

**City of Dover, Delaware**  
**General Employee Pension Plan**

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**Actuarial Valuation**  
**July 1, 2005**

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This report presents the City of Dover General Employee Pension Plan actuarial valuation results as of July 1, 2005. The annual costs presented are based upon generally accepted actuarial assumptions and methods.

**Summary of findings**

The following summary illustrates the plan costs in dollar amounts and as percentages of valuation payroll.

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	<b>Dollar Amount</b>	<b>Percentage of Payroll</b>
2005 City normal cost	\$313,677	4.25%
2005 City contribution necessary to amortize the unfunded actuarial accrued liability over 19 years with payments increasing at 3½% per year	\$1,708,937	23.15%
Total recommended City contribution	\$2,022,614	27.40%

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City costs reflect a \$23,582,601 unfunded actuarial liability as of July 1, 2005. This has been amortized over 19 years with payments increasing 3½% each year.

The actual City contribution is determined by multiplying 27.40% times the actual covered payroll.

The following table shows the funding percentage for June 30, 2004 and June 30, 2005. The funding percentage represents the percentage of the Actuarial Accrued Liability funded by Plan assets.

<b>Funding Percentage</b>		
	<u>June 30 2003</u>	<u>June 30 2004</u>
Funding Percentage based on Market Value of Plan assets	39%	37%
Funding Percentage based on Adjusted Market Value	46%	41%

There have been no changes in Plan provisions or actuarial assumptions.

### **Analysis of findings**

The following table compares the current cost components with those of the preceding valuation:

	<b>July 1, 2004</b>	<b>July 1, 2005</b>
<b>City Normal Cost</b>		
Dollar amount	\$310,658	\$313,677
Percent of payroll	4.24%	\$4.25
<b>Unfunded Actual accrued liability</b>	<b>\$20,233,877</b>	<b>\$23,582,601</b>
<b>City Amortization Payment</b>		
Increasing payments	\$1,416,331	\$1,708,937
Percent of payroll	19.35%	23.15%
<b>Total City Cost</b>		
Dollar amount	\$1,726,989	\$2,022,614
Percent of payroll	23.59%	27.40%

The City's cost has increased from 23.59% of payroll to 27.40% of payroll primarily due to the impact of prior investment losses and plan experience. The principal factors influencing plan costs were:

- The normal cost rate increased very slightly due to the aging of the included participants.
- The City funds the percentage of payroll based on the prior year's recommended contribution rate. The result was a contribution shortfall.
- Amortization payments are scheduled to increase 3½% each year. Last year's total covered payroll increased by less than 3½%. Consequently, the amortization payment divided by payroll increased.
- On a Market Value basis the Plan assets earned approximately 5.3%. However, when the deferred losses from prior years are included, the Adjusted Market Value yield was -4.0%. Thus, there was a significant investment loss.
- There was a liability loss primarily due to fewer retiree deaths than expected and more retirements than expected.
- The City granted retirees a 2% COLA, increasing Plan costs.

The impact of these factors was as follows:

	<u>City Contribution</u>
<b>July 1, 2004 Valuation</b>	<b>23.59%</b>
Normal Cost Rate	0.01%
Contribution shortfall	0.17%
Total pay increase less than 3.5%	0.52%
Investment losses	1.98%
Liability losses	0.63%
Retirees COLA	0.50%
<b>July 1, 2005 Valuation</b>	<b>27.40%</b>

This section presents the determination of plan costs. Cost estimates are calculated on the aggregate entry age actuarial cost method basis.

**Derivation of normal cost**

The normal cost is obtained in three steps as follows:

- The single sum value of all future pension payments to be made under the plan is determined, and from such value is subtracted the sum of:
  - Unfunded actuarial accrued liability,
  - Fund assets, and
  - Net present value of future employee contributions;
- The remainder is divided by the present worth of compensation expected to be paid during future years of work to normal retirement age of the participants included in the valuation, to obtain an accrual rate per dollar of such compensation;
- The total normal cost is obtained by multiplying the accrual rate by the annual compensation of active participants under normal retirement age.

**Derivation of unfunded actuarial accrued liability**

The actuarial accrued liability is determined as the sum of all normal costs which would have accumulated if the assumed normal cost had always been contributed in the past and the actuarial assumptions had been exactly realized. The unfunded actuarial accrued liability is determined by subtracting the current fund assets from the actuarial accrued liability.

**Derivation of recommended contribution**

The recommended City contribution is the amount which will fund the current year's normal cost plus amortize the unfunded actuarial accrued liability over 30 years beginning on July 1, 1994 with amortization payments increasing at the rate of 5% per year. Effective with the July 1, 1998 valuation, the 5% rate was decreased to 3½% to comply with the requirements for the Government Accounting Standards Board (GASB) new statements. The amortization period has decreased by one year on each valuation after July 1, 1994. As of July 1, 2005, there are 19 years remaining.

The derivation of the cost components is shown on the following table:

**Determination of costs**

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1. Number of participants		
a. Actives	182	
b. Retired and disabled	169	
c. Terminated vested	<u>11</u>	
d. Total		362
2. Payroll of active participants		\$7,380,629
3. Present value of future benefits		
a. Actives:		
(i) Service retirement and early retirement	\$15,913,144	
(ii) Vested benefits	640,163	
(iii) Disability benefits	1,749,842	
(iv) Death benefits	418,275	
(v) Return of employee contributions	<u>170,312</u>	
(vi) Total		\$18,891,736
b. Retirees, beneficiaries, and deferred vesteds		\$26,056,255
c. Total		\$44,947,991

**Determination of costs**

4. Actuarial accrued liability	\$39,860,241
5. Adjusted market value of assets	\$16,277,640
6. Unfunded actuarial accrued liability (4) – (5)	\$23,582,601
7. Amortization of unfunded liability over 20 years with payments increasing 3½% each year .072466 x (6)	\$1,708,937
8. Amortization payment as a percent of total payroll (7) ÷ (2)	23.15%
9. Present value of future normal costs (3c) – (4)	\$5,087,750
10. Present value of future employee contributions	\$2,198,561
11. Present value of future City normal costs (9) – (10)	\$2,889,189
12. Present value of future payroll of participants under retirement age	\$67,948,045
13. Normal cost accrual rate (11) ÷ (12)	.0425
14. Payroll of included employees under assumed retirement age	\$7,380,629
15. City normal cost (13) x (14)	\$313,677
16. City normal cost as a percentage of total payroll	4.25%

**City percent of payroll necessary to provide for the normal cost plus amortize the unfunded actuarial accrued liability over 19 years with payments increasing at 3½% per year**

17. Normal cost (16)	\$4.25%
18. Payment of unfunded actuarial accrued liability (8)	<u>23.15%</u>
19. Total (17) + (18)	27.40%

The supplementary statistics and financial data gathered during the course of the actuarial valuation are presented for the City of Dover General Employee Pension Plan.

**A. Summary of statistics relative to participants and beneficiaries**

	July 1, 2004	July 1, 2005
<b>Active Participants</b>		
Number	183	182
Average age (weighted by salary)	44.17	44.09
Average service (weighted by salary)	12.60	12.32
Average rate of pay	\$40,005	40,583
<b>Retired and Dependent Participants</b>		
Number	161	168
Average monthly pension	\$1,170	\$1,236
<b>Disabled Participants</b>		
Number	1	1
Average monthly pension	\$385	\$393
<b>Deferred Vested Participants</b>		
Number	12	11
Average monthly pension	\$714	\$715

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**B. Statement of receipts and disbursements for the years ending June 30, 2004 and June 30, 2005**

	Year Ending	
	June 30, 2004	June 30, 2005
Balance at beginning of year	\$14,446,848	\$14,693,320
Non-investment receipts		
City contributions	\$1,041,470	\$1,566,845
Employee contributions	\$249,820	\$255,209
Miscellaneous income	<u>0</u>	<u>0</u>
Total	\$1,291,290	\$1,822,054
Disbursements		
Benefit payments	\$2,223,259	\$2,354,778
Employee contribution refunds	\$15,128	\$18,492
Expenses	<u>\$4,213</u>	<u>\$19,630</u>
Total	\$2,242,600	\$2,392,900
Investment income		
Dividends and interest	\$400,553	\$528,439
Net appreciation in fair value	\$907,342	\$281,588
Investment expenses	<u>(\$108,996)</u>	<u>(\$47,566)</u>
Total	\$1,198,899	\$762,461
Balance at end of year	\$14,694,437	\$14,884,935
Approximate Market Value yield after expenses	8.58%	5.29%

**B. Derivation of Adjusted Market Value**

1. For year ending June 30, 2002	
a. Expected investment income	\$1,358,628
b. Actual investment income	(\$1,856,502)
c. Investment gain (loss) [(a) – (b)]	(\$3,215,130)
d. Percentage deferred at 7/1/05	20%
e. Amount deferred [(c) x (d)]	(\$643,026)
2. For year ending June 30, 2003	
a. Expected investment income	\$1,142,150
b. Actual investment income	(\$322,374)
c. Investment gain (loss) [(a) – (b)]	(\$1,464,524)
d. Percentage deferred at 7/1/05	40%
e. Amount deferred [(c) x (d)]	(\$585,810)
3. For year ending June 30, 2004	
a. Expected investment income	\$1,047,839
b. Actual investment income	\$1,198,899
c. Investment gain (loss) [(a) – (b)]	\$151,160
d. Percentage deferred at 7/1/05	60%
e. Amount deferred [(c) x (d)]	\$90,636
4. For year ending June 30, 2005	
a. Expected investment income	\$1,080,592
b. Actual investment income	\$762,461
c. Investment gain (loss) [(a) – (b)]	(\$318,131)
d. Percentage deferred at 7/1/05	80%
e. Amount deferred [(c) x (d)]	(\$254,505)
5. Total amount deferred	
[1(e) + 2(e) + 3(e) + 4(e)]	(\$1,392,705)
6. Market value as of 7/1/05	\$14,884,935
7. Adjusted market value July 1, 2005	
[(4) – (3)]	\$16,277,640
8. Approximate yield based on Adjusted Market Value	-3.96%

**Participation**

All employees who work at least 30 hours per week are eligible to participate. Starting in 1994, employees may make an irrevocable election to participate in an alternative deferred contribution plan.

**Continuous service**

The employee's period of uninterrupted service beginning on the most recent date of hire. Special rules apply with respect to leaves of absence and military service.

**Employee contributions**

Participants are required to contribute 3½% of salary.

**Average monthly earnings**

The average monthly earnings is the average of the participant's monthly earnings during any period of 36 months in the final 10 years of continuous service which results in the highest average.

**Normal retirement benefit**

- **Eligibility** A participant may retire on the first of the month following the date he has both attained age 65 and completed 15 years of continuous service.
  - **Amount** The monthly benefit, payable for life, is:
    - 1/50 of the average monthly earnings
    - multiplied by*
    - Years and months of credited service.

**Early retirement - Unreduced benefit**

- **Eligibility** A participant hired on or after May 1, 1994 may retire on any date following attainment of age 55 provided the participant's attained age and continuous service total at least 80.

A participant hired before May 1, 1994 may retire on any date following the earlier of:

- (i) attaining age 50 and completing 20 years continuous service or
- (ii) completing 25 years continuous service

**Amount** The amount of the unreduced early retirement benefit is calculated in the same manner as the normal retirement benefit.

**Early retirement benefit – Reduced benefit**

- **Eligibility** A participant may retire on any date following the attainment of age 55 and completion of 10 years of continuous service.
- **Amount** The early retirement benefit is calculated in the same manner as the normal retirement benefit, reduced by one-half of one percent for each month the benefit commences prior to age 65.

**Late retirement benefit**

- **Eligibility** A participant may continue to work beyond his normal retirement date.
- **Amount** The amount of the late retirement benefit is calculated using the normal retirement formula.

**Disability benefit**

- **Eligibility** If a participant becomes totally and permanently disabled and has completed 10 years of continuous service, he will be eligible for a disability retirement benefit.
- **Amount** The amount of the disability benefit payable monthly is determined using the normal retirement formula and service at date of disability and is reduced by Workers' Compensation payments. The benefit is payable immediately after disability is determined and continues until the earlier of death or recovery.

**Deferred vested benefit**

- **Eligibility** If a participant should terminate prior to becoming eligible for retirement and after completing 10 years of continuous service, he will be eligible for a deferred vested benefit beginning at age 65.
- **Amount** The amount of the deferred vested benefit is a monthly benefit calculated using the normal retirement benefit formula and service at date of termination.

**Death benefit**

- **Eligibility** The eligible survivor of a participant who dies after completing 20 years of continuous service or who had reached Early Retirement Age will be eligible for a death benefit.
- **Amount** The amount of the death benefit is 50% of the retirement benefit that the participant would have received had he retired the day before he died.
- **Form of payment** the benefit is paid for the life of the spouse or until remarriage. Benefits to children cease upon attainment of age 18.

**Normal form of payment**

Benefits are paid for the lifetime of the participant. Upon the death of the participant, 50% of the benefit continues to the eligible survivor.

**Post retirement COLAs**

The City may, from time to time, grant ad hoc post-retirement COLAs.

**Employee data**

The employee data used in the determination of cost estimates consist of pertinent information supplied by the City of Dover, Delaware with respect to active employees, pensioners and beneficiaries, and deferred vested participants.

**Valuation date**

July 1, 2005

**Actuarial cost method**

The actuarial valuation has been completed using the aggregate entry age actuarial cost method.

**Annual probability of severance**

- **Mortality** Pre-retirement and post-retirement mortality is assumed to follow 1983 Group Annuity Mortality Table for males and females.

The assumed mortality rates for disabled lives are based on the Social Security experience study.

- **Withdrawal** The assumed probability of withdrawal (quit or discharge) is illustrated by the following rates:

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<b>Years of Employment</b>	<b>Annual Rate of Withdrawal</b>
0	.25
1	.25
2	.20
3	.13
4	.07

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**Rates of withdrawal after 5 or more years of employment**

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<b>Age</b>	<b>Annual Rate of Withdrawal</b>
20	.0664
25	.0535
30	.0493
35	.0461
40	.0404
45	.0357
50	.0217
55	.0138
60	.0156
61	.0221

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- **Disability** The assumed rates of disability are based on the Social Security experience of disabled workers' benefits in the 1974 study.
- **Retirement age** It is assumed that participants will start to retire after the earlier of their normal retirement date and their unreduced early retirement date. Retirement rates are shown below.

**Rate of retirement**

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<b>Ages</b>	<b>Year First Eligible</b>	<b>All Other Years</b>
45-61	20%	5%
62-64	30%	20%
65	80%	80%
66-69	80%	80%
70	100%	100%

## **FUNDING METHOD, FACTORS AND ASSUMPTIONS USED IN DETERMINING THE COST ESTIMATES**

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- **Timing of severance** All employees are assumed to leave employment in the middle of the year.

### **Salary scale**

It has been assumed that salaries will increase at the rate of 4.5% per annum.

### **Rate of investment return**

An average net rate of 7.5% per annum (after investment expenses are deducted) is assumed as the annual rate of investment return (including appreciation and depreciation, realized and unrealized).

### **Family make-up**

It has been assumed that 80% of participants who die prior to normal retirement date are married and that wives are 4 years younger than husbands.

### **Valuation of assets**

Starting with the year ending June 30, 2001, the net investment gain or loss (when compared to the 7½% assumed rate) is spread over five years at 20% per year.

Statement Number 25 of the Governmental Accounting Standards Board (GASB 25) is effective for plan years beginning after June 15, 1996.

The objective of GASB 25 is to provide a standard for disclosing pension information for the financial reports of governmental pension plans. The financial report should include two financial statements and two required schedules of historical information. The financial statements and required schedules are:

- *A statement of plan net assets* including information about plan assets and liabilities at the reporting date. This information is shown in the Plan Assets section of the report.
- *A statement of changes in plan net assets* including receipts and disbursements. This information is contained in the Plan Assets section of the report.
- *A schedule of funding progress* including historical information about the actuarially determined funded status of the plan and the progress made in accumulating sufficient assets. This information should be provided for each of the past six plan years. For the transition year and the following five years the schedules should show information for the current year and as any prior years as available. This schedule is shown below.
- *A schedule of employer contributions* including historical trend information about the Annual Required Contributions (ARC) and the contributions made by the employer in relation to the ARC.

**Schedule of funding progress**

Valuation Date	Plan Assets <sup>1</sup>	Actuarial Accrued Liability	Unfunded Accrued Liability	Funded Ratio	Payroll	Unfunded as a Percent of Payroll
July 1, 1996	\$13,950,175	\$19,806,778	\$5,856,603	70.43%	\$6,586,693	88.92%
July 1, 1998	\$18,792,809	\$22,096,611	\$3,303,802	85.05%	\$6,592,117	50.12%
July 1, 2000	\$22,095,632	\$27,497,493	\$5,401,861	80.36%	\$6,559,611	82.35%
July 1, 2002	\$20,638,445	\$32,013,030	\$11,374,585	64.47%	\$6,774,554	167.90%
July 1, 2003	\$19,133,025	\$36,131,839	\$16,998,814	52.95%	\$6,661,757	255.17%
July 1, 2004	\$17,531,096	\$37,764,973	\$20,233,877	46.42%	\$7,320,938	276.38%
July 1, 2005	\$16,277,640	\$39,860,241	\$23,582,601	40.84%	\$7,380,629	319.52%

<sup>1</sup>Starting July 1, 2002, Adjusted Market Value

This report fairly represents the actuarial position of the City of Dover, Delaware, General Employee Pension Plan as of July 1, 2005 according to generally accepted actuarial principles consistent with the previous valuation. In our opinion, the methods and assumptions used in preparing the liabilities and costs are in the aggregate reasonably related to past plan experience and to reasonable expectations and represent our best estimate of anticipated future plan experience.

**PIKE ASSOCIATES**

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Albert Pike, 3<sup>rd</sup>, EA  
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**January 16, 2005**

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Date