



**Delaware State Employees'
Pension Plan**

**Actuarial Valuation
as of June 30, 2012**

Produced by [Cheiron](#)

January 2013

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January 7, 2013

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, 2012. 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.

In preparing our report, we relied on information (some oral and some written) supplied by Office of Pension's staff. This information includes, but is not limited to, the plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice #23.

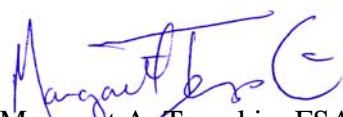
The results of this report are only applicable to the State contribution for Fiscal Year ending 2014 and rely on future Plan experience conforming to the underlying assumptions. To the extent that actual Plan experience deviates from the underlying assumptions, the results would vary accordingly.

To the best of our knowledge, this report and its contents 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 for the Delaware State Employees' Pension Plan for the purposes described herein and for the use by the Plan auditor in 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, 2012**

FOREWORD

Cheiron has performed the actuarial valuation of the Delaware State Employees' Pension Plan as of June 30, 2012. 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 2014; 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 governmental 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.

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.

DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012

SECTION I
BOARD SUMMARY

General Comments

The actuarially determined contribution rate increased from 8.90% for FY 2013 to 9.50% for FY 2014.

During the year ended June 30, 2012, the Plan's assets earned 1.6% 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 6.2%. This return was less than the assumed rate of return of 7.5% for last year and resulted in an actuarial loss on investments of \$89 million.

The Plan experienced an actuarial loss of \$79 million on Plan liabilities resulting from salary increases different than assumed and members retiring, terminating, 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 loss, the Plan's liabilities also increased by \$40 million due to granting of a post retirement increase. The combination of these impacts increased the actuarial liability by \$119 million (1.6% of total actuarial liability).

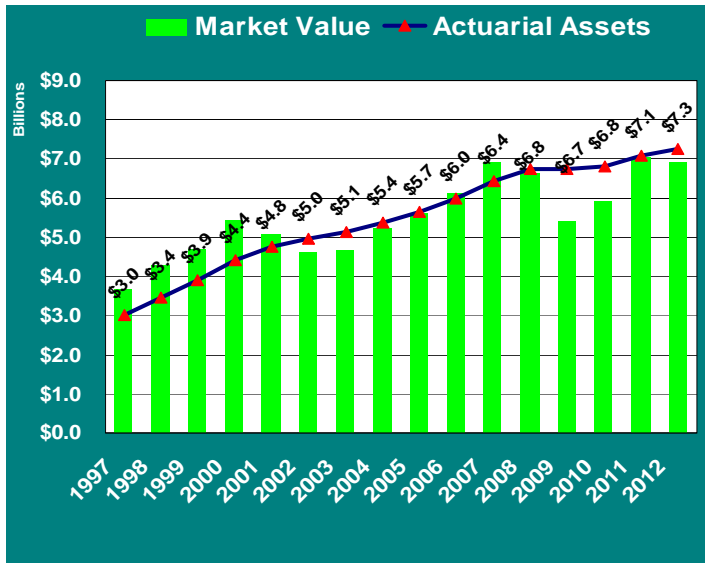
As of the June 30, 2012 actuarial valuation, the Plan's unfunded actuarial liability was \$679 million. This is an increase from last year's unfunded actuarial liability of \$456 million.

DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012

SECTION I
BOARD SUMMARY

Trends

Growth in Assets



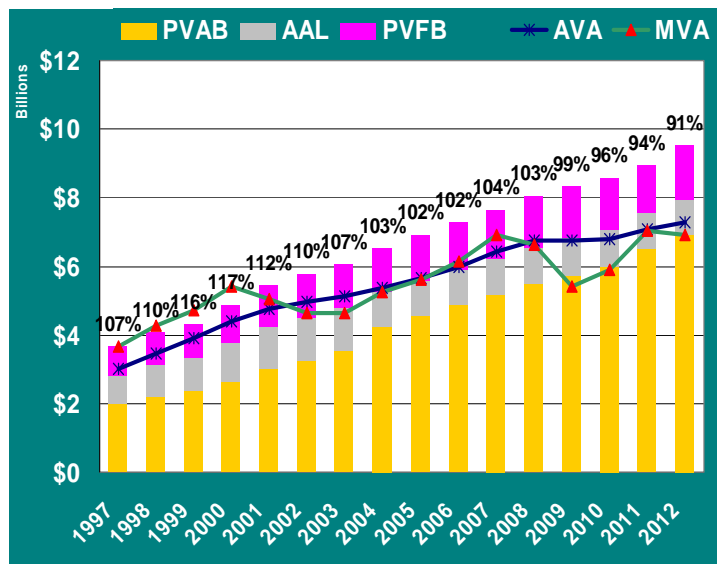
The market value of assets (MVA) returned 1.6% over the last year. The determination of the Plan's actuarial value of assets reflects only a portion of the return below 7.5%, as well as the continued recognition of recent gains and the 2008-2009 losses.

Over the period July 1, 1997 to June 30, 2012, the Plan's assets returned approximately 8.8% per year measured at actuarial value, compared to a valuation assumption of 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.

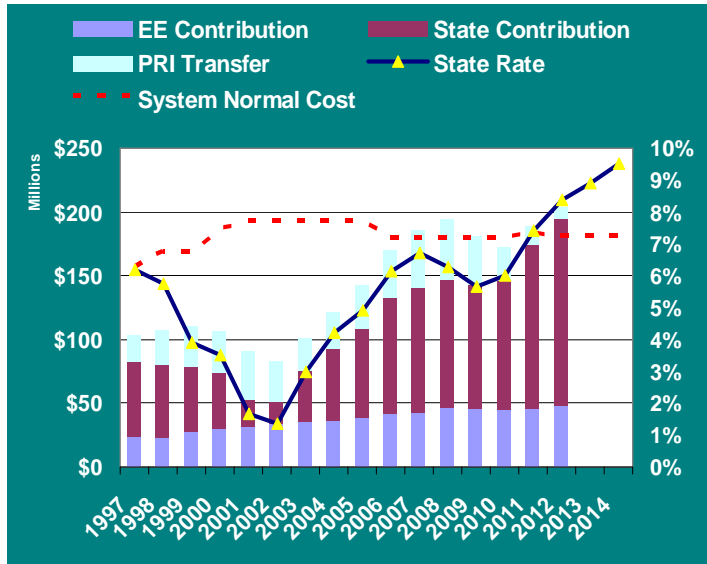
The amount represented by the top of the pink bars, the Present Value of Future Benefits (PVFB), is the amount needed to provide all benefits for the current participants and their beneficiaries. If the Plan had assets equal to the PVFB, no contributions would, in theory, be needed for the current members.



**DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**SECTION I
BOARD SUMMARY**

Contribution Rates



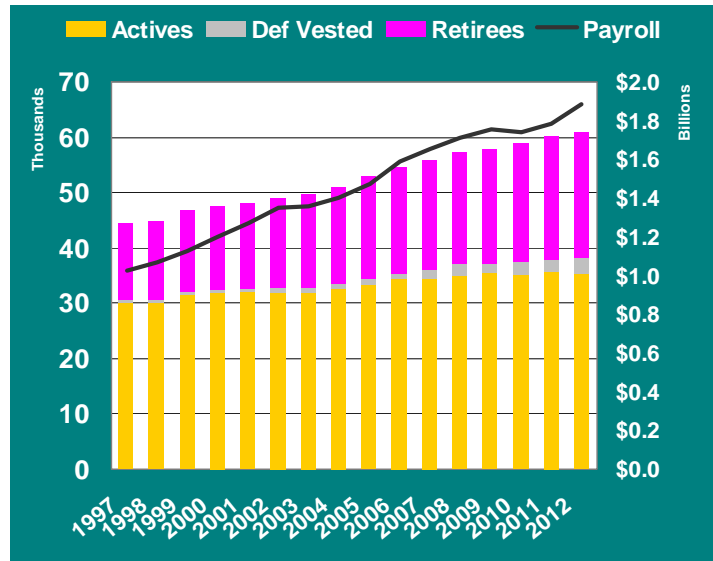
The stacked bars in this graph show the contributions made by the State, the PRI Fund, and the members (left hand scale). The black line shows the State contribution rate as a percent of payroll (right hand scale).

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 2012 value is the rate prepared by the 2010 valuation and implemented for the period July 1, 2011 to June 30, 2012.

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 1.4 actives for each inactive today.

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

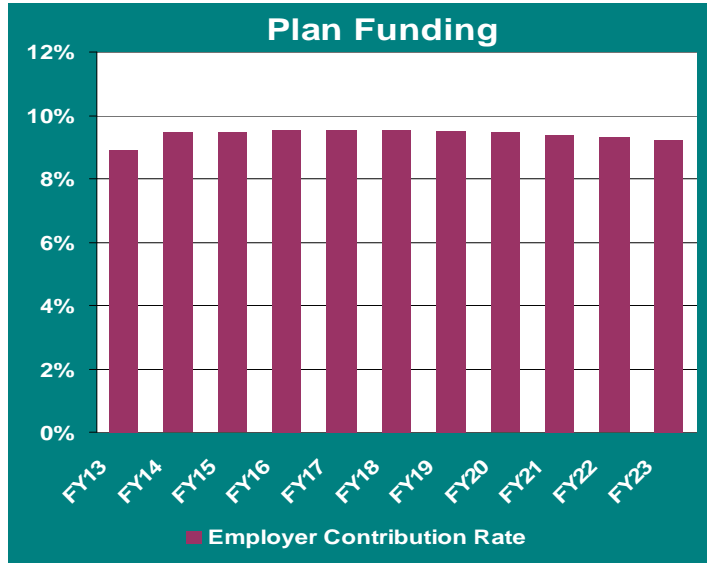


DELAWARE STATE EMPLOYEES' PENSION PLAN
 ACTUARIAL VALUATION AS OF JUNE 30, 2012

SECTION I
 BOARD SUMMARY

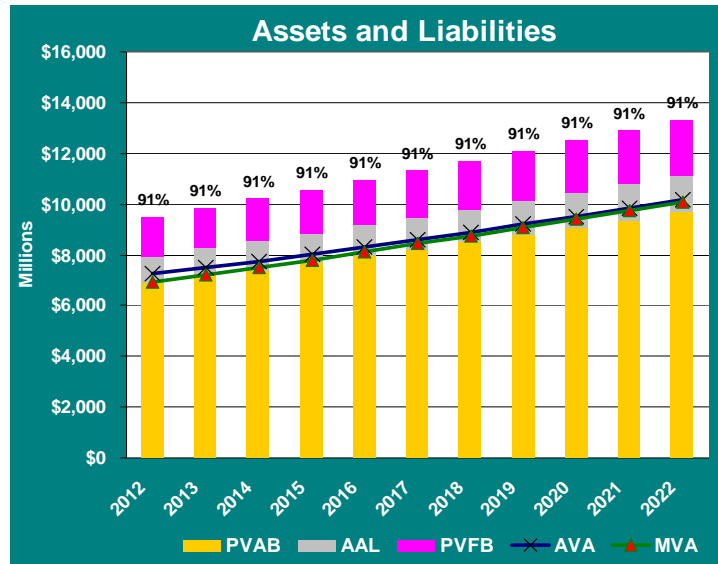
Future Outlook

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 8.90% to 9.50%. In future years, absent further gains or losses, the rate is anticipated to drop slowly.

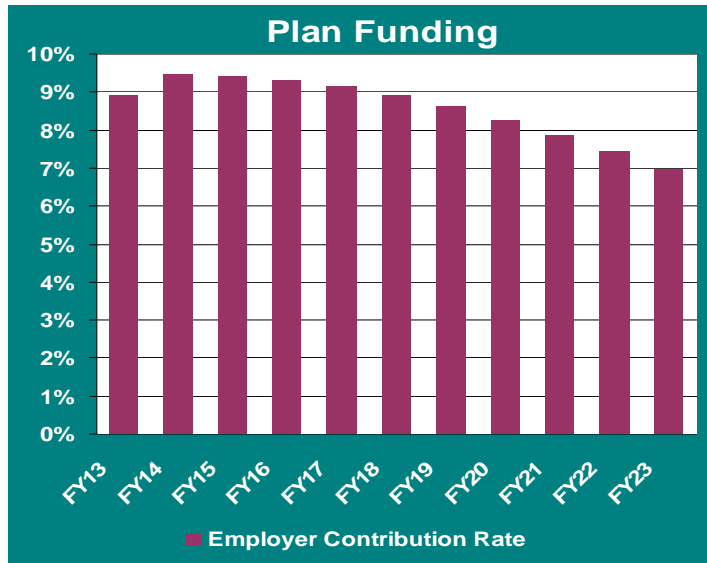
The "Assets and Liabilities" graph shows the projected funding status over the next ten years. The Plan's funded status is projected to remain at 91% absent any further gains or losses. This is due to the continued recognition of this year's market loss.



**DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

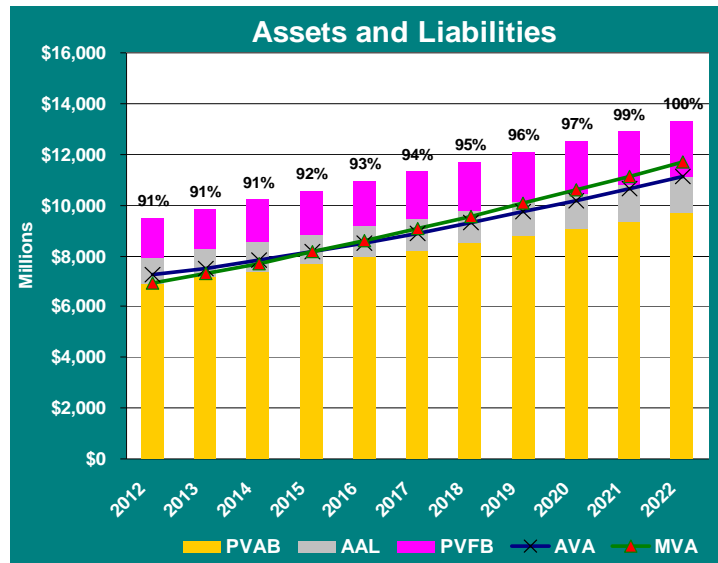
**SECTION I
BOARD SUMMARY**

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 7.0% of payroll.

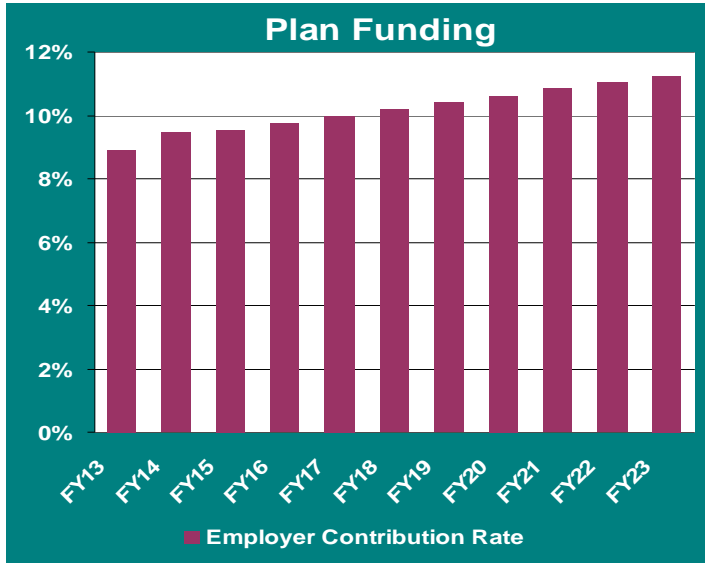
As you can see, the Plan would reach 100% funding by 2022, an improvement over the projected funded level of 91% shown on the previous page.



**DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

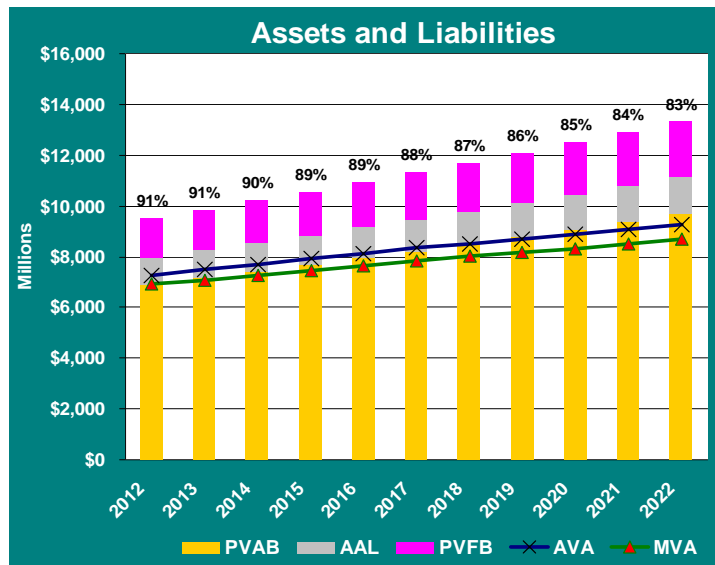
**SECTION I
BOARD SUMMARY**

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 11.3% of payroll and the funding status declines to around 83% by 2022.



DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012

SECTION I
BOARD SUMMARY

Table I-1			
Delaware State Employees' Pension Plan			
Summary of Principal Plan Results			
Valuation as of:	June 30, 2011	June 30, 2012	% Change
<u>Participant Counts</u>			
Active Participants	35,572	35,427	(0.41%)
Disabled Participants	1,917	1,882	(1.83%)
Retirees and Beneficiaries	20,175	20,875	3.47%
Terminated Vested Participants	2,008	2,290	14.04%
Inactive Participants	830	840	1.20%
LTD Participants	417	506	21.34%
Total	60,919	61,820	1.48%
Annual Salaries of Active Members*	\$ 1,783,603,300	\$ 1,881,097,000	5.47%
Annual Retirement Allowances for Retired Members and Beneficiaries	\$ 430,713,300	\$ 456,733,100	6.04%
<u>Assets and Liabilities</u>			
Actuarial Accrued Liability (AAL)	\$ 7,547,950,600	\$ 7,949,854,600	5.32%
Actuarial Value of Assets	7,091,821,200	7,270,430,200	2.52%
Unfunded AAL	\$ 456,129,400	\$ 679,424,400	48.95%
Funded Ratio	94.0%	91.5%	
Present Value of Accrued Benefits (PVAB)	\$ 6,510,964,000	\$ 6,900,568,600	5.98%
Market Value of Assets	7,056,915,800	6,914,823,800	(2.01%)
Unfunded PVAB	\$ (545,951,800)	\$ (14,255,200)	(97.39%)
Accrued Benefit Funding Ratio	108.4%	100.2%	
<u>Contributions as a Percentage of Payroll</u>			
	Fiscal Year 2013	Fiscal Year 2014	
Normal Cost Contribution	7.01%	6.95%	
Unfunded Actuarial Liability Contribution	1.59%	2.25%	
Administrative Expense	0.30%	0.30%	
Total State Contribution	8.90%	9.50%	

* Assumes one year of payroll projection.

**DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**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, 2011 and June 30, 2012;
- 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 7.5%.

Table II-1 Changes in Market Values	
Value of Assets – June 30, 2011	\$ 7,056,915,800
<u>Additions</u>	
Member Contributions	\$ 47,849,000
Employer Contributions	147,453,600
PRI Fund Transfer	8,178,600
Investment Return	<u>112,728,200</u>
Total Additions	\$ 316,209,400
<u>Deductions</u>	
Benefit Payments	\$ 452,910,200
Administrative Expenses	<u>5,391,200</u>
Total Deductions	\$ 458,301,400
Value of Assets – June 30, 2012	\$ 6,914,823,800

**DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**SECTION II
ASSETS**

Table II-2 Development of Actuarial Value of Assets	
1. Actuarial Value of Assets at June 30, 2011	\$ 7,091,821,200
2. Amount in (1) with interest to June 30, 2012	7,623,707,800
3. Employer, PRI and member contributions for the Plan Year ended June 30, 2012	203,481,200
4. Interest on contributions assuming payments made uniformly throughout the year to June 30, 2012 at 7.50% per year	7,630,500
5. Disbursements from Trust except investment expenses, June 30, 2011 through June 30, 2012	458,301,400
6. Interest on disbursements to June 30, 2012 at 7.50% per year	17,186,300
7. Expected Actuarial Value of Assets at June 30, 2012 = (2) + (3) + (4) – (5) – (6)	7,359,331,800
8. Actual Market Value of Assets at June 30, 2012	6,914,823,800
9. Excess of (8) over (7)	(444,508,000)
10. Actuarial Value of Assets at June 30, 2012 = (7) + 20% of (9)	7,270,430,200

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, 2012 valuation.

Investment Performance

The market value of assets (MVA) returned 1.6% during 2012, which is less than the assumed 7.5% return. A return of 6.2% 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.

**DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**SECTION II
ASSETS**

Projection of Cash Flows

Table II-3 Projection of Plan's Benefit Payments		
Year Beginning July 1,	Expected Benefit Payments	Expected Contributions*
2012	\$ 475,673,000	\$ 252,978,000
2013	497,879,000	272,955,000
2014	520,749,000	281,917,000
2015	543,908,000	291,174,000
2016	567,286,000	290,754,000
2017	591,730,000	278,625,000
2018	616,187,000	287,681,000
2019	640,316,000	297,030,000
2020	664,225,000	306,684,000
2021	688,262,000	316,651,000

* Expected contributions include State Contributions, Member Contributions, and PRI Transfers. For illustration purposes, we have assumed the State Contribution rate will remain at 9.50% from FYE 2014 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, 2012. 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, 2011 and June 30, 2012; 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, 2012

**SECTION III
LIABILITIES**

Table III-1		
Liabilities/Net (Surplus)/Unfunded		
	June 30, 2011	June 30, 2012
<u>Present Value of Benefits</u>		
Active Participant Benefits	\$ 4,735,545,800	\$ 5,004,899,400
Retiree and Inactive Benefits	<u>4,232,086,200</u>	<u>4,495,237,900</u>
Present Value of Benefits (PVB)	\$ 8,967,632,000	\$ 9,500,137,300
Market Value of Assets (MVA)	\$ 7,056,915,800	\$ 6,914,823,800
Future Member Contributions	397,714,400	479,925,700
Future State Contributions & PRI Fund Transfers	<u>1,513,001,800</u>	<u>2,105,387,800</u>
Total Resources	\$ 8,967,632,000	\$ 9,500,137,300
<u>Actuarial Accrued Liability</u>		
Present Value of Benefits (PVB)	\$ 8,967,632,000	\$ 9,500,137,300
Present Value of Future Normal Costs (PVFNC)	1,021,967,000	1,070,357,000
Present Value of Future Member Contributions (PVFEEC)	<u>397,714,400</u>	<u>479,925,700</u>
Actuarial Accrued Liability (AAL=PVB-PVFNC-PVFEEC)	\$ 7,547,950,600	\$ 7,949,854,600
Actuarial Value of Assets (AVA)	<u>7,091,821,200</u>	<u>7,270,430,200</u>
Net (Surplus)/Unfunded (AAL - AVA)	\$ 456,129,400	\$ 679,424,400
<u>Present Value of Accrued Liability</u>		
Present Value of Benefits (PVB)	\$ 8,967,632,000	\$ 9,500,137,300
Present Value of Future Benefit Accruals (PVFBA)	<u>2,456,668,000</u>	<u>2,599,568,700</u>
Present Value of Accrued Liability (PVAB=PVB-PVFBA)	\$ 6,510,964,000	\$ 6,900,568,600
Market Value of Assets (MVA)	\$ 7,056,915,800	\$ 6,914,823,800
Net Unfunded (PVAB - MVA)	\$ (545,951,800)	\$ (14,255,200)

**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.

(In Millions)	Present Value of Benefits	Actuarial Accrued Liability	Present Value of Accrued Liability
Liabilities June 30, 2011	\$ 8,968	\$ 7,548	\$ 6,511
Liabilities June 30, 2012	9,500	7,950	6,901
Liability Increase (Decrease)	532	402	390
Change Due to:			
PRI Increase	40	40	40
Actuarial (Gain)/Loss	NC *	79	NC *
Assumption Changes	N/A	N/A	N/A
Benefits Accumulated and Other Sources	492	283	350

* NC = not calculated.

DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012

**SECTION III
LIABILITIES**

Table III-3		
Actuarial Liabilities for Funding		
	June 30, 2011	June 30, 2012
1. Actuarial Liabilities		
Retiree and Inactive Benefits	\$ 4,232,086,200	\$ 4,495,237,900
Active Members	<u>3,315,864,400</u>	<u>3,454,616,700</u>
Total Actuarial Liability	\$ 7,547,950,600	\$ 7,949,854,600
2. Actuarial Value of Assets	\$ 7,091,821,200	\$ 7,270,430,200
3. Unfunded Actuarial Liability	\$ 456,129,400	\$ 679,424,400
4. Outstanding PRI Transfers/(1 – 5 years)	\$ 74,711,900	\$ 109,055,200
5. Net (Gain)/Loss Base for 20 Year Amortization (3-4)	\$ 381,417,500	\$ 570,369,200

**DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**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 each active member 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%.

The assumed administrative expense rate is 0.30% 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.

Table IV-1		
Employer Contribution Rate		
	June 30, 2011	June 30, 2012
Entry Age Normal Cost Rate	7.01%	6.95%
Amortization Payment	1.59%	2.25%
Expense	<u>0.30%</u>	<u>0.30%</u>
Actuarially Determined Contribution	8.90%	9.50%

**DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**SECTION IV
CONTRIBUTIONS**

Table IV-2 Development of Plan Cost as of June 30, 2012		
	In Dollars	As % of Payroll
1. Present value of projected benefits attributable to:		
a. Total Normal Cost	\$ 189,440,300	10.07%
b. Expected Members Contribution	<u>58,690,200</u>	<u>3.12%</u>
c. Employer Paid Normal Cost (a) – (b)	\$ 130,750,100	6.95%
2. Amortization of Unfunded Liability	\$ 42,343,300	2.25%
3. Allowance for Expense	\$ 5,643,300	0.30%
4. Total Employer Contribution Rate (1) + (2) + (3)	\$ 178,736,700	9.50%

**DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**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 2012.

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, 2012 are exhibited in Table V-1. Finally, Table V-2 reconciles the Topic No. 960 liabilities determined as of the prior valuation, July 1, 2011, to the liabilities as of June 30, 2012.

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, 2012

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-1		
Accounting Statement Information		
	June 30, 2011	June 30, 2012
A. FASB ASC Topic No. 960 Basis		
1. Present Value of Benefits Accrued and Vested to Date		
a. Members Currently Receiving Payments	\$ 4,123,359,900	\$ 4,370,623,000
b. Former Vested Members (and LTDs)	108,726,300	124,614,900
c. Active Members	<u>2,278,877,800</u>	<u>2,405,330,700</u>
2. Total Present Value of Accrued Benefits (1 (a) + 1(b) + 1(c))	\$ 6,510,964,000	\$ 6,900,568,600
3. Assets at Market Value	<u>7,056,915,800</u>	<u>6,914,823,800</u>
4. Unfunded Present Value of Accrued Benefits (2 – 3)	\$ (545,951,800)	\$ (14,255,200)
5. Ratio of Assets to Present Value of Benefits (3 / 2)	108.4%	100.2%
B. GASB No. 25 Basis		
1. Actuarial Accrued Liabilities for retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$ 4,232,086,200	\$ 4,495,237,900
2. Actuarial Accrued Liabilities for current employees	<u>3,315,864,400</u>	<u>3,454,616,700</u>
3. Total Actuarial Accrued Liability (1 + 2)	\$ 7,547,950,600	\$ 7,949,854,600
4. Net Actuarial Assets available for benefits	<u>7,091,821,200</u>	<u>7,270,430,200</u>
5. Unfunded Actuarial Accrued Liability (3 – 4)	\$ 456,129,400	\$ 679,424,400

DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-2 Statement of Changes in Total Actuarial Present Value of All Accrued Benefits (in millions)	Accumulated Benefit Obligation (FASB ASC Topic No. 960)
Actuarial Present Value of Accrued Benefits at June 30, 2011	\$ 6,511
Increase (Decrease) During Years Attributable to:	
Passage of Time	471
Benefit Paid – FY 2012	(453)
Assumption Change	0
PRI	40
Benefits Accrued, Other Gains/Losses	332
Net Increase (Decrease)	390
Actuarial Present Value of Accrued Benefits at June 30, 2012	\$ 6,901

**DELAWARE STATE EMPLOYEES' PENSION PLAN
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**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, 2012
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 each active member. 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, 2012

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	2007	2008	2009	2010	2011	2012
Investment Income on Actuarial Assets	\$ 120,673	\$ (27,225)	\$ (337,848)	\$ (224,949)	\$ (8,726)	\$ (88,902)
Combined Liability Experience	<u>(19,423)</u>	<u>(44,449)</u>	<u>31,060</u>	<u>34,271</u>	<u>26,105</u>	<u>(79,091)</u>
(Loss)/Gain During Year from Financial Experience	\$ 101,250	\$ (71,674)	\$ (306,788)	\$ (190,678)	\$ 17,379	\$ (167,993)
Non-Recurring Items	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>(173,261)</u>	<u>(39,896)</u>
Composite Gain (or Loss) During Year	\$ 101,250	\$ (71,674)	\$ (306,788)	\$ (190,678)	\$ (155,882)	\$ (207,889)

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)
2012	\$ 629,639	\$ 4,370,623	\$ 2,949,593	\$ 7,270,430	100%	100%	77%
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

DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012

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**Delaware State Employees' Pension Plan Distribution of Active Members
by Age and Service as of June 30, 2012**

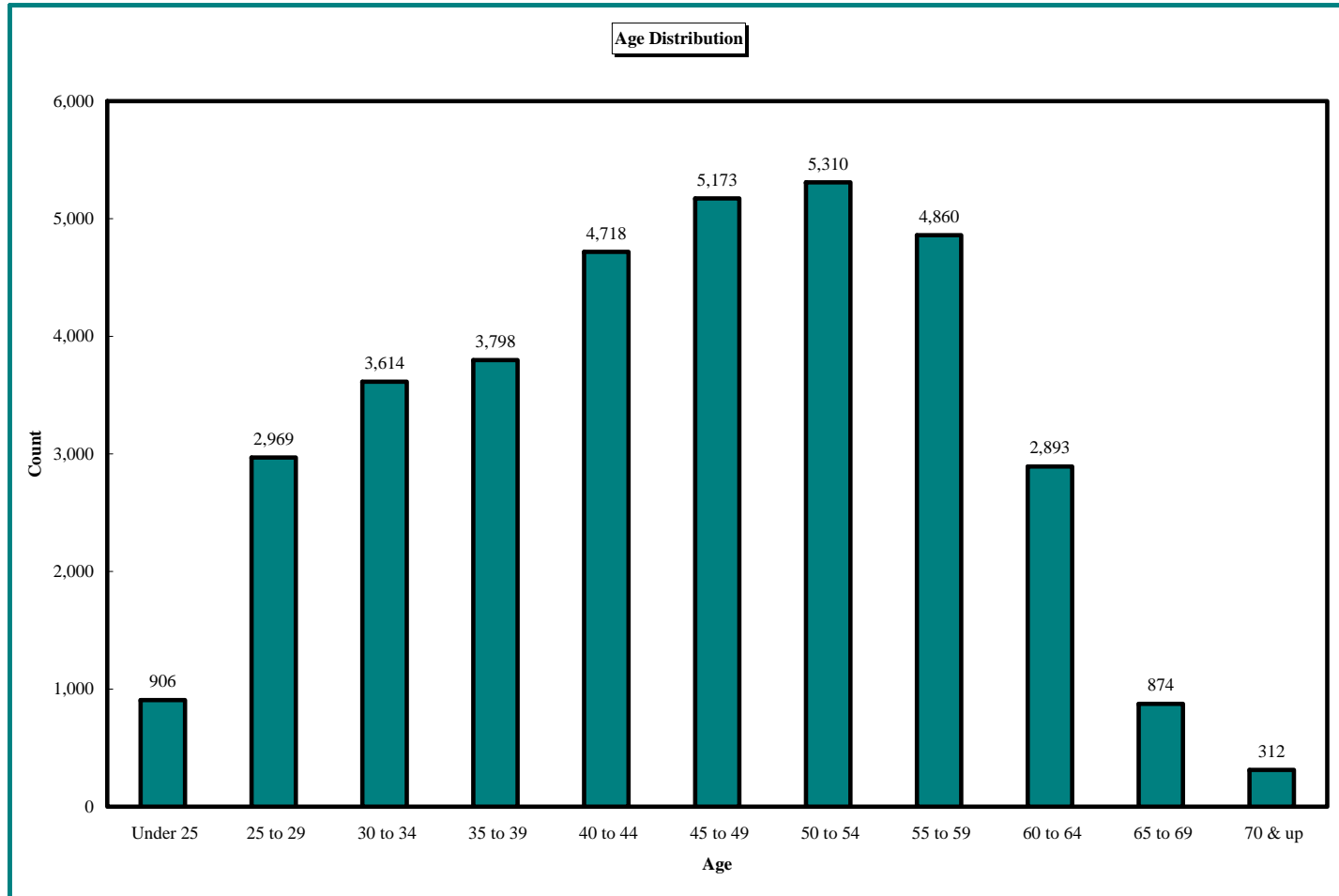
COUNTS BY AGE/SERVICE

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	344	544	18	0	0	0	0	0	0	0	0	906
25 to 29	464	1,781	713	11	0	0	0	0	0	0	0	2,969
30 to 34	275	1,121	1,680	533	5	0	0	0	0	0	0	3,614
35 to 39	220	859	1,173	1,254	285	7	0	0	0	0	0	3,798
40 to 44	205	948	1,186	1,112	858	391	18	0	0	0	0	4,718
45 to 49	206	880	1,170	1,016	711	833	340	17	0	0	0	5,173
50 to 54	154	721	1,056	1,106	750	693	601	224	5	0	0	5,310
55 to 59	102	567	851	939	683	719	518	337	138	6	6	4,860
60 to 64	56	339	491	513	466	425	269	167	123	44	44	2,893
65 to 69	14	115	187	168	115	108	74	45	24	24	24	874
70 & up	3	43	72	68	41	24	23	14	13	11	11	312
Total	2,043	7,918	8,597	6,720	3,914	3,200	1,843	804	303	85	85	35,427

DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012

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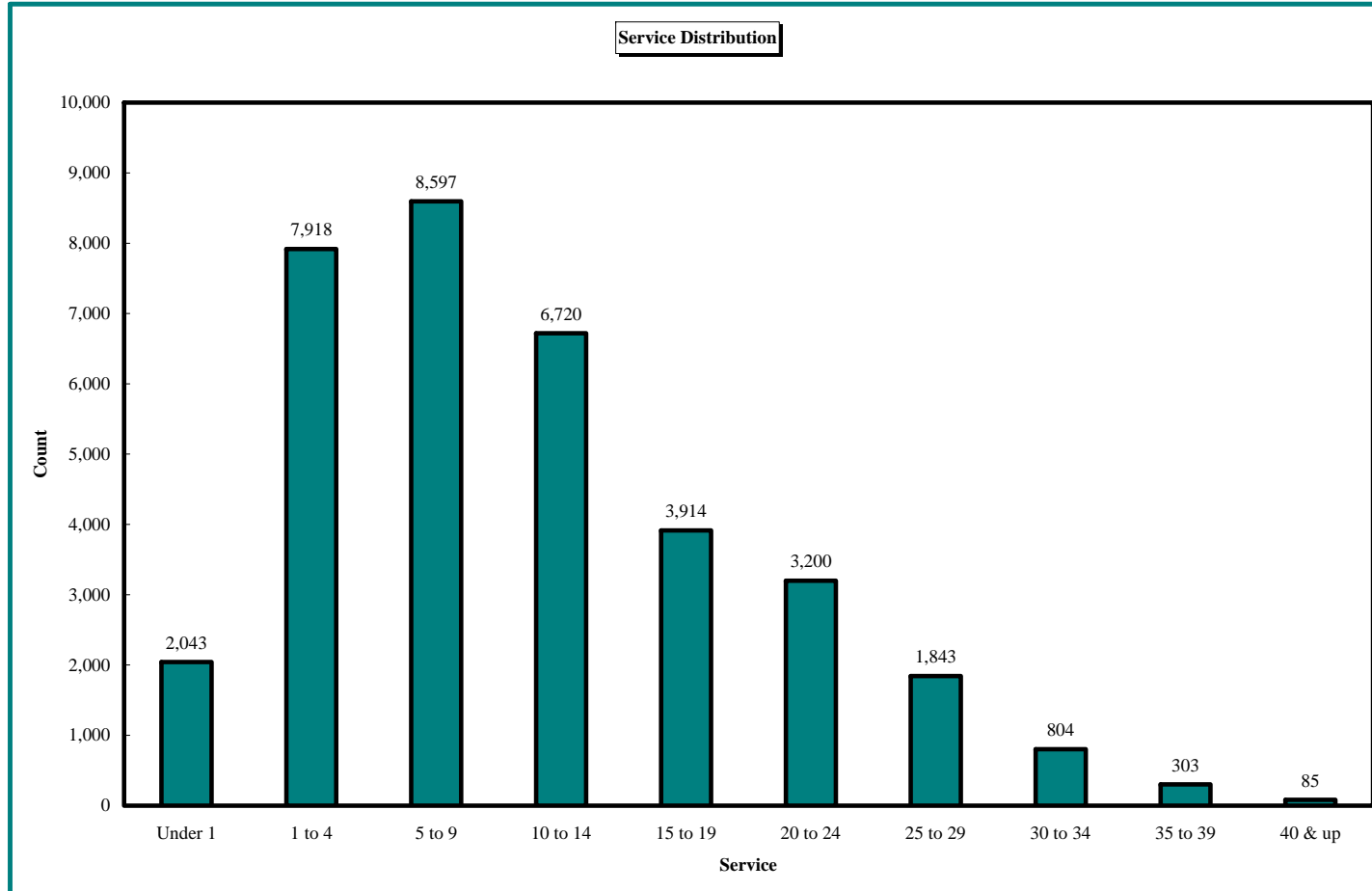
Delaware State Employees' Pension Plan Distribution of Active Members
by Age as of June 30, 2012



DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012

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Delaware State Employees' Pension Plan Distribution of Active Members
by Service as of June 30, 2012



**DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**APPENDIX A
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**Delaware State Employees' Pension Plan Distribution of Active Members
by Age and Service as of June 30, 2012**

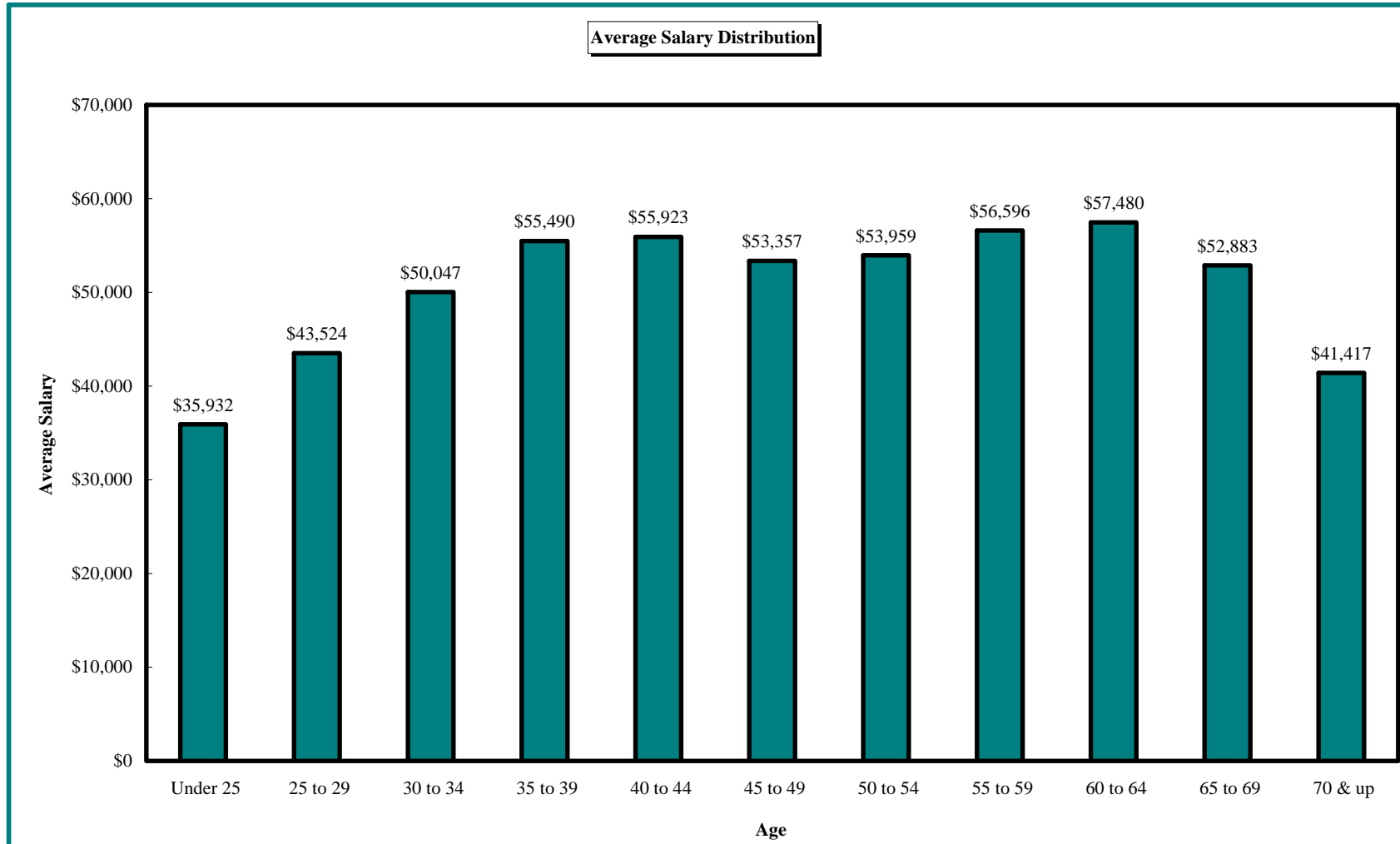
AVERAGE SALARY BY AGE/SERVICE

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	\$32,496	\$38,192	\$33,283	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,932
25 to 29	\$36,666	\$43,634	\$47,844	\$34,958	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$43,524
30 to 34	\$38,708	\$45,269	\$52,776	\$57,474	\$36,132	\$0	\$0	\$0	\$0	\$0	\$0	\$50,047
35 to 39	\$41,531	\$47,629	\$53,753	\$62,612	\$65,714	\$57,519	\$0	\$0	\$0	\$0	\$0	\$55,490
40 to 44	\$38,378	\$44,818	\$52,362	\$60,242	\$68,659	\$63,013	\$47,347	\$0	\$0	\$0	\$0	\$55,923
45 to 49	\$37,884	\$41,327	\$47,750	\$54,617	\$61,227	\$66,483	\$61,104	\$47,021	\$0	\$0	\$0	\$53,357
50 to 54	\$38,880	\$42,294	\$47,362	\$52,821	\$57,839	\$60,850	\$69,686	\$61,873	\$63,498	\$0	\$0	\$53,959
55 to 59	\$39,730	\$43,877	\$48,467	\$53,246	\$57,924	\$63,220	\$68,249	\$71,826	\$72,122	\$59,350	\$0	\$56,596
60 to 64	\$41,815	\$45,041	\$49,420	\$55,406	\$60,491	\$61,077	\$66,146	\$70,596	\$75,842	\$66,691	\$0	\$57,480
65 to 69	\$32,556	\$37,754	\$45,787	\$48,156	\$56,682	\$58,324	\$64,067	\$73,191	\$82,790	\$80,460	\$0	\$52,883
70 & up	\$13,918	\$25,712	\$28,713	\$34,339	\$48,502	\$64,725	\$57,305	\$56,384	\$71,368	\$72,294	\$0	\$41,417
Total	\$37,457	\$43,583	\$50,082	\$56,441	\$61,571	\$63,080	\$66,584	\$68,080	\$74,302	\$70,786	\$0	\$53,075

DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012

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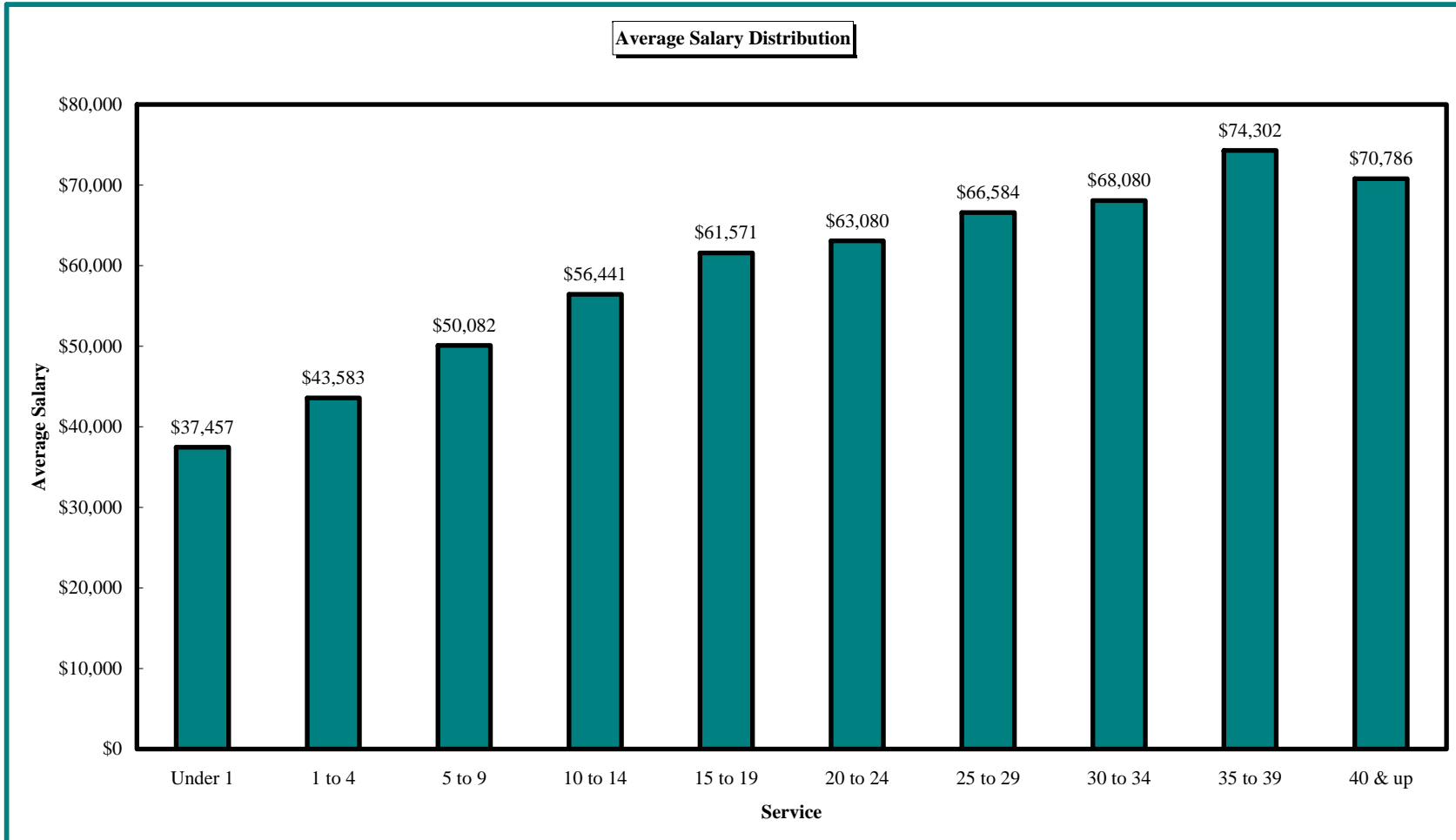
Delaware State Employees' Pension Plan Distribution of Active Members
by Age as of June 30, 2012



DELAWARE STATE EMPLOYEES' PENSION PLAN
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**Delaware State Employees' Pension Plan Distribution of Active Members
by Service as of June 30, 2012**



**DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

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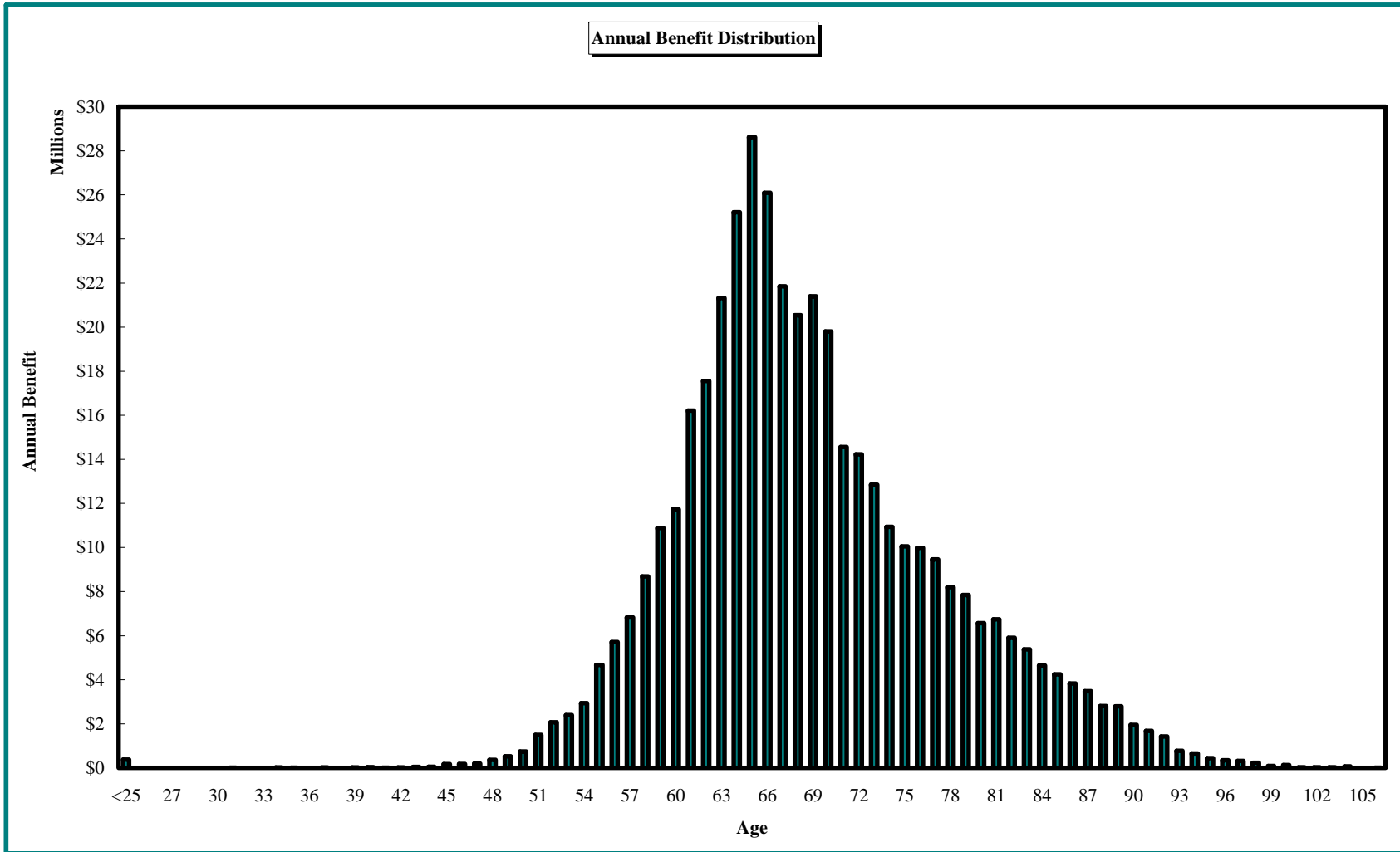
**Delaware State Employees' Pension Plan Distribution of Retired
Members and Survivors as of June 30, 2012**

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	48	\$ 370,193	73	655	\$ 12,848,704
25	1	3,956	74	607	10,935,496
26	0	0	75	576	10,051,463
27	0	0	76	561	9,987,444
28	0	0	77	583	9,457,921
29	0	0	78	556	8,202,647
30	0	0	79	534	7,845,556
31	1	7,317	80	506	6,561,762
32	0	0	81	501	6,741,602
33	1	1,865	82	456	5,902,826
34	3	13,753	83	422	5,374,617
35	2	5,076	84	368	4,639,638
36	1	1,666	85	381	4,245,114
37	1	14,693	86	331	3,825,769
38	0	0	87	302	3,483,168
39	2	13,925	88	262	2,799,596
40	4	31,970	89	262	2,795,736
41	1	8,161	90	197	1,951,480
42	3	12,923	91	173	1,674,541
43	7	40,351	92	153	1,421,915
44	5	48,880	93	97	769,300
45	13	169,352	94	80	655,757
46	13	179,367	95	48	443,201
47	13	190,907	96	39	348,378
48	24	365,153	97	31	314,213
49	29	524,121	98	25	224,495
50	36	743,580	99	12	86,591
51	68	1,497,702	100	15	130,627
52	101	2,068,332	101	4	25,115
53	101	2,400,655	102	6	27,070
54	116	2,936,669	103	3	23,592
55	173	4,675,815	104	5	68,491
56	215	5,711,870	105	0	0
57	249	6,823,744	106	1	7,753
58	303	8,691,576	107	0	0
59	355	10,882,808	108	0	0
60	410	11,726,584	109	0	0
61	532	16,208,413	110	0	0
62	623	17,560,330	111	0	0
63	821	21,321,301	112	0	0
64	915	25,213,652	113	0	0
65	1,080	28,620,652	114	0	0
66	1,005	26,099,174	115	0	0
67	840	21,855,441	116	0	0
68	819	20,540,938	117	0	0
69	913	21,391,673	118	0	0
70	864	19,800,549	119	0	0
71	705	14,559,063	120	0	0
72	707	14,233,013			
			Totals	20,875	\$ 431,438,742

DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012

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Delaware State Employees' Pension Plan Distribution of Retired Members and Survivors
as of June 30, 2012



**DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

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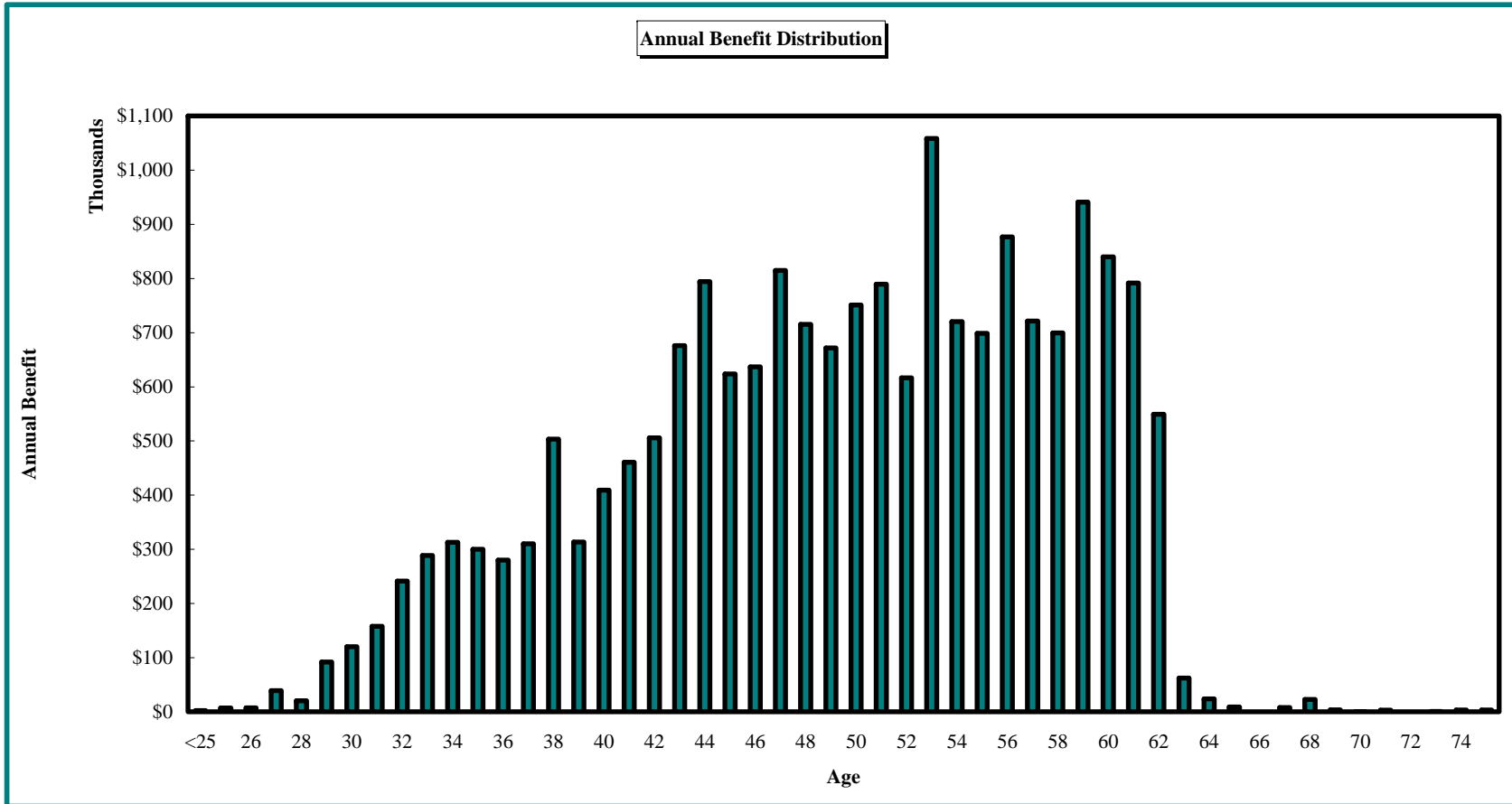
**Delaware State Employees' Pension Plan Distribution of Vested
Members as of June 30, 2012**

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	1	\$ 2,168	73	1	\$ 574
25	2	7,065	74	2	3,501
26	2	7,541	75	1	3,260
27	10	39,218	76	0	0
28	7	20,513	77	0	0
29	14	91,763	78	0	0
30	21	120,128	79	0	0
31	28	157,815	80	0	0
32	40	241,464	81	0	0
33	49	288,678	82	0	0
34	47	312,861	83	0	0
35	45	300,028	84	0	0
36	43	279,791	85	0	0
37	43	310,114	86	0	0
38	61	503,706	87	0	0
39	52	313,721	88	0	0
40	59	409,025	89	0	0
41	56	460,562	90	0	0
42	56	505,921	91	0	0
43	83	676,148	92	0	0
44	88	794,235	93	0	0
45	69	623,902	94	0	0
46	78	636,653	95	0	0
47	85	814,667	96	0	0
48	76	715,167	97	0	0
49	69	671,819	98	0	0
50	88	750,865	99	0	0
51	91	789,608	100	0	0
52	63	616,789	101	0	0
53	93	1,058,637	102	0	0
54	74	720,398	103	0	0
55	78	698,808	104	0	0
56	89	876,819	105	0	0
57	77	721,622	106	0	0
58	79	699,395	107	0	0
59	89	941,137	108	0	0
60	95	840,020	109	0	0
61	95	791,672	110	0	0
62	67	549,480	111	0	0
63	8	62,417	112	0	0
64	6	24,063	113	0	0
65	2	9,042	114	0	0
66	0	0	115	0	0
67	2	7,815	116	0	0
68	3	22,637	117	0	0
69	1	3,706	118	0	0
70	1	194	119	0	0
71	1	3,011	120	0	0
72	0	0			
			Totals	2,290	\$ 19,500,143

DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012

APPENDIX A
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Delaware State Employees' Pension Plan Distribution of Vested Members
as of June 30, 2012



**DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

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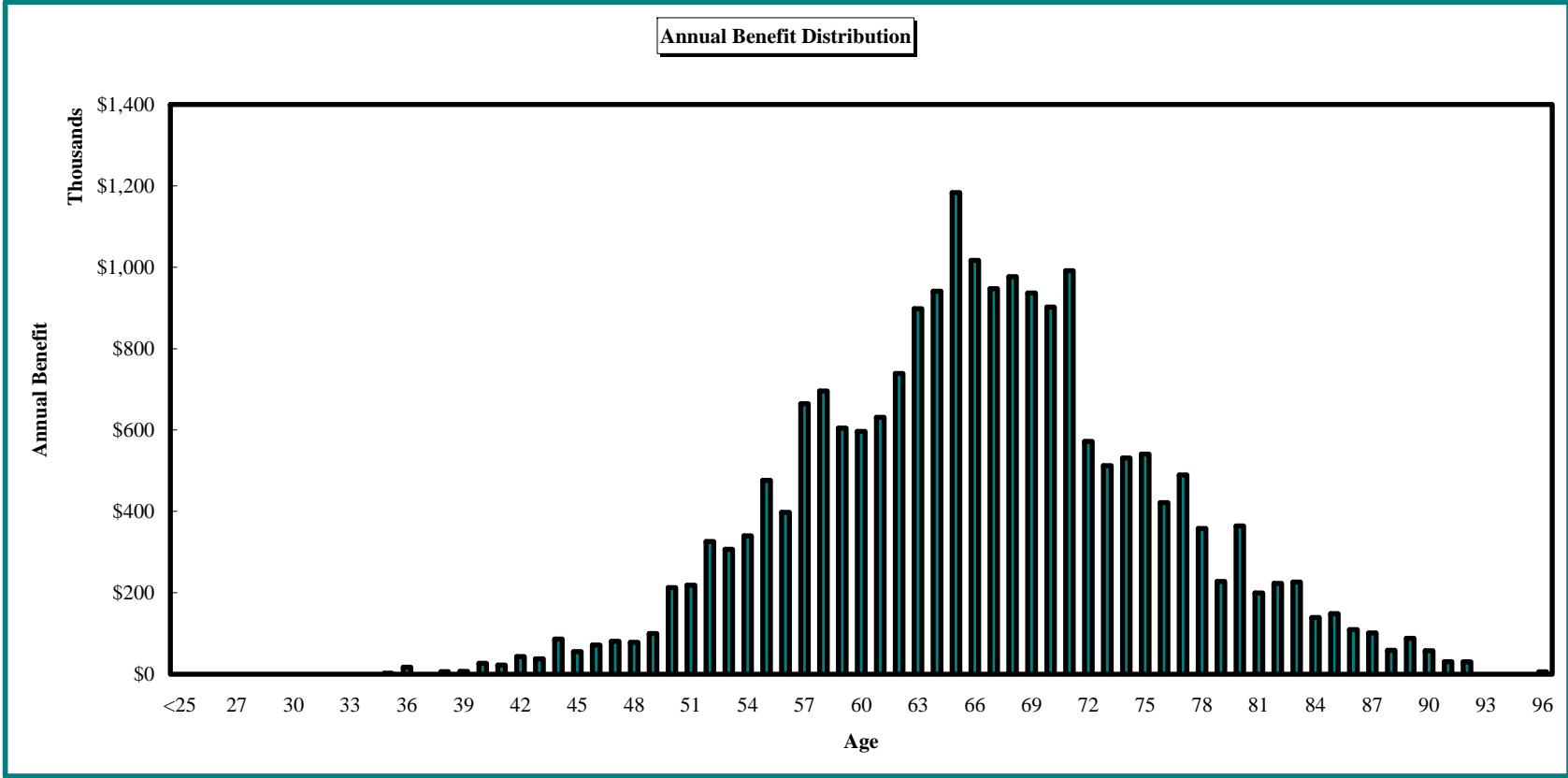
**Delaware State Employees' Pension Plan Distribution of
Disabled Members as of June 30, 2012**

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	0	\$ 0	73	51	\$ 512,058
25	0	0	74	52	531,131
26	0	0	75	49	540,308
27	0	0	76	39	421,608
28	0	0	77	45	489,823
29	0	0	78	35	358,084
30	0	0	79	29	228,022
31	0	0	80	35	364,278
32	0	0	81	17	199,717
33	0	0	82	26	223,234
34	0	0	83	25	226,441
35	1	2,716	84	20	139,341
36	3	16,989	85	18	148,396
37	0	0	86	14	109,609
38	1	6,194	87	14	101,289
39	1	6,890	88	6	58,773
40	3	26,494	89	15	87,937
41	4	22,088	90	7	57,659
42	8	43,282	91	5	30,733
43	2	37,682	92	5	30,515
44	8	86,522	93	0	0
45	9	55,415	94	0	0
46	11	71,341	95	0	0
47	12	80,681	96	1	5,535
48	13	78,362	97	0	0
49	12	99,697	98	0	0
50	22	212,849	99	0	0
51	24	218,719	100	0	0
52	30	326,116	101	0	0
53	32	307,302	102	0	0
54	31	340,156	103	0	0
55	39	476,020	104	0	0
56	43	397,393	105	0	0
57	61	664,756	106	0	0
58	59	695,814	107	0	0
59	53	604,618	108	0	0
60	54	596,771	109	0	0
61	53	631,269	110	0	0
62	60	739,269	111	0	0
63	79	897,938	112	0	0
64	80	941,398	113	0	0
65	85	1,183,289	114	0	0
66	71	1,016,868	115	0	0
67	75	947,409	116	0	0
68	64	976,958	117	0	0
69	78	936,565	118	0	0
70	77	902,279	119	0	0
71	74	991,868	120	0	0
72	42	571,857			
			Totals	1,882	\$ 21,076,330

DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012

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**Delaware State Employees' Pension Plan Distribution of Disabled Members
as of June 30, 2012**



DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012

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**Delaware State Employees' Pension Plan Distribution of Disabled Members
as of June 30, 2012**

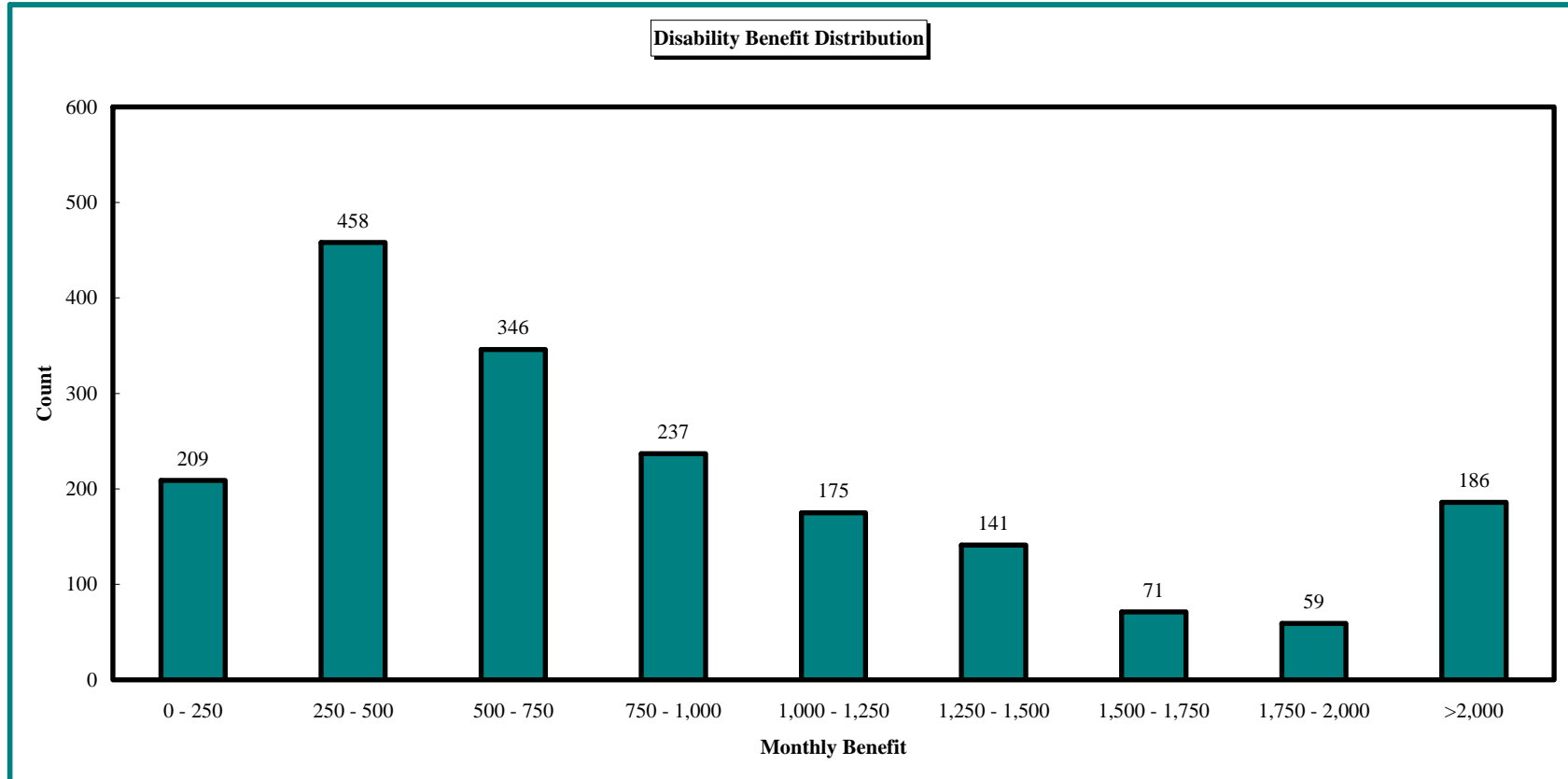
COUNTS BY BENEFIT/SERVICE

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	174	30	5	0	0	0	0	0	209
250 - 500	2	196	187	57	12	4	0	0	0	458
500 - 750	1	34	141	113	48	8	1	0	0	346
750 - 1,000	0	8	46	100	61	17	5	0	0	237
1,000 - 1,250	0	1	20	59	69	20	6	0	0	175
1,250 - 1,500	0	1	15	30	45	38	9	2	1	141
1,500 - 1,750	0	0	3	11	27	22	6	2	0	71
1,750 - 2,000	0	0	1	9	22	19	5	3	0	59
>2,000	0	0	1	7	35	71	49	19	4	186
Total	3	414	444	391	319	199	81	26	5	1,882

DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012

APPENDIX A
MEMBERSHIP INFORMATION

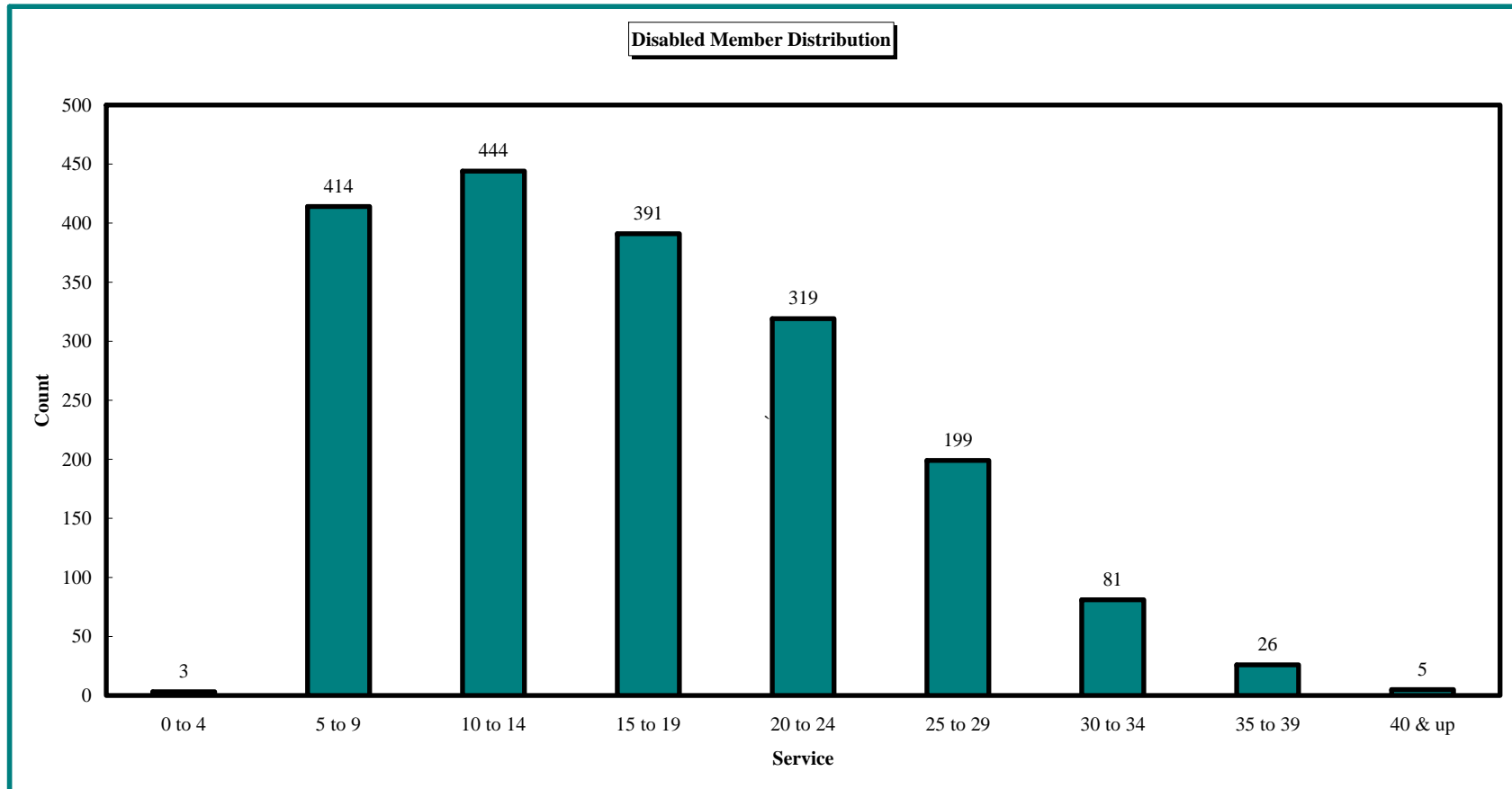
**Delaware State Employees' Pension Plan Distribution of Disabled Members
as of June 30, 2012**



DELAWARE STATE EMPLOYEES' PENSION PLAN
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APPENDIX A
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**Delaware State Employees' Pension Plan Distribution of Disabled Members
as of June 30, 2012**



**DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**APPENDIX A
MEMBERSHIP INFORMATION**

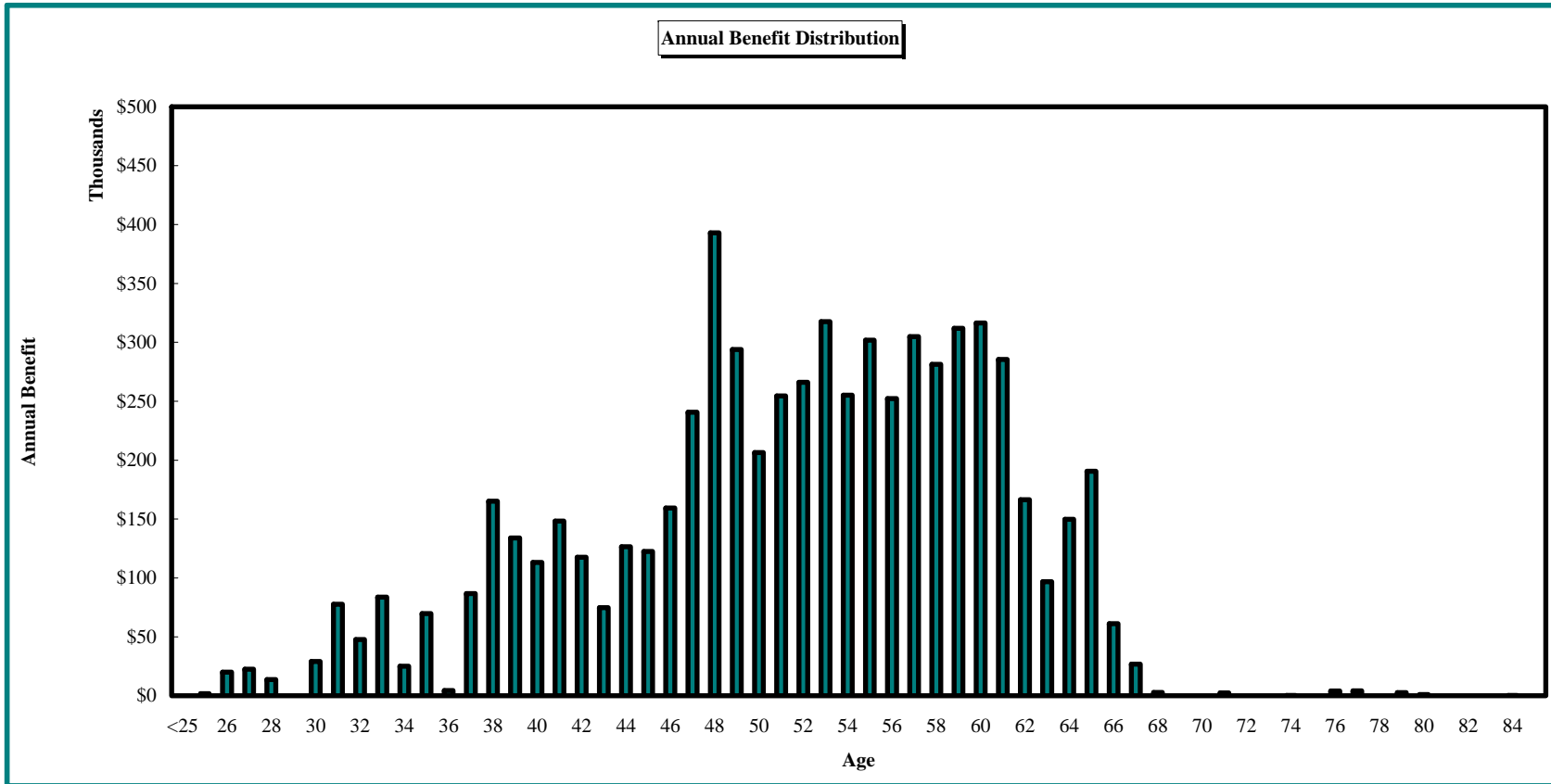
**Delaware State Employees' Pension Plan Distribution of Long
Term Disability Members as of June 30, 2012**

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	0	\$ 0	73	0	\$ 0
25	1	1,778	74	1	439
26	1	20,019	75	0	0
27	2	22,514	76	1	4,138
28	1	13,825	77	1	4,311
29	0	0	78	0	0
30	4	29,023	79	1	2,601
31	7	77,793	80	1	1,016
32	4	47,735	81	0	0
33	3	83,662	82	0	0
34	2	24,951	83	0	0
35	5	69,763	84	1	409
36	1	4,345	85	0	0
37	5	86,810	86	0	0
38	6	165,181	87	0	0
39	7	133,931	88	0	0
40	9	113,144	89	0	0
41	8	148,270	90	0	0
42	6	117,591	91	0	0
43	6	74,749	92	0	0
44	6	126,527	93	0	0
45	11	122,531	94	0	0
46	10	159,377	95	0	0
47	15	240,598	96	0	0
48	22	392,977	97	0	0
49	17	293,926	98	0	0
50	19	206,485	99	0	0
51	19	254,501	100	0	0
52	20	266,068	101	0	0
53	23	317,561	102	0	0
54	21	255,046	103	0	0
55	25	301,910	104	0	0
56	25	252,293	105	0	0
57	22	304,798	106	0	0
58	23	281,311	107	0	0
59	20	311,842	108	0	0
60	25	316,479	109	0	0
61	23	285,418	110	0	0
62	18	166,465	111	0	0
63	11	96,816	112	0	0
64	17	149,772	113	0	0
65	15	190,534	114	0	0
66	6	61,154	115	0	0
67	5	26,875	116	0	0
68	3	2,862	117	0	0
69	0	0	118	0	0
70	0	0	119	0	0
71	1	2,531	120	0	0
72	0	0			
			Totals	506	\$ 6,634,657

DELAWARE STATE EMPLOYEES' PENSION PLAN
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APPENDIX A
MEMBERSHIP INFORMATION

Delaware State Employees' Pension Plan Distribution of Long Term Disability Members
as of June 30, 2012



**DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**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

Mortality Improvements Projected to 2015 (Projection Scale AA)

Male: RP-2000 Combined Mortality Table

Female: RP-2000 Combined Mortality Table

Rates of Healthy Active and Inactive Mortality Rates (With Projection Scale AA)		
Age	Male	Female
20	0.03%	0.02%
25	0.03	0.02
30	0.04	0.02
35	0.07	0.04
40	0.09	0.06
45	0.12	0.09
50	0.16	0.13
55	0.27	0.24
60	0.53	0.47
65	1.03	0.90
70	1.77	1.55
75	3.06	2.49
80	5.54	4.13
85	9.97	7.08
90	17.27	12.59

DELAWARE STATE EMPLOYEES' PENSION PLAN
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APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

b. Disabled Inactive Mortality

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

Rates of Disabled Inactive Mortality		
Age	Male	Female
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

Rates of Active Disability	
Age	Rates
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

Rates of Active Disability for those who opted into the Disability Insurance Program*	
Age	Rates
65	1.74%
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, 2012**

**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
15-19	20.0%	25.0%	25.0%	10.0%	9.0%	7.5%	5.0%	5.0%	3.5%	3.5%	2.5%
20	20.0	22.5	22.0	10.0	9.0	7.5	5.0	5.0	3.5	3.5	2.5
21	20.0	20.0	18.0	10.0	9.0	7.5	5.0	5.0	3.5	3.5	2.5
22	20.0	17.5	16.0	10.0	9.0	7.5	5.0	5.0	3.5	3.5	2.5
23-32	20.0	17.5	14.0	10.0	9.0	7.5	5.0	5.0	3.5	3.5	2.5
33-35	20.0	15.0	12.0	10.0	8.0	7.5	5.0	5.0	3.5	3.5	2.5
36	19.0	15.0	10.0	10.0	7.0	7.5	5.0	5.0	3.5	3.5	2.5
37	18.0	15.0	10.0	10.0	7.0	6.0	5.0	5.0	3.5	3.5	2.5
38	17.0	15.0	10.0	10.0	7.0	6.0	5.0	5.0	3.5	3.5	2.5
39	16.0	15.0	10.0	10.0	7.0	6.0	5.0	5.0	3.5	3.5	2.5
40	15.0	12.5	10.0	7.0	6.0	6.0	5.0	5.0	3.5	3.5	2.5
41-46	14.0	12.5	10.0	7.0	6.0	5.0	5.0	5.0	3.5	3.5	2.5
47-49	13.0	12.5	10.0	7.0	6.0	5.0	5.0	5.0	3.5	3.5	2.5
50-52	12.5	12.5	10.0	7.0	6.0	5.0	5.0	5.0	3.5	3.5	2.5
53-54	12.0	12.5	10.0	7.0	6.0	5.0	5.0	5.0	3.5	3.5	2.5
55	12.0	12.0	10.0	8.0	6.0	5.0	5.0	5.0	3.5	3.5	2.5
56-59	11.5	11.5	10.0	8.0	6.0	5.0	5.0	5.0	3.5	3.5	2.5
60-65	11.5	11.5	10.0	10.0	6.0	5.0	5.0	5.0	3.5	3.5	2.5
>66	11.5	11.5	10.0	14.0	6.0	5.0	5.0	5.0	3.5	3.5	2.5

e. Retirement

Early Retirement:

- i. age 55 with 15 years of credited service
- ii. 25 years of credited service

Pre-2012 hires:

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

DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

Female Early Retirement	
Age	Rate
<41	0.00%
42 – 59	10.00

Post-2011 hires:

Unisex Early Retirement	
Age	Rate
<41	0.00%
42 – 59	5.00

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

Pre-2012 hires:

- i. age 62 with five years of credited service
- ii. age 60 with 15 years of credited service
- iii. 30 years of credited service

Post-2011 hires:

- i. age 65 with 10 years of credited service
- ii. age 60 with 20 years of credited service
- iii. 30 years of credited service

**DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012**

**APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS**

Pre-2012 hires:

Male Normal Retirement		
Age	Select	Ultimate
< 45	10.00%	0.00%
45 – 46	10.00	7.50
47 – 49	10.00	10.00
50 – 51	20.00	10.00
52	20.00	15.00
53	20.00	14.00
54	20.00	13.00
55	20.00	20.00
56 – 59	20.00	15.00
60 – 61	20.00	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
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**APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS**

Pre-2012 hires:

Female Normal Retirement		
Age	Select	Ultimate
<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

Post-2011 hires:

Unisex Normal Retirement		
Age	Select	Ultimate
<45	10.00%	10.00%
45 – 64	10.00	10.00
65	30.00	30.00
66 – 79	20.00	20.00
80	100.00	100.00

DELAWARE STATE EMPLOYEES' PENSION PLAN
ACTUARIAL VALUATION AS OF JUNE 30, 2012

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

f. Salary Increase

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

Service	Increase
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.

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

A new retirement assumption was created to be used for Post-2011 hires.

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 each active member. The normal cost rate times payroll equals the normal cost. The normal cost plus member contributions will pay for projected benefits at retirement for each active 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 contributions, 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

Moved from the new-entrant variation of the Entry Age Normal funding method to the individual method.

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 and any State Agency supported in whole or in part by federal funds granted to the State.

2. Member Contributions

Pre - 2012 hires: 3% of compensation in excess of \$6,000 per annum.

Post - 2011 hires: 5% of compensation in excess of \$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. Overtime payments are excluded for Post – 2011 hires.

5. Normal Retirement

Eligibility: Pre - 2012 hires: (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.

Post - 2011 hires: (i) age 65 with 10 years of credited service, or (ii) age 60 with 20 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% (by 0.4% if post - 2011 hire) 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. All members hired on or after January 1, 2006 are covered by the Disability Insurance Program.

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: Pre - 2012 hires: Employees who separate from service with at least five years of service.

Post - 2011 hires: Employees who separate from service with at least ten years of service.

Benefit: Accrued normal retirement benefit, payable at age 62 for Pre – 2012 hires and age 65 for Post – 2011 hires. 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 July 1, 2012 to those retired prior to July 1, 2011 in the amount of 1%.

House bill number 81, signed May 2, 2011, amended the Plan for individuals first employed by the State on or after January 1, 2012, who will be called "Post – 2011 employees. Items amended are listed above under each section as Post – 2011 hires.