

Borough of Swarthmore Employee Pension Plan

Actuarial Valuation Report as of January 1, 2021

February 9, 2022



Prepared by:

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Korn Ferry, Inc.
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for

The Borough of Swarthmore

Date: February 9, 2022



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I. Introduction

Act 205

In accordance with the Borough's request, we have completed an actuarial valuation of the Borough's Employee Pension Plan as of January 1, 2021. The valuation was based on the personnel and financial data supplied to us by the Borough. The valuation results are presented in this report.

The Pennsylvania Municipal Pension Plan Funding Standard and Recovery Act was signed into law as Act 205 of 1984. As required, we have prepared the January 1, 2021 valuation and this report thereon in accordance with the provisions of Act 205. For the 2021 filing period, the actuarial valuation reporting forms are required to be submitted to the Municipal Pension Reporting Program by March 31, 2022.

This report relies on a model to determine liabilities which require forecasting into the future. To the best of our knowledge, this report, including the model used, is complete and accurate and all costs and liabilities have been determined in conformance with generally accepted actuarial principles and on the basis of actuarial assumptions and methods which are reasonable (taking into account past experience under the plan and reasonable expectations) and which represent our best estimate of anticipated experience under the plan.

Preamble

Please read the Preamble to the report very carefully. It contains important general information and concepts. It also explains how the results of the January 1, 2021 valuation, as published in this report, will normally form the basis for the Plan's 2022 and 2023 contribution requirements. As indicated on page 3, the Borough's minimum contribution requirement for 2022 is \$3,914 less State Aid.

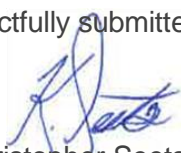
Changes in Actuarial Assumptions and Methods and Benefits since the Last (1/1/2019) Valuation


The mortality rates were updated to the PubG-2010 table with MP2020 projection.

Other important results and products of the January 1, 2021 valuation are presented in the Actuarial, Financial and Demographic Exhibits which make up the bulk of the report.

Respectfully submitted,

By:


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Enrolled Actuary No. 20-8055


Michael Spadaro, FSA, MAAA
Enrolled Actuary No. 20-8969

Date: February 9, 2022



II. Preamble

The Plan

The Borough of Swarthmore sponsors a defined benefit pension plan for its full time non-uniformed employees. A summary of the Plan's provisions is set forth on Exhibit A-8 of this report. The Plan is subject to the funding and reporting requirements of the Pennsylvania Municipal Pension Plan Funding Standard and Recovery Act (Act 205 of 1984). Act 205 requires that an actuarial valuation of the Plan be performed every other year, i.e., as of January 1 of each odd-numbered year. The January 1, 2021 valuation will normally form the basis for the Plan's 2022 and 2023 Financial Requirements and the Borough's 2022 and 2023 Minimum Municipal Obligation (MMO). Similarly, the January 1, 2023 valuation will form the basis for the Plan's 2024 and 2025 Financial Requirements and the Borough's 2024 and 2025 MMO.

MMO Reporting Deadline

For a particular year, the Borough's Chief Administrative Officer must report the Plan's Financial Requirements and the Borough's MMO to Borough Council by the last business day in September of the year preceding the particular year in question. Thus, the Plan's Financial Requirements and the Borough's MMO for 2023 are required to be reported to Borough Council by September 30, 2022.

Financial Requirements

The Plan's 2022 Financial Requirements consist of the following elements:

Normal Cost. This is the cost of benefits allocated to the year 2022 under the Plan's actuarial cost method and the methodology of Act 205. It will be determined by multiplying the Normal Cost Rate as determined in the 2021 valuation by an estimate of 2021 W-2 wages of Plan members.

Administrative Expenses. This is an estimate of the administrative expenses of the Plan expected to be paid from Plan assets in 2022 and is determined by multiplying the Administrative Expense Rate as determined in the 2021 valuation by the estimate of 2021 W-2 wages of Plan members.

Amortization Requirements (if applicable). This is determined in the 2021 valuation and is the amount required to amortize the Plan's Unfunded Actuarial Accrued Liability as of January 1, 2021 over the number of years prescribed under Act 205.

Minimum Municipal Obligation

The Borough's MMO for 2022 is then set equal to the Plan's Financial Requirements for 2022 less the sum of estimated member contributions for 2022 less, if applicable, a funding adjustment equal to 10% of the Plan's surplus with regard to accrued liabilities. The actual contribution that the Borough will be required to make in 2022 will be the 2022 MMO less State Aid deposited in the Plan in 2022.

As indicated on page 3, the Borough's 2022 MMO is \$3,914. Available State Aid is estimated to be \$24,619 resulting in an estimated Borough Contribution requirement of \$0.



III. Borough's Minimum Municipal Obligation and Minimum Contribution Requirement for 2022

1. Estimated 2021 W-2 Wages of Active Members	\$	391,000
2. Normal Cost Rate from 2021 valuation		7.4933%
3. Administrative Expense Rate from 2021 valuation		6.0649%
4. Normal Cost for 2022: (1) x (2)	\$	29,299
5. Administrative Expense for 2022: (1) x (3)		23,714
6. Amortization Requirement for 2022 from 2021 valuation		-
7. Plan's 2022 Financial Requirements: (4) + (5) + (6)	\$	53,013
8. Estimated 2022 Member Contributions		12,500*
9. Funding Adjustment for 2022 from Exhibit A-3		36,599
10. Borough's 2022 Minimum Municipal Obligation: (7) - (8) - (9)	\$	3,914
11. 2022 Estimated State Aid (a restricted revenue receipt)		24,619
12. Borough's Estimated Minimum Contribution Requirement for 2022: (10) - (11)	\$	-

* assumes members will contribution 5.0% of compensation to the Plan in 2022

Note: The Borough's actual minimum contribution requirement for 2022 will be less the actual amount of State Aid deposited in the Plan in 2022.



IV. Actuarial Exhibits

Exhibit A-1: Normal Cost of Plan Benefits

<u>Type of Plan Benefit</u>	<u>Normal Cost Expressed As A</u>	
	<u>Dollar Amount</u>	<u>% of Estimated 2020 W-2 Wages</u>
Retirement	\$28,256	7.4508%
Disability	0	0.0000
Survivor	161	0.0425
Refund of Member Contributions	0	0.0000
Vested Terminations	0	0.0000
Sub Total	\$28,417	7.4933%
Estimated Average Administrative Fees for 2020 and 2021	23,000	6.0649%
Grand Total	\$51,417	13.5582%

Notes:

1. The normal cost for Plan Benefits is the portion of total Plan liabilities for current active members assigned to a particular plan year in accordance with the Entry Age Actuarial Cost Method, and the actuarial assumptions described in Exhibit A-7.
2. In accordance with Act 205 the administrative expenses of the Plan (actuarial, legal, investment, etc.) may be paid from Plan assets.
3. 2020 W-2 wages (annualized) for the Plan's 5 active members as of 1/1/2021 were \$379,232.



IV. Actuarial Exhibits

Exhibit A-2: Actuarial Accrued Liability as of January 1, 2021

1.	<u>Present Value of Benefits a/c Active Members</u>	
	(a) Retirement Benefits	\$ 1,607,705
	(b) Disability Benefits	0
	(c) Survivor Benefits	8,204
	(d) Refund of Member Contributions	0
	(e) Vested Termination	0
	(f) Total	<u>\$ 1,615,909</u>
2.	<u>Present Value of Benefits a/c Deferred Vested Benefits</u>	\$ 0
3.	<u>Member Refunds Due and Unpaid</u>	\$ 0
4.	<u>Present Value of Benefits a/c Benefit Recipients</u>	
	(a) Retirement Benefits	\$ 607,218
	(b) Disability Benefits	0
	(c) Surviving Spouse Benefits	14,690
	(d) Surviving Child Benefits	0
	(e) Other	0
	(f) Total	<u>\$ 621,908</u>
5.	<u>Present Value of Other Plan Benefits*</u>	\$ 8,666
6.	<u>Present Value of All Plan Benefits: (1.f) + (2) + (3) + (4.f) + (5)</u>	\$ 2,246,483
7.	<u>Present Value of Future Normal Costs</u>	\$ 91,383
8.	<u>Actuarial Accrued Liability at 1/1/2021: (6) - (7)</u>	\$ 2,155,100

* Post retirement lump sum death benefits.



IV. Actuarial Exhibits

Exhibit A-3: Unfunded Actuarial Accrued Liability (UAAL)

As of January 1, 2021, the Plan had an Unfunded Actuarial Accrued Liability since the Actuarial Value of Plan Assets were not in excess of the Plan's Actuarial Accrued Liability as follows:

1. Actuarial Accrued Liability at 1/1/2021 (Exhibit A-2)	\$ 2,155,100
2. Actuarial Value of Assets at 1/1/2021 (Exhibit F-1)	<u>2,521,093</u>
3. UAAL at 1/1/2021: (1) - (2)	<u>\$ (365,993)</u>



IV. Actuarial Exhibits

Exhibit A-4: Costs to Amortize the Unfunded Actuarial Accrued Liability

As indicated on Exhibit A-3, Plan Assets exceed the Plan's Actuarial Liability and Present Value of Benefits, as of January 1, 2021. Hence, there is no Unfunded Actuarial Liability and no amortization costs



IV. Actuarial Exhibits

Exhibit A-5: Analysis of Change in the Plan's Unfunded Actuarial Liability from January 1, 2019 to January 1, 2021

	Unfunded Actuarial Accrued Liability at 1/1/2019	\$	174,600
1.	Normal Cost (including expenses) due 1/1/2019		55,977
2.	Normal Cost (including expenses) due 1/1/2020		48,980
3.	Net interest to 1/1/2021		38,197
4.	Total Expected Contributions with interest through 1/1/21		(212,477)
5.	Increase (decrease) due to change in assumptions		(16,546)
6.	Increase (decrease) due to Plan amendments		0
7.	Expected Unfunded Actuarial Accrued Liability at 1/1/2021	\$	88,730
8.	Net actuarial loss (gain) for 2019 and 2020		(454,723)
9.	Actual Unfunded Actuarial Accrued Liability at 1/1/2021	\$	(365,993)
10.			



IV. Actuarial Exhibits

Exhibit A-6: Plan's Disclosure Information

A. Schedule of Funding Progress

<i>Actuarial Valuation Date*</i>	<i>Actuarial Value of Assets (a)</i>	<i>Actuarial Accrued Liability (AAL) - Entry Age (b)</i>	<i>Unfunded AAL (UAAL) (b-a)</i>	<i>Funded Ratio (a/b)</i>	<i>Covered Payroll (c)</i>	<i>UAAL as a % of Covered Payroll ((b-a)/c)</i>
12/31/96	\$ 774,296	\$ 610,465	\$ (163,831)	126.84%	\$ 226,986	(72.18)%
12/31/98	935,488	627,165	(308,323)	149.16%	240,151	(128.39)%
12/31/00	1,087,308	834,513	(252,795)	130.29%	249,936	(101.14)%
12/31/02	941,280	947,639	6,359	99.33%	281,626	2.26%
12/31/04	1,060,701	1,099,074	38,373	96.51%	307,145	12.49%
12/31/06	1,246,311	1,237,510	(8,801)	100.71%	425,442	(2.07)%
12/31/08	943,283	1,542,001	598,718	61.17%	432,614	138.40%
12/31/10	1,106,525	1,534,669	423,144	72.10%	402,494	106.37%
12/31/12	1,361,156	1,600,218	239,062	85.06%	420,292	56.88%
12/31/14	1,647,166	1,965,164	317,998	83.82%	427,220	74.43%
12/31/16	1,937,420	2,025,785	88,365	95.64%	390,582	22.62%
12/31/18	2,232,407	2,407,007	174,600	92.75%	422,150	41.36%
12/31/20	2,521,093	2,155,100	(365,993)	116.98%	379,232	(96.51)%

* Information is not available in all years since, in accordance with Pennsylvania Law (Act 205 of 1984, as amended), valuations are performed biennially. Effective 12/31/02, the Actuarial Value of Assets was determined in accordance with the method described in Exhibit A-8. Prior to 12/31/02, the Actuarial Value of Assets equaled Fair Market Value.

B. Schedule of State (PA) and Borough's Contributions

<i>Year Ended December 31</i>	<i>Annual Required Contribution (a)</i>	<i>State's Contribution (b)</i>	<i>Borough's Annual Required Contribution (c)</i>	<i>Percentage Contributed</i>
1995	\$ 20,370	\$ 20,370	\$ 0	100%
1996	23,755	20,732	3,023	100
1997	25,580	18,423	7,157	100
1998	19,401	19,401	0	100
1999	18,880	19,654	0	100
2000	0	0	0	100
2001	0	0	0	100
2002	18,525	22,673	0	100
2003	19,653	15,659	3,994	100
2004	32,070	30,273	1,797	100
2005	33,045	30,388	2,657	100
2006	33,007	21,158	11,849	100
2007	43,366	26,525	16,840	100
2008	49,641	32,260	17,381	100
2009	48,723	28,838	19,885	100
2010	51,238	29,985	21,253	375
2011	105,243	46,884	58,359	100
2012	95,484	27,494	67,990	100
2013	95,927	26,499	69,428	100
2014	91,381	27,188	54,193	100
2015	82,961	27,188	55,773	100
2016	92,661	27,111	65,250	100
2017	89,498	26,250	63,452	100
2018	45,401	22,700	22,701	100
2019	46,217	27,528	18,689	100
2020	41,937	22,059	19,878	100



IV. Actuarial Exhibits

Exhibit A-7: Summary of Economic and Demographic Actuarial Assumptions and Cost Method

I. Economic Actuarial Assumptions

- A. **Interest.** 7.25% per annum compounded annually.
- B. **Salary Scale.** 3.0% per annum compounded annually.
- C. **Post-Retirement Adjustments.** None assumed.
- D. **Social Security Benefits.** Not applicable.
- E. **Workmen's Compensation Upon Disablement.** Not applicable.

Actuarial Value of Assets as of the current valuation date is determined in accordance with (1) subject to the limitation described in (2) as follows:

- (1) The Actuarial Value of Assets as of the last valuation date plus non-investment increases less non-investment decreases since the last valuation date plus interest credited at the last valuation's assumed interest rate assuming non-investment increases and decreases occur at the mid-point between the last and current valuation date.
- (2) The Actuarial Value of Assets as determined under (1) will be limited to a maximum of 115% and a minimum of 85% of the fair market value of assets as of the current valuation date.

II. Demographic Actuarial Assumptions

- A. **Mortality.** In accordance with the mortality rates set forth in the PubG-2010 mortality table with MP2020 projection.



IV. Actuarial Exhibits

Exhibit A-7: Summary of Economic and Demographic Actuarial Assumptions and Cost Method (continued)

II. Demographic Actuarial Assumptions (continued)

B. Rate of Termination. All current active members are assumed to continue as such (except for deaths and disablements) until attainment of the assumed normal retirement age.

Service at Beginning of Year	Rate of Termination During Year
0 - .99	5%
1 - 1.99	4
2 - 2.99	3
3 - 3.99	2
4 - 4.99	1
5+	0

C. Rate of Disability. 33 $\frac{1}{3}$ % of 2001 OASDI rates.

D. Retirement Age: It is assumed that members will retire upon attainment of age 62 and completion of 5 years of service. Plan members who have reached the assumed retirement age on 1/1/2021 but who have not retired are assumed to retire on 1/1/2022.

E. Marital Status: 80% of active members are assumed married; husbands are assumed to be 2 years older than their wives; Actual marital status of retirees is taken into account.

III. Cost Method

Liabilities and costs have been determined by the Entry Age Actuarial Cost Method.

Changes Since Last (1/1/2019) Valuation

The mortality rates were changed from the PubG-2010 mortality table with MP2019 projection to PubG-2010 mortality table with MP2020 projection.



IV. Actuarial Exhibits

Exhibit A-8: Summary of Plan Provisions as of January 1, 2021

Membership

All individuals in the employ of the Borough, except police officers, hired on or before December 31, 2009 on a full-time basis (minimum of 35 hours per week) are eligible for membership.

Compensation

Compensation includes regular salary plus overtime and other scheduled compensation.

Normal Retirement

Eligibility: Age 58 and 5 years of service.

Amount of Monthly Pension: 2% multiplied by final 36-month average compensation multiplied by years of service (25-year maximum).

Vesting

Eligibility: 5 or more years of service at termination.

Amount of Deferred Monthly Pension: 2% multiplied by final 36-month average compensation multiplied by years of service (25 year maximum). Benefit commences upon member's attainment of age 58. Member can elect to have a reduced benefit commencing before age 58.

Spouse Benefit

If a member dies after meeting the eligibility requirements for normal retirement but before retirement, spouse receives same benefit that would have been payable had the member retired and elected the Joint and 100% Surviving Spouse Annuity Option.

Pre-Retirement Lump Sum Death Benefit

If a member dies before retirement, a lump sum is payable to the member's designated beneficiary as follows: less than 1 year of service - \$1,000; 1 but less than 2 years of service - \$2,000; 2 or more years of service - \$3,000.

Post-Retirement Lump Sum Death Benefit

Upon the death of a retired member, \$6,000 is payable to the member's designated beneficiary.



V. Actuarial Exhibits

Exhibit A-9: Summary of Plan Provisions as of January 1, 2021 (continued)

Disability Benefits

Effective June 11, 2012, the Plan does not provide for any disability benefits.

Form of Pension Payments

The normal form of payment is a monthly annuity for the member's lifetime only. Members may, however, elect to receive an actuarially reduced pension under a form that provides survivor benefits.

Post-Retirement Benefit Increases

The Plan provides for ad-hoc cost of living increases solely at the discretion of the Borough. The Borough provided ad-hoc cost-of-living increases to retirees and beneficiaries of deceased retirees effective January 1, 2004 and January 1, 2005.

Member Contributions

Members may be required to contribute up to 5% of compensation to assist in the funding of Plan benefits. Member contributions accumulate with interest at 6% per annum and would be payable to a member (or beneficiary, if applicable) who terminates without entitlement to vested benefits. Members are assumed to contribute 5% of compensation.

Changes in Plan Provisions Since Last (1/1/2019) Valuation

None.



V. Financial Exhibits

Exhibit F-1: Pension Plan Assets at Fair Market Value as of January 1, 2021

<u>Asset Description</u>	<u>Fair Market Value</u>
Cash and Cash Equivalents	\$ 85,151
Mutual Funds	2,876,750
Accrued Interest	0
Accrued Dividends	0
Accounts Receivable	4,091
	<u>\$ 2,965,992</u>

Note: Accounting Method is Accrual Basis

Actuarial Value of Assets as of January 1, 2021

1. Actuarial Value of Assets at January 1, 2019	\$ 2,232,407
2. Non-investment increases during 2019 and 2020	126,425
3. Non-investment decreases during 2019 and 2020	(228,551)
4. Credited interest for 2019 and 2020: $.1502 \times (1) + .0725 [(2) + (3)]$	<u>327,903</u>
5. Preliminary Actuarial Value of assets as of January 1, 2021	\$ 2,458,184
6. Market Value of Assets at January 1, 2021 x .85	2,521,093
7. Market Value of Assets at January 1, 2021 x 1.15	3,410,891
8. Actuarial Value of Assets at January 1, 2021: (5) but not less than (6) or more than (7)	\$ 2,521,093



V. Financial Exhibits

Exhibit F-2: Asset Reconciliation January 1, 2019 to December 31, 2020

	<u>Year Beginning January 1</u>	
	<u>2019</u>	<u>2020</u>
1. Market Value at January 1	\$ 2,223,245	\$ 2,623,252
2. <u>Revenues During Year</u>		
a) Member Contributions	\$ 19,148	\$ 19,123
b) Municipal Contributions - State Aid Portion	27,528	22,059
c) Municipal Contribution - Local Portion	18,689	19,878
d) Interest	59,903	55,196
e) Dividends	0	0
f) Net Appreciation	390,004	339,770
g) Increase in Cash Surrender Values	0	0
h) Donations	0	0
i) Other Revenues	0	0
j) Total Revenues	\$ 515,272	\$ 456,026
3. <u>Expenses During Year</u>		
a) Total Benefit Payments (Lump Sums)	\$ 0	\$ 0
b) Total Benefit Payments (Monthly)	95,953	87,100
c) Annuity Purchases (Lump Sums)	0	0
d) Refund of member contributions	0	0
e) Insurance Premiums (Life)	0	0
f) Insurance Premiums (Disability)	0	0
g) Administrative Expenses	19,312	26,186
h) Net Depreciation	0	0
i) Net Change in Unrealized Capital Losses	0	0
j) Other Expenses	0	0
k) Total Expenses	\$ 115,265	\$ 113,286
4. Market Value at December 31: (1) + (2.j) - (3.k)	\$ 2,623,252	\$ 2,965,992
• Total Investment Growth During Year	\$ 449,907	\$ 394,966
• Average Assets on Deposit During Year	2,198,295	2,597,139
• Approximate Annual Rate of Return	20.47%	15.21%



V. Financial Exhibits

Exhibit F-3: Administrative Costs Paid From Pension Plan During 2020

<u>Type</u>	<u>Amount</u>
Actuarial	\$ 0
Investment	<u>26,186</u>
	\$ 26,186



VI. Demographic Exhibits

Exhibit D-1: Active Members Demographic Data as of January 1, 2021

	<u>Number</u>	<u>Annual W-2 Wages*</u>
1. Active members @ 1/1/2019	6	\$ 422,150
2. New entrants	0	\$ 0
3. Separations from active service		
a) Refund of contributions	0	\$ 0
b) Separation with deferred benefit	0	0
c) Separation with neither refund or deferred benefit	1	64,905
d) Disability	0	0
e) Death	0	0
f) Retirement with service retirement benefit	<u>0</u>	<u>0</u>
g) Total separations	0	\$ 0
4. Adjustment for salary changes	<u>-</u>	<u>21,987</u>
5. Active members @ 1/1/2021: (1) + (2) - (3.g) + (4)	5	\$ 379,232

* W-2 Wages for year preceding valuation date



VI. Demographic Exhibits

Exhibit D-2: Benefit Recipients Demographic Data as of January 1, 2021

	<u>Number</u>	<u>Annual Benefit</u>
1. Benefit recipients @ 1/1/2019	6	\$ 71,976
2. New benefit recipients	0	\$ 0
3. Terminations		
a) Death	1	\$ 4,434
b) Other	0	0
c) Total Terminations	0	\$ 0
4. Cost-of-living adjustments (ad-hoc)	-	806
5. Benefit recipients @ 1/1/2020: (1) + (2) - (3.c) + (4)	5	\$ 68,348

Terminated Vested Members Demographic Data as of January 1, 2021

	<u>Number</u>	<u>Annual Benefit</u>
1. Terminated vested members @ 1/1/2019	0	\$ 0
2. New terminated vested members	0	\$ 0
3. Terminations		
a) Death	0	\$ 0
b) Retired	0	0
c) Other	0	0
c) Total Terminations	0	\$ 0
4. Terminated vested members @ 1/1/2021: (1) + (2) - (3.d)	0	\$ 0



VII. Risk Measures

Exhibit R-1: Plan Maturity Measures and Additional Risks

Assets are accumulated over participants' careers to pay future benefits. The natural growth of liabilities and assets is referred to as plan maturity. As the plan matures, the size of the plan grows relative to the active members' payroll and will cause changes in the assets or liabilities to have a larger effect on the Minimum Municipal Obligation (MMO). The following table shows a history of the plan's maturity and the effect of a 1% change in plan assets or liabilities on the MMO.

Fiscal Year	Actives Per Retirees	Ratio of Assets to Payroll	Effect on MMO of a 1% Change in Assets	Ratio of Actuarial Accrued Liability to Payroll	Effect on MMO of a 1% Change in Liability
2020	1.0	7.8	\$7,000	5.7	\$5,000

The primary risks associated with plan maturity are listed below:

Investment Risk – Risk that the assumed rate of return is not achieved, and the plan funding level deteriorates

Contribution Risk – Risk that the Borough does not pay the full MMO

Liquidity Risk – Risk that investments cannot be liquidated timely to pay benefit payments due to plan participants

Longevity Risk – Risk that plan participants live longer than expected causing annuities to cost the Plan more