b>\$ 65,399</b>	<b>\$ 0</b>	<b>\$ 50,116</b>

DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

APPENDIX A  
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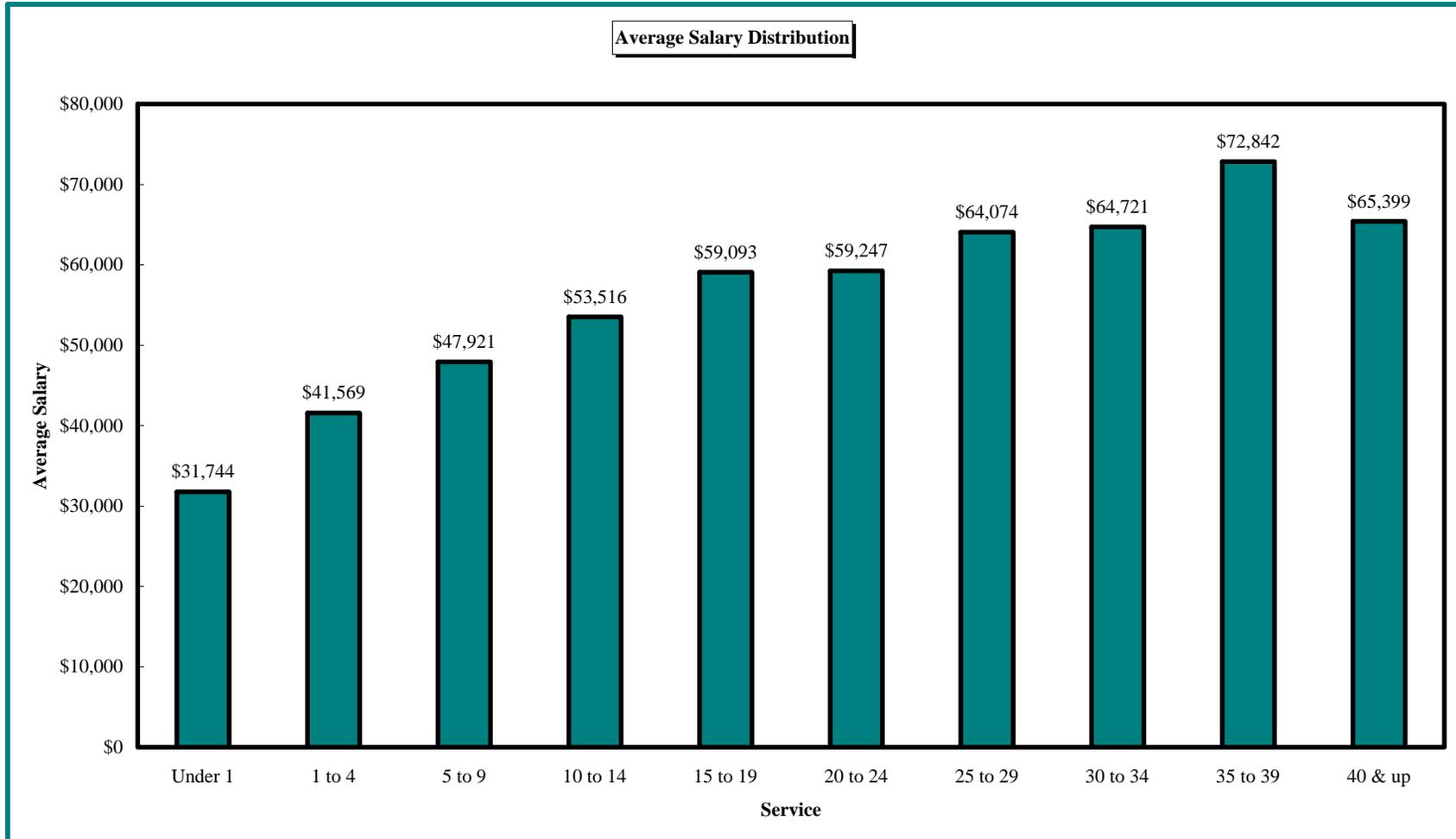
Delaware State Employees' Pension Plan Distribution of Active Members  
by Age as of June 30, 2011



DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

APPENDIX A  
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**Delaware State Employees' Pension Plan Distribution of Active Members  
by Service as of June 30, 2011**



**DELAWARE STATE EMPLOYEES' PENSION PLAN  
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**APPENDIX A  
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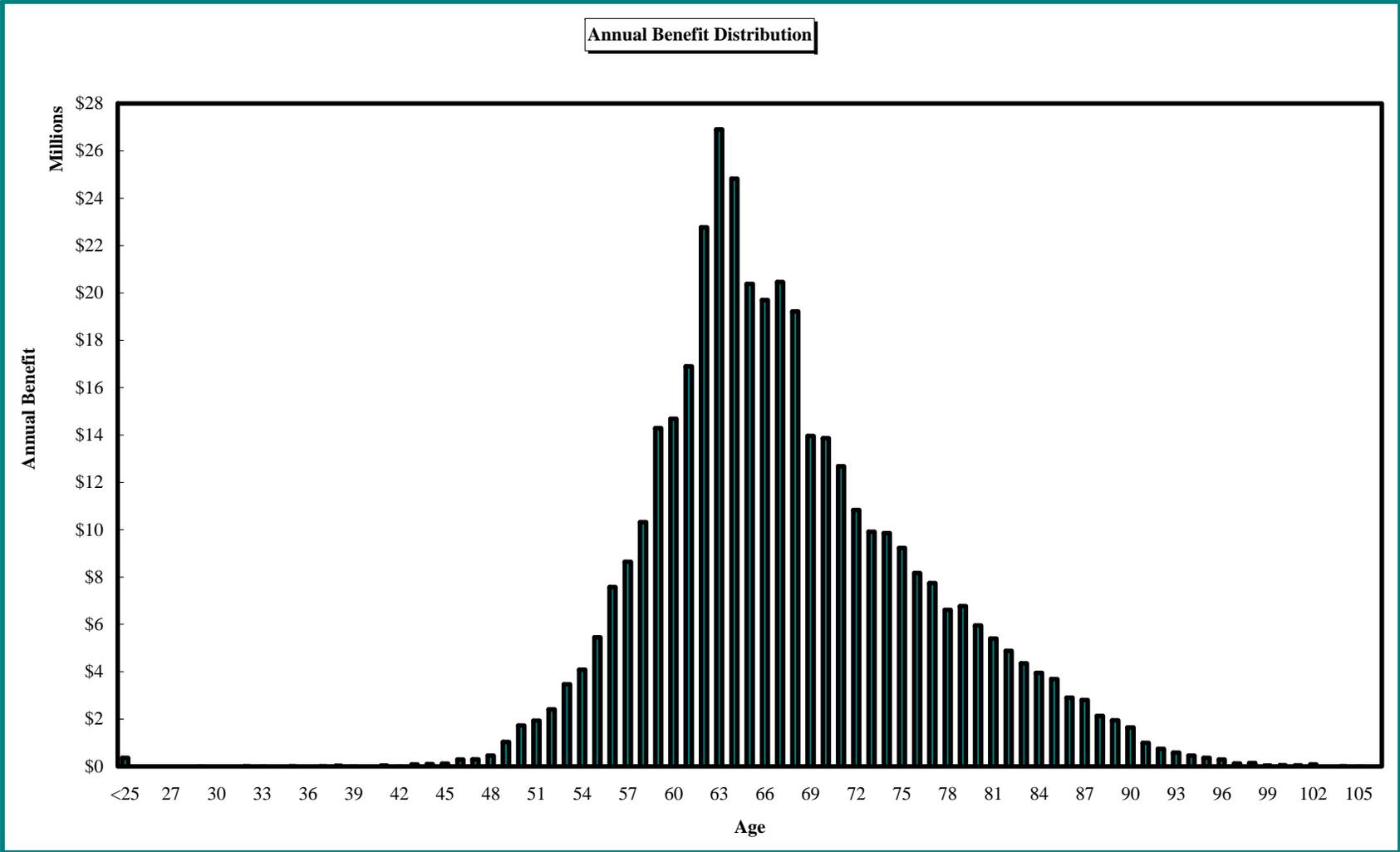
**Delaware State Employees' Pension Plan Distribution of Retired  
Members and Survivors as of June 30, 2011**

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	51	\$ 361,144	73	581	\$ 9,908,611
25	0	0	74	559	9,853,293
26	0	0	75	585	9,234,162
27	0	0	76	563	8,170,887
28	0	0	77	539	7,742,091
29	1	7,174	78	512	6,612,300
30	0	0	79	517	6,773,322
31	1	1,829	80	473	5,953,861
32	3	13,566	81	427	5,398,954
33	2	4,976	82	386	4,881,879
34	1	1,634	83	400	4,360,993
35	1	14,405	84	347	3,954,957
36	0	0	85	327	3,691,141
37	2	13,652	86	275	2,908,929
38	4	31,591	87	280	2,806,070
39	1	8,001	88	219	2,134,321
40	1	1,159	89	204	1,942,303
41	7	39,560	90	185	1,652,638
42	3	6,095	91	114	992,869
43	9	86,385	92	92	746,189
44	8	97,906	93	62	585,576
45	10	119,398	94	53	459,922
46	20	293,835	95	41	362,833
47	20	301,148	96	32	290,105
48	26	460,839	97	17	123,569
49	53	1,034,397	98	17	150,072
50	87	1,732,083	99	6	39,201
51	84	1,939,469	100	9	54,749
52	100	2,416,085	101	6	43,711
53	139	3,468,762	102	7	85,598
54	160	4,092,088	103	0	0
55	207	5,451,096	104	2	15,219
56	272	7,577,918	105	1	8,796
57	295	8,645,151	106	0	0
58	370	10,324,337	107	0	0
59	476	14,295,358	108	0	0
60	508	14,687,946	109	0	0
61	626	16,901,856	110	0	0
62	836	22,773,069	111	0	0
63	1,019	26,907,776	112	0	0
64	958	24,825,085	113	0	0
65	799	20,381,184	114	0	0
66	797	19,700,476	115	0	0
67	885	20,459,539	116	0	0
68	843	19,220,430	117	0	0
69	689	13,962,070	118	0	0
70	703	13,866,619	119	0	0
71	655	12,676,625	120	0	0
72	605	10,832,574			
			Totals	20,175	\$ 401,975,411

DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

APPENDIX A  
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Delaware State Employees' Pension Plan Distribution of Retired Members and Survivors  
as of June 30, 2011



**DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011**

**APPENDIX A  
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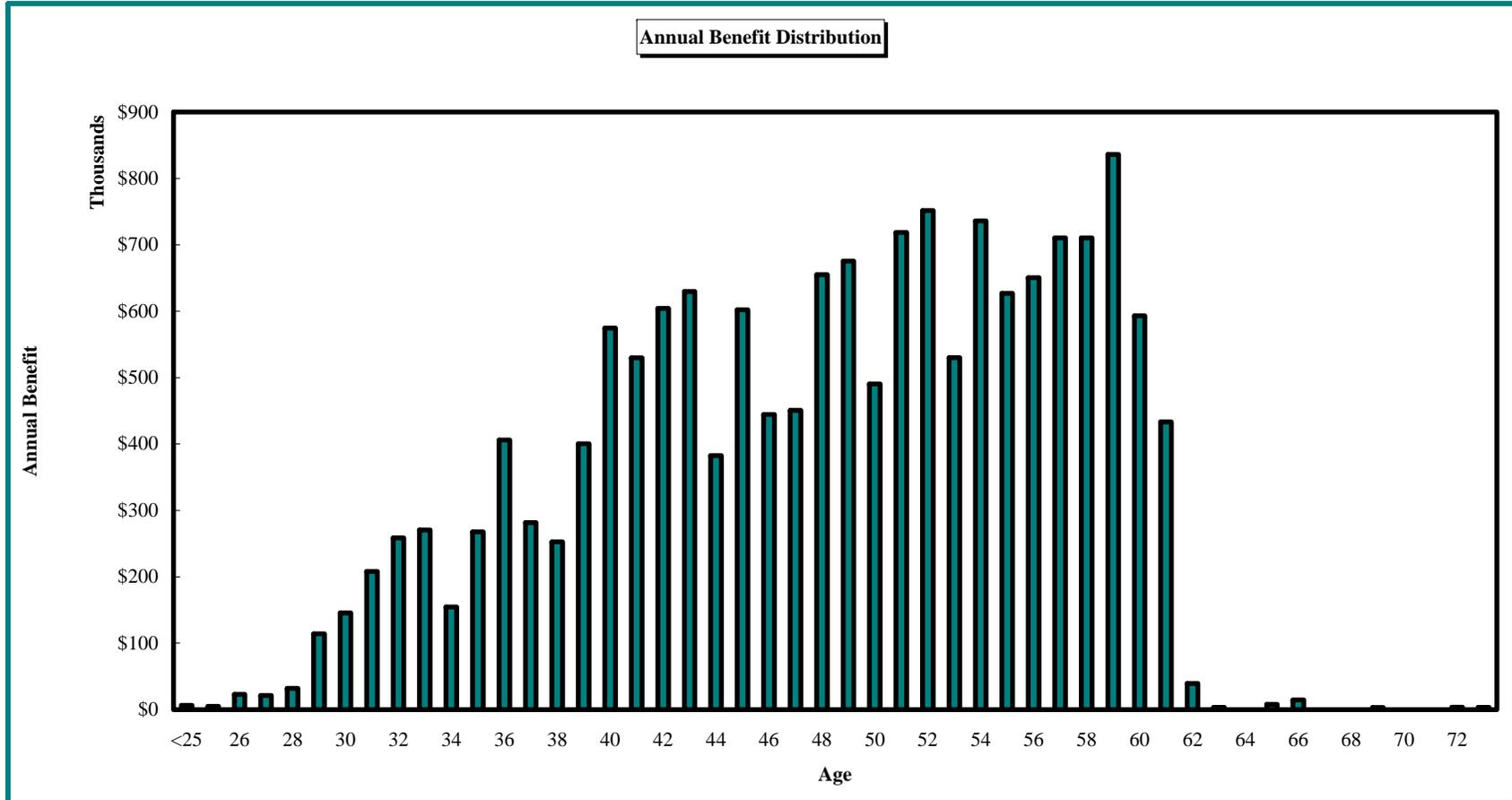
**Delaware State Employees' Pension Plan Distribution of Vested Members  
as of June 30, 2011**

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	2	\$ 6,358	73	1	\$ 3,260
25	2	4,884	74	0	0
26	6	22,870	75	0	0
27	6	21,267	76	0	0
28	8	31,883	77	0	0
29	19	114,143	78	0	0
30	29	145,306	79	0	0
31	36	208,220	80	0	0
32	45	258,721	81	0	0
33	42	270,371	82	0	0
34	31	154,563	83	0	0
35	44	267,624	84	0	0
36	52	405,781	85	0	0
37	47	281,889	86	0	0
38	47	252,396	87	0	0
39	46	400,328	88	0	0
40	59	574,490	89	0	0
41	74	529,636	90	0	0
42	73	604,346	91	0	0
43	65	629,412	92	0	0
44	53	382,314	93	0	0
45	73	602,029	94	0	0
46	57	444,636	95	0	0
47	53	450,547	96	0	0
48	74	654,961	97	0	0
49	81	675,536	98	0	0
50	56	490,318	99	0	0
51	73	718,630	100	0	0
52	75	751,371	101	0	0
53	59	530,036	102	0	0
54	81	736,119	103	0	0
55	68	626,781	104	0	0
56	77	650,466	105	0	0
57	72	710,325	106	0	0
58	84	710,568	107	0	0
59	94	836,215	108	0	0
60	77	593,141	109	0	0
61	50	433,382	110	0	0
62	10	39,353	111	0	0
63	1	3,250	112	0	0
64	0	0	113	0	0
65	2	7,815	114	0	0
66	1	14,714	115	0	0
67	0	0	116	0	0
68	0	0	117	0	0
69	1	3,011	118	0	0
70	0	0	119	0	0
71	0	0	120	0	0
72	2	3,501			
			Totals	2,008	\$ 16,256,765

DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

APPENDIX A  
MEMBERSHIP INFORMATION

Delaware State Employees' Pension Plan Distribution of Vested Members  
as of June 30, 2011



**DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011**

**APPENDIX A  
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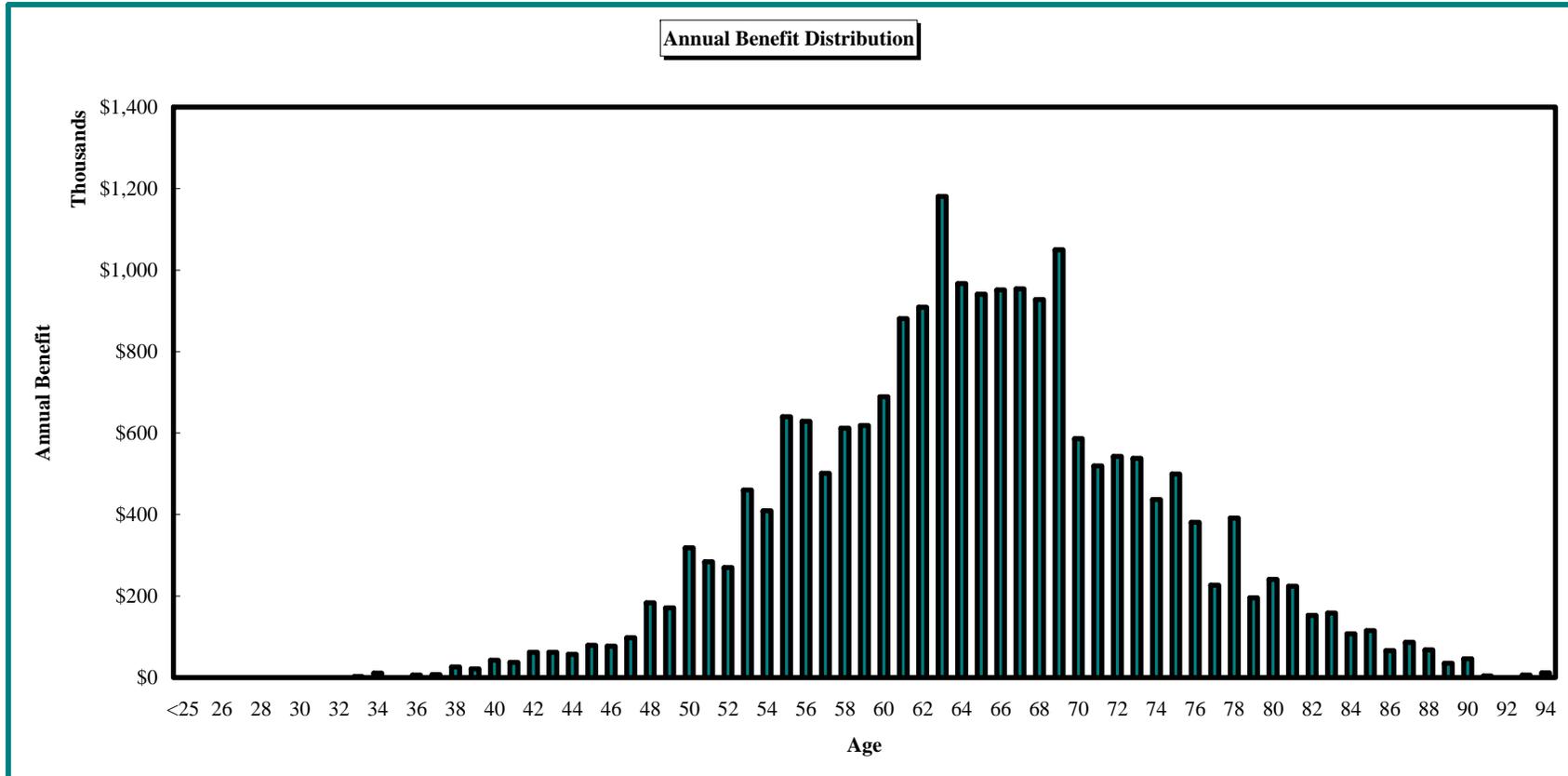
**Delaware State Employees' Pension Plan Distribution of Disabled Members  
as of June 30, 2011**

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	0	\$ 0	73	51	\$ 537,736
25	0	0	74	41	437,065
26	0	0	75	47	499,385
27	0	0	76	38	380,896
28	0	0	77	30	226,892
29	0	0	78	37	391,519
30	0	0	79	17	195,801
31	0	0	80	29	241,366
32	0	0	81	26	224,285
33	1	2,663	82	22	152,603
34	2	10,985	83	19	158,160
35	0	0	84	14	107,460
36	1	6,073	85	16	115,174
37	1	7,232	86	10	66,519
38	3	25,974	87	15	86,213
39	4	21,806	88	10	68,074
40	8	42,460	89	6	35,624
41	2	37,623	90	7	46,096
42	7	62,179	91	1	4,339
43	10	62,029	92	0	0
44	10	57,293	93	1	5,923
45	12	79,099	94	2	12,051
46	13	77,013	95	0	0
47	12	97,743	96	0	0
48	21	183,815	97	0	0
49	21	171,185	98	0	0
50	29	318,267	99	0	0
51	31	284,200	100	0	0
52	27	270,027	101	0	0
53	38	460,461	102	0	0
54	44	409,653	103	0	0
55	59	640,284	104	0	0
56	58	629,278	105	0	0
57	48	501,634	106	0	0
58	57	612,301	107	0	0
59	53	618,891	108	0	0
60	56	689,418	109	0	0
61	79	881,221	110	0	0
62	79	908,608	111	0	0
63	88	1,180,751	112	0	0
64	71	966,748	113	0	0
65	77	940,946	114	0	0
66	64	951,395	115	0	0
67	81	953,951	116	0	0
68	81	927,742	117	0	0
69	78	1,049,784	118	0	0
70	43	586,108	119	0	0
71	54	519,434	120	0	0
72	55	542,775			
			Totals	1,917	\$ 20,782,230

DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

APPENDIX A  
MEMBERSHIP INFORMATION

Delaware State Employees' Pension Plan Distribution of Disabled Members  
as of June 30, 2011



**DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011**

**APPENDIX A  
MEMBERSHIP INFORMATION**

**Delaware State Employees' Pension Plan Distribution of Disabled Members  
as of June 30, 2011**

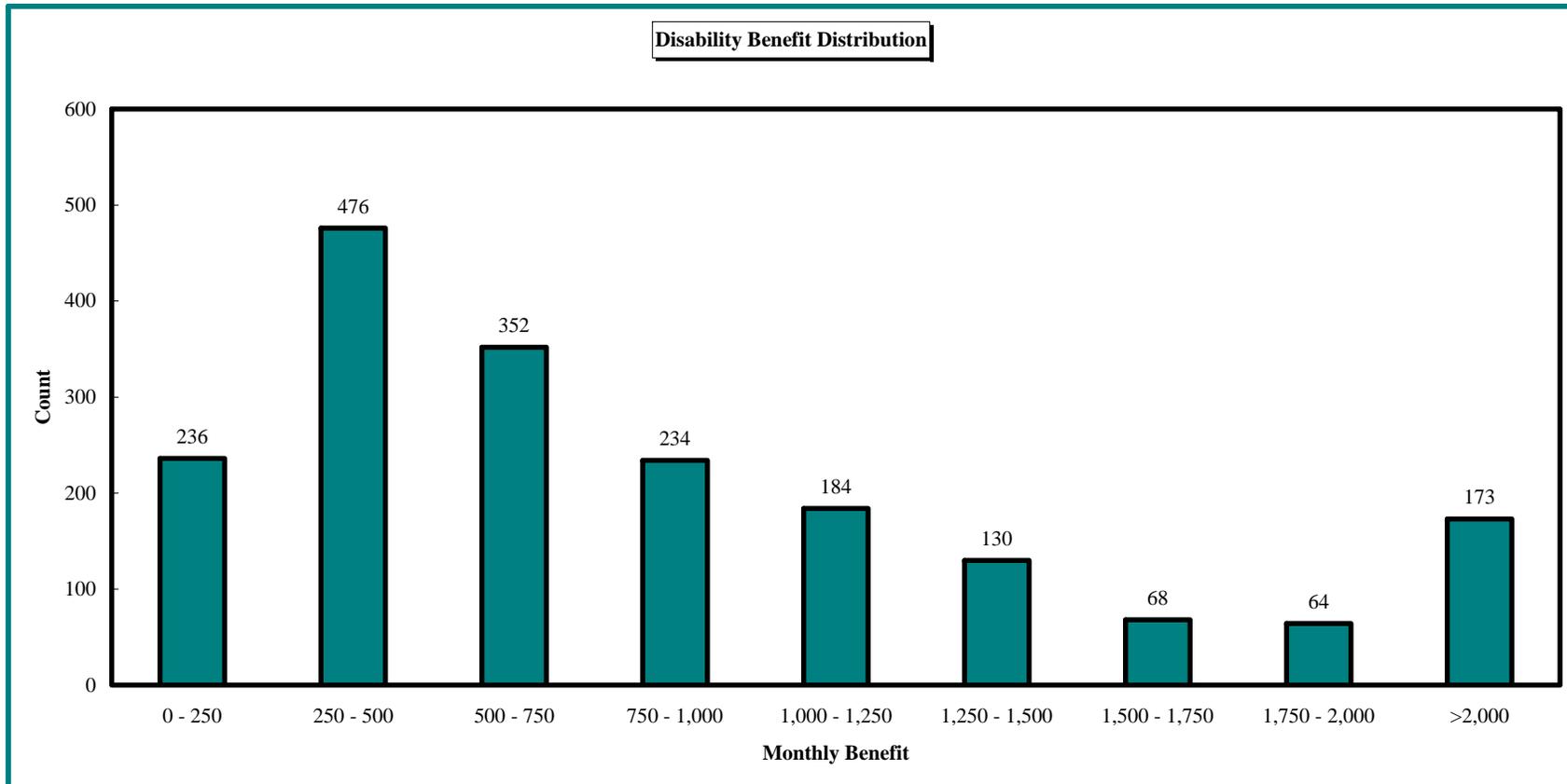
**COUNTS BY BENEFIT/SERVICE**

Monthly Benefit										Total
	0 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	
0 - 250	0	190	38	8	0	0	0	0	0	236
250 - 500	1	194	202	63	12	4	0	0	0	476
500 - 750	1	34	136	120	51	9	1	0	0	352
750 - 1,000	0	8	39	92	69	21	5	0	0	234
1,000 - 1,250	0	2	20	62	69	25	6	0	0	184
1,250 - 1,500	0	1	12	26	38	38	11	3	1	130
1,500 - 1,750	0	0	2	11	24	24	6	1	0	68
1,750 - 2,000	0	0	1	6	24	21	8	4	0	64
>2,000	0	0	1	6	32	69	44	17	4	173
<b>Total</b>	<b>2</b>	<b>429</b>	<b>451</b>	<b>394</b>	<b>319</b>	<b>211</b>	<b>81</b>	<b>25</b>	<b>5</b>	<b>1,917</b>

DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

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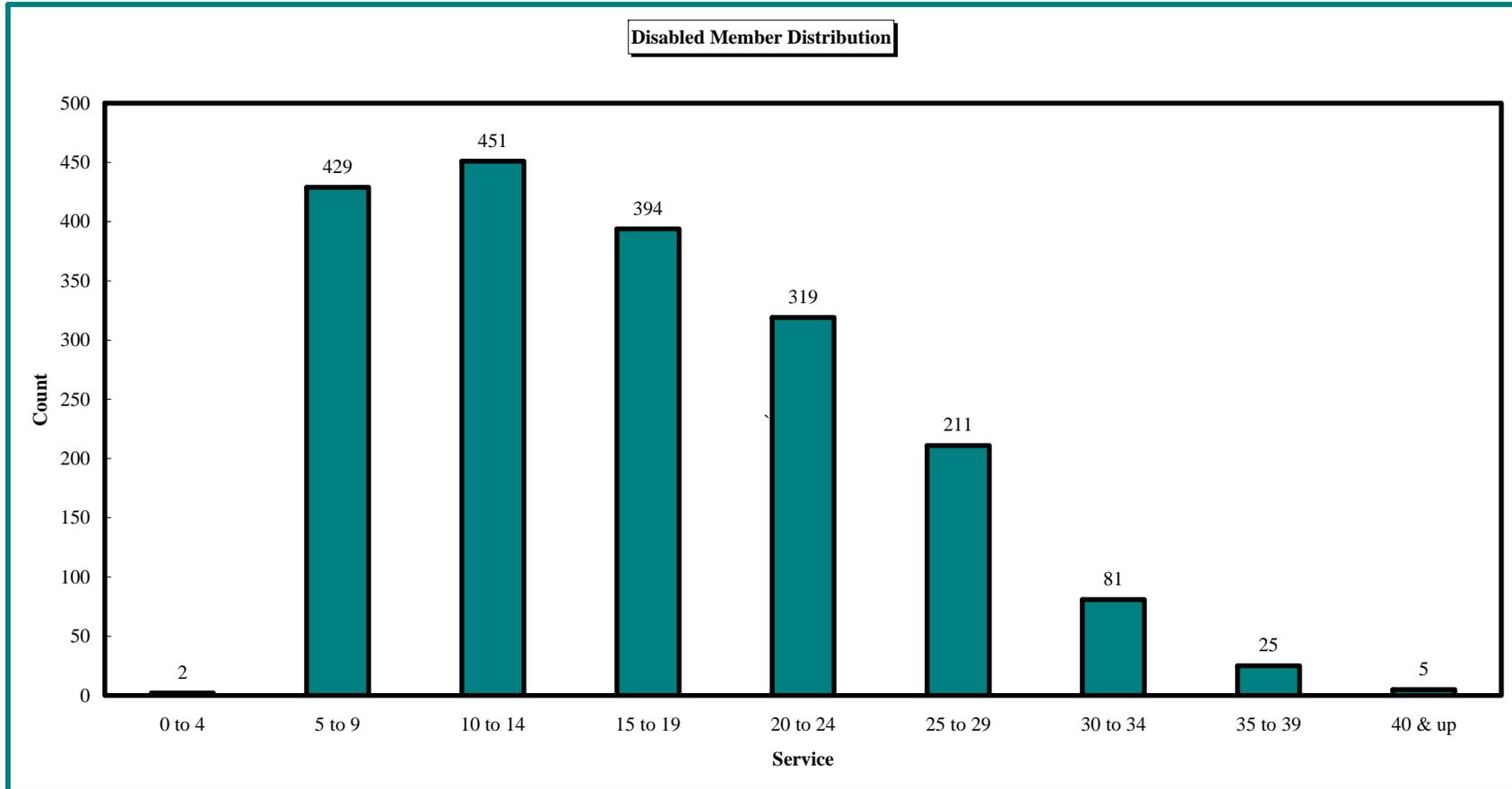
**Delaware State Employees' Pension Plan Distribution of Disabled Members  
as of June 30, 2011**



DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

APPENDIX A  
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**Delaware State Employees' Pension Plan Distribution of Disabled Members  
as of June 30, 2011**



**DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011**

**APPENDIX A  
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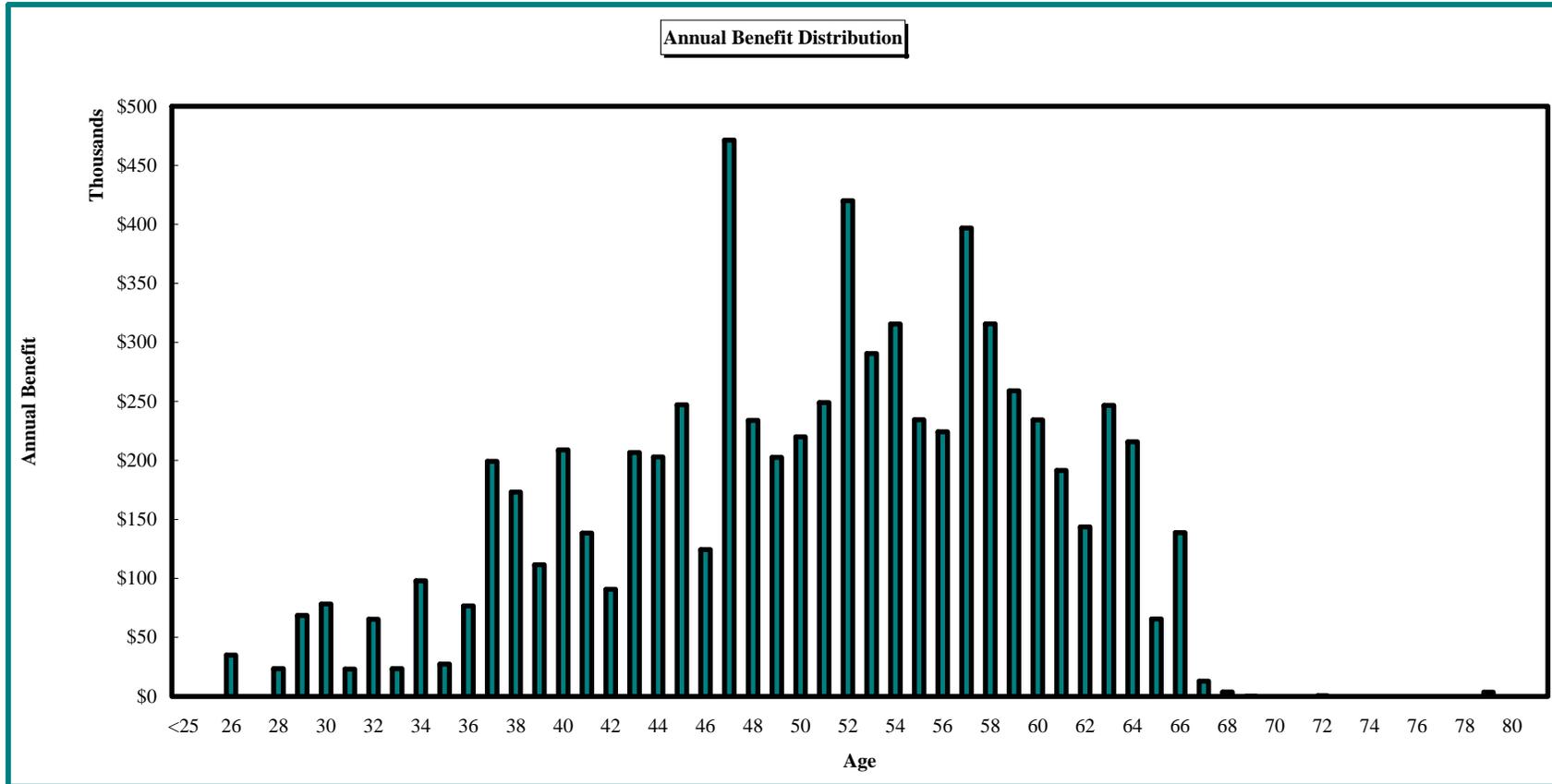
**Delaware State Employees' Pension Plan  
Distribution of Long Term Disability Members  
as of June 30, 2011**

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	0	\$ 0	73	0	\$ 0
25	0	0	74	0	0
26	2	34,888	75	0	0
27	0	0	76	0	0
28	1	23,485	77	0	0
29	3	68,613	78	0	0
30	4	78,290	79	1	3,547
31	2	23,166	80	0	0
32	2	65,325	81	0	0
33	1	23,498	82	0	0
34	5	98,057	83	0	0
35	1	27,361	84	0	0
36	4	76,740	85	0	0
37	7	199,100	86	0	0
38	8	173,116	87	0	0
39	4	111,646	88	0	0
40	10	208,895	89	0	0
41	5	138,337	90	0	0
42	5	90,796	91	0	0
43	9	206,578	92	0	0
44	12	202,928	93	0	0
45	11	247,047	94	0	0
46	8	124,354	95	0	0
47	19	471,279	96	0	0
48	9	233,900	97	0	0
49	15	202,528	98	0	0
50	13	219,967	99	0	0
51	17	249,081	100	0	0
52	21	420,058	101	0	0
53	15	290,499	102	0	0
54	17	315,401	103	0	0
55	18	234,391	104	0	0
56	16	224,207	105	0	0
57	23	396,962	106	0	0
58	14	315,583	107	0	0
59	15	258,842	108	0	0
60	16	234,314	109	0	0
61	17	191,330	110	0	0
62	13	143,687	111	0	0
63	16	246,561	112	0	0
64	17	215,789	113	0	0
65	6	65,541	114	0	0
66	9	138,784	115	0	0
67	3	12,939	116	0	0
68	1	3,706	117	0	0
69	1	194	118	0	0
70	0	0	119	0	0
71	0	0	120	0	0
72	1	574			
Totals				417	\$ 7,311,884

DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

APPENDIX A  
MEMBERSHIP INFORMATION

Delaware State Employees' Pension Plan Distribution of Long Term Disability Members  
as of June 30, 2011



DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

**APPENDIX B**  
**ACTUARIAL ASSUMPTIONS AND METHODS**

**A. Long-Term Assumptions Used to Determine Plan Costs and Liabilities**

**1. Demographic Assumptions**

**a. Healthy Active and Inactive Mortality**

With Fully Generational Mortality Improvements (Projection Scale AA)

Male: RP-2000 Combined Mortality Table

Female: RP-2000 Combined Mortality Table

Age	Rates of Healthy Inactive Mortality			
	Rates (Prior to Projection)		Projection Scale AA	
	Male	Female	Male	Female
50	0.21%	0.17%	1.80%	1.70%
55	0.36	0.27	1.90	0.80
60	0.67	0.51	1.60	0.50
65	1.27	0.97	1.40	0.50
70	2.22	1.67	1.50	0.50
75	3.78	2.81	1.40	0.80
80	6.43	4.59	1.00	0.70
85	11.08	7.74	0.70	0.60
90	18.34	13.17	0.40	0.30

Age	Projection Scale AA	
	Male	Female
20	0.03%	0.02%
25	0.04	0.02
30	0.04	0.02
35	0.08	0.05
40	0.11	0.07
45	0.15	0.11
50	0.21	0.17
55	0.36	0.27
60	0.67	0.51

DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

**APPENDIX B**  
**ACTUARIAL ASSUMPTIONS AND METHODS**

**b. Disabled Inactive Mortality**

2011 PBGC Disabled Mortality Tables, 50% Social Security Disabled / 50% Non-Social Security Disabled.

<b>Rates of Disabled Inactive Mortality</b>		
<b>Age</b>	<b>Male</b>	<b>Female</b>
40	1.97%	1.06%
45	2.22	1.24
50	2.51	1.47
55	2.88	1.79
60	3.33	2.21
65	3.91	2.77
70	4.78	3.38
75	6.39	4.53
80	8.93	6.46

**c. Rates of Active Disability**

<b>Rates of Active Disability</b>	
<b>Age</b>	<b>Current</b>
20	0.05%
25	0.05
30	0.18
35	0.27
40	0.38
45	0.46
50	0.62
55	0.86
60	1.24

<b>Rates of Active Disability for those who opted into the Disability Insurance Program*</b>	
<b>Age</b>	<b>Current</b>
65	1.19%
70	1.73
75	2.68
80	4.87

\* For those who remained in the Pension Plan for disability purposes, the assumption stops at age 64.

**DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011**

**APPENDIX B  
ACTUARIAL ASSUMPTIONS AND METHODS**

**d. Termination of Employment (Prior to Retirement Eligibility)**

10-year Select (age- and service-based) & Ultimate (age-based) tables.

Age Select:	0	1	2	3	4	5	6	7	8	9	Ultimate
<5	20%	18%	12%	9%	8%	8%	5%	5%	4%	4%	3%
35-39	18	15	10	10	7	7	5	5	4	4	3
40-54	13	13	10	7	6	5	5	5	4	4	3
55-59	11	12	10	8	6	5	5	5	4	4	3
60-65	12	12	10	10	6	5	5	5	4	4	3
>65	12	12	10	14	6	5	5	5	4	4	3

**e. Retirement**

Early Retirement:

- a) age 55 with 15 years of credited service
- b) 25 years of credited service

<b>Male Early Retirement</b>	
Age	Rate
< 41	0.00%
42 – 52	10.00
53 – 59	5.00

<b>Female Early Retirement</b>	
Age	Rate
<41	0.00%
42 – 59	10.00
60+	0.00

Normal Retirement: one-year Select & Ultimate (age-based) upon attaining the earliest of:

- a) age 62 with five years of credited service
- b) age 60 with 15 years of credited service
- c) 30 years of credited service

**DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011**

**APPENDIX B  
ACTUARIAL ASSUMPTIONS AND METHODS**

<b>Male Normal Retirement</b>		
<b>Age</b>	<b>Select</b>	<b>Ultimate</b>
< 45	10.00%	0.00%
45 – 46	10.00	7.50
47 – 49	10.00	10.00
50 – 51	20.00	10.00
52	10.00	15.00
53	10.00	14.00
54	10.00	13.00
55	10.00	20.00
56 – 59	10.00	15.00
60 – 61	10.00	20.00
62	20.00	25.00
63	20.00	20.00
64	15.00	20.00
65	15.00	25.00
66 – 69	15.00	20.00
70	15.00	17.00
71	15.00	25.00
72 – 79	15.00	17.00
80	100.00	100.00

**DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011**

**APPENDIX B  
ACTUARIAL ASSUMPTIONS AND METHODS**

<b>Female Normal Retirement</b>		
<b>Age</b>	<b>Select</b>	<b>Ultimate</b>
<45	10.00%	0.00%
45 – 49	10.00	6.00
50 – 51	20.00	6.00
52 – 53	20.00	8.00
54	20.00	11.00
55	20.00	15.00
56	20.00	11.00
57 – 58	20.00	15.00
59 – 61	20.00	20.00
62	20.00	25.00
63	20.00	20.00
64	30.00	20.00
65	28.00	20.00
66	26.00	20.00
67 – 69	15.00	20.00
70	15.00	21.00
71 – 79	15.00	20.00
80+	100.00	100.00

**f. Salary Increase**

30-year Service-based table includes an annual inflation rate of 3.25%.

<b>Service</b>	<b>Increase</b>
0	11.75%
1	9.75
2	7.75
3	6.25
4	6.00
5	6.00
10	4.75
15	4.75
20	4.00
30	3.75

**g. Family Composition**

Female spouses are assumed to be three years younger than males.  
70% are assumed married for both male and female employees.  
Actual marital characteristics are used for pensioners.

DELAWARE STATE EMPLOYEES' PENSION PLAN  
ACTUARIAL VALUATION AS OF JUNE 30, 2011

APPENDIX B  
ACTUARIAL ASSUMPTIONS AND METHODS

**2. Economic Assumptions**

a. Rate of Investment Return:	7.50%
b. Rate of General Wage Increase:	3.25%
c. Rate of Increase in Cost of Living for Retirees:	0.00%
d. Rate of Increase in Total Payroll (for Amortization):	3.25%
e. Administrative Expenses as a Percentage of Payroll:	0.30%

**3. Changes Since Last Valuation**

As a result of an experience study completed in spring 2011, the following assumptions were changed:

Healthy Inactive, Active and Disabled Mortality  
Rates of Active Disability  
Termination Employment (Prior to Retirement Eligibility)  
Retirement  
Salary Increase  
Rate of Investment Return  
Rate of General Wage Increase  
Rate of Increase in Total Payroll (for Amortization)  
Administrative Expenses

**APPENDIX B**  
**ACTUARIAL ASSUMPTIONS AND METHODS**

**B. Actuarial Methods**

**1. Funding Method**

The Entry Age Normal Actuarial Cost method is used to determine costs. Under this funding method, a normal cost rate is determined as a level percent of pay for a typical new entrant. The normal cost rate times payroll equals the normal cost. The normal cost plus member contributions will pay for projected benefits at retirement for the average plan participant.

The actuarial accrued liability is that portion of the present value of projected benefits that will not be paid by future employer normal costs or member contributions. The difference between this liability and funds accumulated as of the same date is referred to as the unfunded actuarial liability.

The portion of the actuarial accrued liability in excess of plan assets is amortized to develop an additional cost or savings which is added to each year's employer normal cost. Under this cost method, actuarial gains and losses are directly reflected in the size of the unfunded actuarial liability.

The portion of unfunded liability which is not expected to be paid through transfers from the PRI Fund is amortized over a rolling 20-year period. All payments are determined assuming total pay increases by the annual inflation rate.

**2. Actuarial Value of Assets**

For purposes of determining the State contribution rate to the plan we use an actuarial value of assets. The asset adjustment method dampens the volatility in asset values that could occur because of fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process.

The actuarial value of assets is a weighted average giving 20% weight to the current market value and 80% weight to the prior year's actuarial value increased by expected interest and contributions and decreased by benefit payments and expenses. This is mathematically equivalent to recognizing 100% of the actuarially assumed interest rate, plus contribution, less payment each year, and 20% of the portion of each year's returns that have not already been reflected in asset values.

**3. Changes Since Last Valuation**

None.

**APPENDIX C**  
**SUMMARY OF PLAN PROVISIONS**

**1. Membership**

The Plan covers full-time and regular part-time employees of the State (including elected or appointed officials), the State Department of Public Instruction, a school district which is part of the State School System (the membership includes 19 school districts), the University of Delaware (excluding most faculty and designated professional staff), Delaware State University, Delaware Technical & Community College, Wilmington Federal Credit Union and any State Agency supported in whole or in part by federal funds granted to the State.

**2. Member Contributions**

3% of compensation which exceeds \$6,000 per annum. Interest is credited at the rate of 5% per year.

Member contributions are made through an “employer pick-up” arrangement which results in deferral of taxes on the contributions.

**3. Credited Service**

All service as a member plus certain claimed and purchased service.

**4. Final Average Compensation**

Final Average Compensation is the average of any 36 months comprised of three periods of 12 consecutive months (or shorter period of total service) of compensation paid to the member, including salary, wage and fees, plus overtime payments and special payments for extra duty.

**5. Normal Retirement**

Eligibility: (i) age 62 with five years of credited service; or (ii) age 60 with 15 years of credited service; or (iii) any age with 30 years of credited service.

Benefit: 2.0% of final average compensation multiplied by years of service prior to January 1, 1997 plus 1.85% of final average compensation multiplied by years of service after January 1, 1997.

**APPENDIX C**  
**SUMMARY OF PLAN PROVISIONS**

**6. Early Retirement**

Eligibility: (i) age 55 with 15 years of credited service; or (ii) any age with 25 years of credited service.

Benefit: Normal retirement benefit calculated using final average compensation and service at early retirement, and reduced by 0.2% for each month which retirement age precedes the earlier of age 60 or the attainment of 30 years of service.

**7. Disability Benefit**

Eligibility: Five years of credited service

Benefit: Normal retirement benefit calculated using service and salary at disability date.

State Plan: Member who opted into the Disability Insurance Program will not receive a benefit from this Plan until they reach normal retirement eligibility.

**8. Survivor's Benefit**

Eligibility: Five years of credited service if active, or death after retirement.

Benefit: For eligible survivors of employees who die in active service: 75% of service pension employee would have been eligible to receive at age 62, calculated using final average compensation and credited service accrued to the date of death.

For eligible survivors of pensioners who die: 50% of pension received immediately prior to death, or 75%, if the pensioner has so elected by taking a 3% reduction to his benefit.

Eligible survivors include: (1) widow or widower; or (2) child or children under 18, or between 18 and 22 and attending school on a full-time basis, or over 18 and permanently disabled before 18; or (3) dependent parent or parents. If no eligible survivors, accumulated contributions with interest over aggregate pension payments are payable to the beneficiary.

**9. Burial Benefit**

\$7,000 lump sum.

**APPENDIX C**  
**SUMMARY OF PLAN PROVISIONS**

**10. Vesting**

Eligibility: Employees who separate from service with at least five years of service.

Benefit: Accrued normal retirement benefit, payable at age 62. In lieu of a pension, a member may receive a refund of accumulated contributions with interest. Upon application for a refund of contributions a member's vested right to a monthly benefit shall be forfeited.

**11. Withdrawal of Employee Contributions**

Eligibility: Terminates service and is not eligible for other benefits.

Benefit: Accumulated employee contributions with interest.

**12. Form of Payment**

The normal form of payment is a life annuity.

A member may elect a 75% joint and survivor form with a 3% reduction in benefits.

**13. Cost-of-Living Adjustment**

Cost-of-Living Adjustments are made only on an ad hoc basis.

**14. Changes Since Last Valuation**

A Post-Retirement Increase (PRI) was granted effective January 1, 2012 to those retired prior to July 1, 2010 in the amount of 2%.