



# Conrad M. Siegel, Inc.

## Actuaries/Benefit Consultants

501 Corporate Circle • P.O. Box 5900 • Harrisburg, PA 17110-0900  
PHONE (717) 652-5633 • FAX (717) 540-9106 • [www.cmsbenefits.com](http://www.cmsbenefits.com)

Conrad M. Siegel, F.S.A.  
Harry M. Leister, Jr., F.S.A.  
Clyde E. Gingrich, F.S.A.  
Earl L. Mummert, M.A.A.A.  
Robert J. Dolan, A.S.A.  
David F. Stirling, A.S.A.  
Robert J. Mrazik, F.S.A.  
David H. Killick, F.S.A.  
Jeffrey S. Myers, F.S.A.  
Thomas L. Zimmerman, F.S.A.  
Glenn A. Hafer, F.S.A.  
Kevin A. Erb, F.S.A.  
Frank S. Rhodes, F.S.A., A.C.A.S.  
Holly A. Ross, F.S.A.  
Charles B. Friedlander, F.S.A.  
John W. Jeffrey, F.S.A.  
Denise M. Polin, F.S.A.  
Thomas W. Reese, A.S.A.  
Janel M. Leymeister, CEBS  
Mark A. Bonsall, F.S.A.  
Jonathan D. Cramer, A.S.A.  
John D. Vargo, A.S.A.  
David H. Stimpson, E.A.  
Robert M. Glus, A.S.A.

### Fairview Township Police Pension Plan Actuarial Valuation as of January 1, 2003

Fairview Township Police Pension Plan  
Actuarial Valuation as of January 1, 2003  
**Table of Contents**

---

Comments and Certification

Summary of Principal Plan Benefit Provisions (SPPB)

Actuarial Assumptions and Methods

Section 1 - Summary of Plan Assets and Summary of Plan Membership

Section 2 - Act 205 Funding Calculations

Section 3 - Supplemental Information for GASB Reporting

Section 4 - Participant Information

    Demographic Data for Active Members

    Demographic Data for Retired Members and Members Terminated with Vesting

    Active Members

    Vested Former Members

    Retired Members and Beneficiaries

**Fairview Township Police Pension Plan  
Actuarial Valuation as of January 1, 2003  
Comments and Certification**

---

The purpose of the valuation report is to determine the actuarial status of the Plan and to serve as the basis for satisfying the reporting requirements under Act 205.

The Summary of Principal Plan Benefit Provisions page provides a summary of the basic plan benefit provisions in effect as of January 1, 2003. There have been changes made to the death benefits under the Plan to comply with Act 30 of 2002.

The Actuarial Assumptions and Methods page is a summary of actuarial assumptions and methods used in determining the actuarial status of the Plan.

Section 1 of the report provides a summary of plan assets and a summary of plan membership.

The market value of the fund as of December 31, 2002, is \$4,893,174. The net dollar-weighted rates of investment return during 2001 and 2002 were -2.74% and -7.43%, respectively.

As of January 1, 2003, there are 11 active members with total annual payroll for pension purposes of \$600,133. There are also six retired members currently receiving benefits under the Plan totaling \$125,126 annually, one spouse beneficiary of a deceased member currently receiving benefits under the Plan totaling \$14,577 annually and one vested former member entitled to deferred benefits under the Plan totaling \$14,651 annually.

Section 2 of the report provides the Act 205 funding calculations.

As of January 1, 2003, plan assets exceed the actuarial accrued liability under the Plan by \$875,423. The normal cost of the Plan, which is the cost of benefits being accrued during the current year, is \$113,739, which is 19.0% of covered payroll.

Page 2 of Section 2 shows the analysis of the change in the unfunded actuarial accrued liability from January 1, 2001, to January 1, 2003. There was an actuarial loss during the period of \$1,199,236. The unfunded actuarial accrued liability also increased by \$8,583 due to the changes in the plan benefit provisions to comply with Act 30 of 2002.

Page 3 of Section 2 illustrates the minimum municipal obligation for the Plan. The financial requirement of the Plan is \$154,931. This includes the normal cost, \$113,739, plus assumed annual administrative expenses, \$41,192. The financial requirement is reduced by 10% of the excess of plan assets over the actuarial accrued liability, \$87,542. This results in a minimum municipal obligation of \$67,389. This calculation of the minimum municipal obligation is for illustrative purposes only since the calculation of the minimum municipal obligation for purposes of determining the Township's required contribution to the Plan is prepared through the budgeting process by September 30 each year for the upcoming calendar year.

Page 4 of Section 2 indicates the actuarial present value of accumulated plan benefits. As of January 1, 2003, the total actuarial present value of accumulated plan benefits is \$3,261,553. This compares to net assets available for benefits of \$4,893,174.

Section 3 of the report provides supplemental information for reporting under Governmental Accounting Standards Board Statements No. 25 and 27.

Fairview Township Police Pension Plan  
Actuarial Valuation as of January 1, 2003  
Comments and Certification

---

Section 4 of the report provides information on the plan participants.

**Actuarial Certification**

To the best of my knowledge this report is complete and accurate, based upon the data furnished to us. The data with respect to receipts and disbursements and assets of the Plan was furnished by Mellon Bank, N.A. The data with respect to participants and beneficiaries was furnished by Fairview Township.

The information as contained in this report is a projection of liabilities based upon stated assumptions and is not an exact statement of the Plan's ultimate benefits and liabilities.

I certify that all costs, liabilities, rates of interest, and other factors under the Plan have been determined on the basis of actuarial assumptions and methods, each of which is reasonable (taking into account the experience of the Plan and reasonable expectations) or which, in the aggregate, result in a total contribution equivalent to that which would be determined if each such assumption and method were reasonable, and which, in combination, offer my best estimate of anticipated experience under the Plan.

An approximation technique for the valuation of the disability benefit has been utilized due to the unavailability of any generally accepted disability table based upon municipal pension experience. The approximation technique for the valuation of the disability benefit is a loading factor of 4.00% added to basic pension costs. This same approximation technique has been used in prior actuarial valuations of the Plan. It is my best estimate that the use of the approximation technique will cause little or no distortion in the valuation results.

4/23/2003  
Date

David H. Killick  
David H. Killick, F.S.A.  
Consulting Actuary  
Enrolled Actuary No. 02-03880

DHK/KMP

Fairview Township Police Pension Plan  
Actuarial Valuation as of January 1, 2003  
**Summary of Principal Plan Benefit Provisions**

---

**Eligibility**

All full-time members of the police force join the Plan upon employment.

**Normal Retirement**

A member is eligible for normal retirement after attainment of age 50 and completion of 25 years of vesting service.

The normal retirement pension is payable monthly during the member's lifetime, with payments continuing after the member's death to the surviving spouse, or eligible child, equal to 50% of the amount payable to the member at the time of the member's death.

The amount of monthly pension is equal to 50% of average monthly compensation, plus a service increment of \$100 per month for members who complete 26 or more years of service.

Average monthly compensation is based upon the last 36 months of employment.

**Late Retirement**

If a member continues working after his normal retirement date, his pension does not start until he actually retires. The monthly late retirement benefit is equal to the benefit accrued to the late retirement date.

**Early Retirement**

A member is eligible for early retirement after completion of 20 years of service. The monthly early retirement benefit is equal to the actuarial equivalent of the benefit accrued at the early retirement date.

**Disability Retirement**

If an active member is disabled in the line of duty, he is eligible for a disability pension. The monthly disability pension is equal to 75% of the member's final monthly salary.

**Postretirement Cost-of-Living Increase**

An annual cost-of-living increase equal to the percentage increase in the "Wage Earner Index" in the Consumer Price Index during the preceding calendar year is made to retirees, with a maximum total cost-of-living increase of 30%, and a maximum pension benefit of 75% of the salary used for computing retirement benefits.

**Death Benefits**

If an active member is killed in the line of duty, a monthly death benefit is payable to his surviving spouse, or eligible child, equal to 100% of the member's monthly salary at the time of death.

Fairview Township Police Pension Plan  
Actuarial Valuation as of January 1, 2003  
**Summary of Principal Plan Benefit Provisions**

---

If a member is eligible for retirement at the time of death, a monthly death benefit is payable to his surviving spouse, or eligible child, equal to 50% of the monthly benefit the member would have been receiving had he been retired at the time of death.

**Vesting**

A member's benefits vest upon completion of 12 years of service. The vested benefit is a deferred monthly pension beginning at normal retirement equal to the benefit accrued to the date of termination.

**Accrued Pension**

The benefit accrued at any date other than the normal retirement date is equal to the projected normal retirement benefit multiplied by the ratio of the number of years of benefit service to date to the total number of years of benefit service projected at normal retirement.

**Contributions**

Member contributions are currently suspended.

Past member contributions are credited with 4.0% interest.

Fairview Township Police Pension Plan  
Actuarial Valuation as of January 1, 2003  
**Actuarial Assumptions and Methods**

---

**Interest**

7.00%

**Salary**

6.00% Annual Increase

**Withdrawal**

Table D-1: Rates of withdrawal at selected ages:

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	5.5000%	35	2.5000%	50	0.0000%
25	5.0000%	40	1.0000%	55	0.0000%
30	4.0000%	45	0.5000%	60	0.0000%

**Mortality**

UP1984 Table with 5 year postretirement age setback for females

**Disability**

Loading of 4.00% added to basic pension costs.

**Retirement**

Normal Retirement Age, or age on valuation date, if greater.

**Preretirement Death Benefit**

Liabilities computed on the assumption that all participants will have spouses of the same age at the date of eligibility for the benefit.

Fairview Township Police Pension Plan  
Actuarial Valuation as of January 1, 2003  
**Actuarial Assumptions and Methods**

---

**Expenses**

Provision for administrative expenses added to normal cost.

**Inflation**

Moderate inflation based on long term historical average rates is a component of the actuarial assumptions used herein. Provision is not made for advance funding of sharply higher rates of inflation experienced in some years. The effects of such higher rates are reflected in the funding after their occurrence.

**Cost-of-Living Increase**

3.00% per year

**Actuarial Value of Assets**

Market Value as determined by the trustee.

**Actuarial Cost Method**

Entry Age Normal

Fairview Township Police Pension Plan  
Actuarial Valuation  
as of January 1, 2003

Section 1

Summary of Plan Assets and Summary of Plan Membership

Fairview Township Police Pension Plan  
 Actuarial Valuation as of January 1, 2003  
**Receipts and Disbursements - January 1, 2001 to December 31, 2001**

---

Market Value at 1/1/2001		\$ 5,777,225.87
<b>Receipts</b>		
Employer Contributions Received	\$	0.00
Investment Income		
Interest Received	\$	163.80
Dividends Received		6,620.40
Accrued Income at 1/1/2001		(816.26)
Accrued Income at 12/31/2001		4,978.76
Total Investment Income		10,946.70
Change in Market Value		
Realized Gain/Loss	\$	168,800.68
Unrealized Gain/Loss		(335,990.33)
Net Change in Market Value		(167,189.65)
Total Receipts		(156,242.95)
<b>Disbursements</b>		
Monthly Benefit Payments	\$	(110,163.66)
Administrative Expenses		(40,598.09)
Total Disbursements		(150,761.75)
Market Value at 12/31/2001		\$ 5,470,221.17
Approximate Net Dollar-Weighted Rate of Investment Return		(2.74%)

Fairview Township Police Pension Plan  
 Actuarial Valuation as of January 1, 2003  
**Receipts and Disbursements - January 1, 2002 to December 31, 2002**

Market Value at 1/1/2002		\$ 5,470,221.17
<b>Receipts</b>		
Employer Contributions Received	\$	0.00
Investment Income		
Interest Received	\$	63.49
Dividends Received		16,679.38
Accrued Income at 1/1/2002		(4,978.76)
Accrued Income at 12/31/2002		2,639.46
Total Investment Income		14,403.57
Change in Market Value		
Realized Gain/Loss	\$	37,604.23
Unrealized Gain/Loss		(451,985.28)
Net Change in Market Value		(414,381.05)
Total Receipts		(399,977.48)
<b>Disbursements</b>		
Monthly Benefit Payments	\$	(135,284.85)
Administrative Expenses		(41,784.60)
Total Disbursements		(177,069.45)
Market Value at 12/31/2002		\$ 4,893,174.24
Approximate Net Dollar-Weighted Rate of Investment Return		(7.43%)

Fairview Township Police Pension Plan  
Actuarial Valuation as of January 1, 2003

**Assets and Liabilities**

**Assets**

Cash		\$	1.64
Money Markets			1,283.49
Common Trust Funds			
EB Intermediate Bond Fund	\$	1,074,739.29	
EB Active Core Bond Fund		1,080,808.11	
EB International Equity Fund		436,207.82	
EB Stock Fund		793,116.96	
EB FPA Core Mid Cap Stock Fund		704,105.47	
EB FPA Core Large Cap Stock Fund		799,570.80	
Total		<u>4,888,548.45</u>	
Total Assets in Fund		\$	4,889,833.58
Benefits Receivable			701.20
Accrued Income			<u>2,639.46</u>
Total Assets		\$	4,893,174.24
<b>Liabilities</b>			
Total Liabilities			<u>0.00</u>
Net Assets		\$	<u><u>4,893,174.24</u></u>

Fairview Township Police Pension Plan  
 Actuarial Valuation as of January 1, 2003  
**Summary of Plan Membership**

<b>Active Members</b>	<u>Number of Members</u>	<u>Annual Payroll</u>
Active Members as of 1/1/2001	13	
New Members During the Period	0	
Returned to Active	0	
Members No Longer Active:		
Retired with Disability Benefit	0	
Retired with Service Retirement Benefit	0	
Separated with Deferred Benefit	(1)	
Separated with Refund of Contributions	(1)	
Separated with Neither Deferred Benefit nor Refund of Contributions	0	
Deceased	0	
<b>Total</b>	<u>(2)</u>	
Active Members as of 1/1/2003	<u>11</u>	<u>\$ 600,133</u>
 <b>Vested Former Members</b>	 <b>Number of Members</b>	 <b>Annual Benefit</b>
Vested Former Members as of 1/1/2001	<u>2</u>	
Separated with Deferred Benefit	1	
Beneficiary of Deceased Participant	0	
Returned to Active	0	
Retired with Service Retirement Benefit	(2)	
Deceased or Paid in Full	<u>0</u>	
Vested Former Members as of 1/1/2003	<u>1</u>	<u>\$ 14,651</u>
 <b>Retired Members</b>		
Retired Members as of 1/1/2001	4	
Retired with Service Retirement Benefit	2	
Deceased or Paid in Full	<u>0</u>	
Retired Members as of 1/1/2003	<u>6</u>	<u>\$ 125,126</u>
 <b>Spouse Beneficiaries of Deceased Members</b>		
Spouse Beneficiaries of Deceased Members as of 1/1/2001	1	
Additional Spouse Beneficiaries of Deceased Members	0	
Deceased	<u>0</u>	
Spouse Beneficiaries of Deceased Members as of 1/1/2003	<u>1</u>	<u>\$ 14,577</u>

Fairview Township Police Pension Plan  
Actuarial Valuation  
as of January 1, 2003

Section 2

Act 205 Funding Calculations

Fairview Township Police Pension Plan  
 Actuarial Valuation as of January 1, 2003  
**Unfunded Actuarial Accrued Liability and Normal Cost**

---

**Unfunded Actuarial Accrued Liability**

Actuarial Present Value of Future Benefits

Active Members Retirement Pension Benefits	\$	3,142,740
Active Members Vested Withdrawal Benefits		45,831
Active Members Disability Benefits		125,709
Active Members Preretirement Death Benefits		46,624
Active Members Refund of Member Contributions		1,514 <sup>1</sup>
Refund of Employee Contributions to Terminated Members		344
Vested Former Members Benefits		87,491
Retired Members Benefits		1,765,565
Surviving Spouses Benefits		<u>151,757</u>
<b>Total</b>	<b>\$</b>	<b>5,367,575</b>
Actuarial Present Value of Future Normal Costs		<u>(1,349,824)</u>
Actuarial Accrued Liability	<b>\$</b>	<b>4,017,751</b>
Reserve for Benefits		<u>(4,893,174)</u>
Unfunded Actuarial Accrued Liability	<b>\$</b>	<b><u>(875,423)</u></b>
 <b>Normal Cost</b>		
Normal Cost	<b>\$</b>	<b><u>113,739</u></b>
Normal Cost as a Percentage of Annual Payroll		<u>19.0%</u>

<sup>1</sup> Accumulated Member Contributions Without Interest as of 1/1/2003 = \$32,245

Fairview Township Police Pension Plan  
 Actuarial Valuation as of January 1, 2003  
**Analysis of the Change in the Unfunded Actuarial Accrued Liability**

---

Unfunded Actuarial Accrued Liability at 1/1/2001		\$ (2,130,192)
<b>Additions</b>		
Normal Costs	\$ 241,700	
Administrative Expenses	82,383	
Interest on Unfunded Actuarial Accrued Liability, Normal Costs, and Administrative Expenses	<u>(277,133)</u>	
Total		46,950
<b>Contributions</b>		
Employer Contributions	\$ 0	
Interest on Contributions	<u>0</u>	
Total		0
Modification in the Benefit Plan		8,583
Change in Actuarial Assumptions		0
<b>Actuarial Loss</b>		
Investment Loss	\$ 1,370,944	
Experience Gain	<u>(171,708)</u>	
Total		<u>1,199,236</u>
Unfunded Actuarial Accrued Liability at 1/1/2003		<u><u>\$ (875,423)</u></u>

Fairview Township Police Pension Plan  
 Actuarial Valuation as of January 1, 2003  
**Illustration of Minimum Municipal Obligation**

---

Financial Requirements

Normal Cost	\$	113,739
Administrative Expenses		<u>41,192</u> <sup>1</sup>
Total	\$	154,931
Expected Member Contributions		0
10% of Negative Unfunded Actuarial Accrued Liability		<u>(87,542)</u>
Minimum Municipal Obligation	\$	67,389
Estimated Allocation of General Municipal Pension System State Aid		<u>0</u>
Net Minimum Municipal Obligation	\$	<u><u>67,389</u></u>

<sup>1</sup> Total Administrative Expenses for Plan Year 1/1/2001 to 12/31/2001 - \$ 40,598  
 Total Administrative Expenses for Plan Year 1/1/2002 to 12/31/2002 - \$ 41,785

Fairview Township Police Pension Plan  
Actuarial Valuation as of January 1, 2003  
**Actuarial Present Value of Accumulated Plan Benefits**

---

Vested Benefits		
Retired Members	\$ 1,917,322	
Other Members	1,216,575	
Total Vested Benefits	<u>3,133,897</u>	\$ 3,133,897
Nonvested Benefits		<u>127,656</u>
Total Actuarial Present Value of Accumulated Plan Benefits		<u>\$ 3,261,553</u>
Net Assets Available for Benefits as of 1/1/2003		<u>\$ 4,893,174</u>

Fairview Township Police Pension Plan  
Actuarial Valuation  
as of January 1, 2003

Section 3

Supplemental Information for GASB Reporting

Fairview Township Police Pension Plan  
Actuarial Valuation as of January 1, 2003  
**Supplemental Information for GASB Statement Nos. 25 & 27 Reporting**

---

**Schedule of Funding Progress**

Valuation Date	Actuarial Value of Assets (a)	Entry Age Actuarial Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
1/1/1993	\$ 2,189,420	\$ 2,059,932	\$ (129,488)	106.3%	\$ 513,081	(25.2%)
1/1/1994	2,581,890	2,264,320	(317,570)	114.0%	532,338	(59.7%)
1/1/1995	2,600,002	2,470,087	(129,915)	105.3%	524,863	(24.8%)
1/1/1996	3,329,748	2,731,279	(598,469)	121.9%	555,177	(107.8%)
1/1/1997	3,921,336	3,019,539	(901,797)	129.9%	585,120	(154.1%)
1/1/1998	4,715,048	3,083,281	(1,631,767)	152.9%	567,532	(287.5%)
1/1/1999	5,522,967	3,253,070	(2,269,897)	169.8%	614,514	(369.4%)
1/1/2000	5,852,232	3,387,165	(2,465,067)	172.8%	585,740	(420.8%)
1/1/2001	5,777,226	3,647,034	(2,130,192)	158.4%	629,647	(338.3%)
1/1/2002	5,470,221	3,914,007	(1,556,214)	139.8%	666,150	(233.6%)
1/1/2003	4,893,174	4,017,751	(875,423)	121.8%	600,133	(145.9%)

**Schedule of Contributions from the Employer and Other Contributing Entities**

Year	Annual Required Contribution	Contributions <sup>1</sup> From Employer	Percentage Contributed
1993	\$ 99,829	\$ 104,077	100.0%+
1994	81,122	81,122	100.0%
1995	71,104	71,104	100.0%
1996	100,463	100,463	100.0%
1997	106,028	106,028	100.0%
1998	38,420	38,420	100.0%
1999	40,296	40,296	100.0%
2000	0	0	100.0%
2001	0	0	100.0%
2002	0	0	100.0%

The above information was determined as part of the actuarial valuations at the dates listed. Additional information as of the current actuarial valuation:

Amortization Method: Annual Funding Adjustment equal to 10% of Negative Unfunded AAL

Other Actuarial Assumptions and Methods stated previously in report.

<sup>1</sup> Includes general municipal pension system State aid