

# **Borough of Swarthmore Police Pension Plan**

## **Actuarial Valuation Report as of January 1, 2021**

February 9, 2022



Prepared by:

Kristopher Seets, FSA, MAAA  
Enrolled Actuary No. 20-8055

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

Korn Ferry, Inc.  
Philadelphia

for

The Borough of Swarthmore

Date: February 9, 2022



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## I. Introduction

In accordance with the Borough's request, we have completed an actuarial valuation of the Borough's Police 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.

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.

### Act 205

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, as amended. 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.

### 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 estimated minimum contribution requirement for the year 2022 is estimated to be \$228,027.

### Changes in Actuarial Assumptions, Methods and Benefits Since the Last (1/1/2019) Valuation

The mortality rates were updated to the PubS-2010 with MP2020 projection. There have been no other changes in Plan provisions or actuarial assumptions since the last valuation.

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:

Kristopher Seets, FSA, MAAA  
Enrolled Actuary No. 20-8055

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

February 9, 2022



## II. Preamble

### The Plan

The Borough of Swarthmore sponsors a defined benefit pension plan for its full-time police officers. 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 MMO for 2022 is \$287,113. Based on estimated State Aid of \$59,086, the Borough's estimated contribution requirement for 2022 is \$228,027.



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

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1. Estimated 2021 W-2 Wages of Active Members	\$	745,000
2. Normal Cost Rate from 2021 valuation		18.3608%
3. Administrative Expense Rate from 2021 valuation		8.0960%
4. Normal Cost for 2022: (1) x (2)	\$	136,788
5. Administrative Expense for 2022: (1) x (3)		60,315
6. Amortization Requirement for 2022 from 2021 valuation		<u>128,936</u>
7. Plan's 2022 Financial Requirements: (4) + (5) + (6)	\$	326,039
8. Estimated 2022 Member Contributions*		38,926
9. Funding Adjustment for 2022 from Exhibit A-3		<u>0</u>
10. Borough's 2022 Minimum Municipal Obligation: (7) - (8) - (9)		287,113
11. 2022 Estimated State Aid (a restricted revenue receipt)		<u>59,086</u>
12. Borough's Estimated Minimum Contribution Requirement for 2022: (10) - (11)	\$	228,027

\* Assumes members will contribute 5.0% of compensation to the Plan in 2022.

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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

Type of Plan Benefit	Normal Cost Expressed As A	
	Dollar Amount	% of 2020 W-2 Wages
Retirement	\$ 68,176	10.0355%
Disability	47,998	7.0653
Survivor	5,996	0.8826
Refund of Member Contributions	2,564	0.3774
Vested Terminations	0	0.0000
Insurance Premiums (Killed in Service Benefit)*	0	0.0000
Sub Total	\$124,734	18.3608%
Estimated Average Administrative Fees for 2020 and 2021	55,000	8.0960
Grand Total	\$179,734	26.4568%

#### 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 (adjusted) for the Plan's 6 active members as of 1/1/2021 were \$679,349.

\* Killed in Service benefit paid by Commonwealth, per Act 55.



## IV. Actuarial Exhibits

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

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1.	<u>Present Value of Benefits a/c Active Members</u>	
	(a) Retirement Benefits	\$ 2,552,136
	(b) Disability Benefits	696,269
	(c) Survivor Benefits	161,929
	(d) Refund of Member Contributions	14,480
	(e) Vested Termination	0
	(f) Total	\$ 3,424,814
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	\$ 3,136,488
	(b) Disability Benefits	1,186,440
	(c) Surviving Spouse Benefits	288,310
	(d) Surviving Child Benefits	0
	(e) Other	0
	(f) Total	\$ 4,611,238
5.	<u>Present Value of Other Plan Benefits</u>	\$ 0
6.	<u>Present Value of All Plan Benefits: (1.f) + (2) + (3) + (4.f) + (5)</u>	\$ 8,036,052
7.	<u>Present Value of Future Normal Costs</u>	\$ 1,164,705
8.	<u>Actuarial Accrued Liability at 1/1/2021: (6) - (7)</u>	\$ 6,871,347

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## 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)	\$ 6,871,347
2.	Actuarial Value of Assets at 1/1/2021 (Exhibit F-1)	<u>6,402,298</u>
3.	UAAL at 1/1/2021: (1) - (2)	\$ 469,049



## IV. Actuarial Exhibits

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

<i>Description of Base</i>	<i>Date Established</i>	<i>Original Amount</i>	<i>Unamortized Balance at 1/1/2021</i>	<i>Amortization Target Date</i>	<i>Amortization Contribution Requirement</i>
"Fresh start" of UAAL	1/1/17	\$1,279,167	\$876,320	12/31/2026	\$173,671
Change in Assumptions	1/1/19	303,632	273,350	12/31/2031	34,759
2017-18 Actuarial Loss	1/1/19	(138,266)	(124,477)	12/31/2031	(15,828)
Change in Assumptions	1/1/21	(15,111)	(15,111)	12/31/2033*	(1,730)
2019-20 Actuarial Gain	1/1/21	(541,033)	(541,033)	12/31/2033*	(61,937)
Total			\$469,049		\$128,936

\* Average working lifetime at 1/1/21 of active members is 13 years.

#### **Aggregated Amortization Target Date** (for increments or decrements of unfunded actuarial liability after 1/1/1985)

* Net unamortized balance at 1/1/2021	\$469,049
* Net amortization contribution	128,936
* Aggregated Amortization Target Date	12/31/2025



## IV. Actuarial Exhibits

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

1.	Unfunded Actuarial Accrued Liability at 1/1/2019	\$	1,258,900
2.	Normal Cost (including expenses) due 1/1/2019		157,501
3.	Normal Cost (including expenses) due 1/1/2020		137,536
4.	Net interest to 1/1/2021		230,743
5.	Total Expected Contributions with interest through 1/1/21		(759,486)
6.	Increase (decrease) due to change in assumptions		(15,111)
7.	Increase (decrease) due to Plan amendments		0
8.	Expected Unfunded Actuarial Accrued Liability at 1/1/2021	\$	<u>1,010,082</u>
9.	Net actuarial loss (gain) for 2019 and 2020		(541,033)
10.	Actual Unfunded Actuarial Accrued Liability at 1/1/2021	\$	<u>469,049</u>



## IV. Actuarial Exhibits

### Exhibit A-6: Plan's Disclosure Information

#### A. Schedule of Funding Progress

Actuarial Valuation Date*	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) - Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
12/31/98	3,326,043	2,046,186	(1,279,857)	162.55%	450,311	(284.22)%
12/31/00	3,656,581	2,594,511	(1,062,070)	140.94%	508,822	(208.73)%
12/31/02	3,229,092	2,796,645	(432,447)	115.46%	532,168	(81.26)%
12/31/04	3,354,417	3,409,672	55,255	98.38%	573,187	9.64%
12/31/06	3,590,477	3,468,256	(122,221)	103.52%	651,335	(18.76)%
12/31/08	2,491,695	3,773,230	1,281,535	66.04%	752,276	170.35%
12/31/10	2,756,653	4,131,669	1,375,016	66.72%	804,919	170.83%
12/31/12	3,198,212	4,656,033	1,457,821	68.69%	840,800	173.38%
12/31/14	3,878,274	5,206,351	1,328,257	74.49%	921,775	144.10%
12/31/16	4,737,123	6,016,290	1,279,167	78.74%	880,894	145.21%
12/31/18	5,551,105	6,810,005	1,258,900	81.51%	698,388	180.26%
12/31/20	6,402,298	6,871,347	469,049	93.17%	679,349	69.04%

\* Information is not available in all years since, in accordance with Pennsylvania Law (Act 205 of 1984, as amended), valuations are performed biennially.

Note: Prior to 12/31/02, the Actuarial Value of Assets equaled Fair Market Value. Effective 12/31/02, the Actuarial Value of Assets was determined in accordance with the method described in Exhibit A-7.

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

Year Ended December 31	Annual Required Contribution (a)	State's Contribution (b)	Borough's Annual Required Contribution (c)	Percentage Contributed
2005	\$ 39,855	\$ 39,855	\$ 0	100
2006	92,267	59,144	33,123	100
2007	98,166	60,046	38,120	100
2008	82,740	53,771	28,969	100
2009	88,684	52,490	36,194	100
2010	92,480	54,121	38,359	100
2011	208,821	93,027	115,794	100
2012	215,002	61,909	153,093	100
2013	255,614	70,610	185,004	100
2014	295,388	69,729	225,659	100
2015	296,783	70,833	225,950	100
2016	312,085	82,255	234,976	100
2017	304,995	74,692	231,053	100
2018	314,970	70,988	234,982	100
2019	295,158	64,641	230,517	100
2020	279,918	51,798	228,120	100



## IV. Actuarial Exhibits

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

#### I. Economic Actuarial Assumptions

- A. **Interest.** 7.5% per annum compounded annually.
- B. **Salary Scale.** 4.5% per annum compounded annually.
- C. **Post-Retirement Adjustments.** None assumed.
- D. **Social Security Benefits.** Not applicable.
- E. **Workmen's Compensation Upon Disablement.** Not applicable.
- F. **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 PubS-2010 Mortality Table with MP2020 projection for all members.
- B. **Rate of Termination.**

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 - 9.99	1
10+	0



## IV. Actuarial Exhibits

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

#### II. Demographic Actuarial Assumptions (continued)

- C. **Rate of Disability.** 100% of 1977 OASDI rates. The service-connected disability benefit is assumed to be 75% of the member's final 36-month average salary.
- D. **Retirement Age:** It is assumed that members will retire upon attainment of age 57 and completion of 27 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

Entry Age Actuarial Cost Method

#### Changes Since Last (1/1/2019) Valuation

The mortality rates were changed to the PubS-2010 with MP 2020 projection for all employees.



## IV. Actuarial Exhibits

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

#### Participation

All full-time police officers of the Borough of Swarthmore become participants as of date of hire.

#### Salary

Regular pay plus overtime and other scheduled compensation.

#### Normal Retirement

**Eligibility:** Age 55 and 25 years of service.

**Amount of Monthly Pension:** 50% of final 36-month average salary plus Service Increment benefit. Service Increment is an additional monthly benefit equal to \$100 for each full year if participant's service exceeds 25 years of service at retirement (not to exceed \$500).

#### Deferred Retirement Option Plan (DROP)

**Eligibility:** Normal Retirement; election to participate is irrevocable

**Amount of Benefit:** Beginning on the effective date of DROP participation and ending on the last day of termination, all monthly pension payments as if the participant retired shall be deposited into an individual DROP participant account. The account will earn between 0% - 4.5% annually. Upon termination, the individual DROP Participant Account shall be paid in a lump sum. In addition, the participant will begin to receive their normal retirement monthly pension.

#### Vesting

**Eligibility:** 12 or more years of service at date of termination.

**Amount of Deferred Monthly Pension:** A percentage of the participant's final 36 month average salary is payable commencing at the member's projected normal retirement date. The percentage is equal to 50% multiplied by the ratio of the participant's service at termination to his projected service at normal retirement.

#### Survivor Benefits

**Eligibility:** Surviving spouse (or eligible children, if no spouse) of a participant who (a) dies after retirement or before retirement but after having met the age and service requirements for normal retirement or (b) is killed in service regardless of age or service.

**Amount of Benefit:** 50% of the pension the participant was receiving or was eligible to receive is continued to spouse or children except, if the participant was killed in service, the survivor pension equals 100% of the participant's monthly salary at time of death.



## IV. Actuarial Exhibits

### Exhibit A-8: Summary of Plan Provisions as of January 1, 2021 (continued)

#### Disability

**Eligibility:** Incurrence of service-connected disability; no service requirement.

**Amount of Monthly Pension:** If disability prevents participant from continuing as a Borough police officer, 75% of final 36 month average salary; If disability prevents any gainful employment and if participant qualifies for Social Security Disability benefits, 100% of final 36 month average salary less 50% of Social Security benefits.

#### Early Retirement

**Eligibility:** 20 or more years of service at date of termination.

**Amount of Immediate Monthly Pension:** The amount of the deferred monthly pension described under Vesting actuarially reduced to reflect early commencement of benefits.

#### Participant Contributions

Participants may be required to contribute up to 5% of compensation to assist in the funding of Plan benefits. Contributions accumulate with interest at 6% per annum and would be payable to a participant (or beneficiary, if applicable) of a participant who terminated without entitlement to vested benefits. Participants are assumed to contribute 5% of compensation for the 1/1/2021 valuation.

#### Cost of Living Increases (Normal and Early Retirement Pensions)

A participant's initial pension is subject to annual cost-of-living increases. A participant's ultimate pension cannot exceed the lesser of (a) 130% of the participant's initial pension and (b) 75% of the salary upon which the participant's initial pension was based.

#### Changes Since Last Valuation

There have been no changes in Plan provisions since the last valuation.





## V. Financial Exhibits

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

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<u>Asset Description</u>	<u>Fair Market Value</u>
Cash and Cash Equivalents	\$ 164,725
Mutual Funds	7,120,574
Interest Receivable	0
Accounts Receivable	9,688
	<hr/>
	\$ 7,294,987

Note: Accounting Method is Accrual Basis

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DROP Account Balance as of 12/31/2020: \$380,496.

Net Market Value of Assets for future benefits: \$7,294,987 - \$380,496 = \$6,914,491

### Actuarial Value of Assets as of January 1, 2021

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1. Actuarial Value of Assets at January 1, 2019	\$ 5,551,105
2. Non-investment increases during 2019 and 2020	640,451
3. Non-investment decreases during 2019 and 2020	(652,134)
4. Credited interest for 2019 and 2020: $.1556 \times (1) + .075 [(2) + (3)]$	<hr/> 862,876
5. Preliminary Actuarial Value of assets as of January 1, 2021	\$ 6,402,298
6. Net Market Value of Assets at January 1, 2021 x .85	5,877,317
7. Net Market Value of Assets at January 1, 2021 x 1.15	7,951,665
8. Actuarial Value of Assets at January 1, 2021: (5) but not less than (6) or more than (7)	\$ 6,402,298

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## V. Financial Exhibits

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

	Year Beginning January 1	
	2019	2020
1. Market Value at January 1	\$ 5,305,946	\$ 6,378,203
2. <u>Revenues During Year</u>		
a) Member Contributions	\$ 32,062	\$ 33,313
b) Municipal Contributions - State Aid Portion	64,641	51,798
c) Municipal Contribution - Local Portion	230,517	228,120
d) Interest	140,377	129,031
e) Dividends	0	0
f) Net Appreciation	924,774	806,542
g) Increase in Cash Surrender Values	0	0
h) Donations	0	0
i) Other Revenues	0	0
j) Total Revenues	\$ 1,392,371	\$ 1,248,804
3. <u>Expenses During Year</u>		
a) Total Benefit Payments (Lump Sums)	\$ 0	\$ 0
b) Total Benefit Payments (Monthly)	281,447	259,953
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	38,667	72,067
h) Net Realized Capital Losses	0	0
i) Net Depreciation	0	0
j) Other (Prior period adjustment)	0	0
k) Total Expenses	\$ 320,114	\$ 332,020
4. Market Value at December 31: (1) + (2.j) - (3.k)	\$ 6,378,203	\$ 7,294,987
• Total Investment Growth During Year	\$ 1,065,151	\$ 935,573
• Average Assets On Deposit During Year	5,309,499	6,368,809
• Approximate Annual Rate of Return	20.06%	14.69%



## V. Financial Exhibits

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

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<u>Type</u>	<u>Amount</u>
Actuarial	\$ 0
Investment	72,067
Miscellaneous	<u>0</u>
	\$ 72,067

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## VI. Demographic Exhibits

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

	<i>Number</i>	<i>Annual W-2 Wages*</i>
1. Active members @ 1/1/2019	6	\$ 698,388
2. New entrants	1	\$ 87,405
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	0	0
d) Disability	0	0
e) Death	0	0
f) Retirement with service retirement benefit	1	116,008
g) Total separations	1	116,008
4. Adjustment for salary changes	-	9,564
5. Active members @ 1/1/2021: (1) + (2) - (3.g) + (4)	6	\$ 679,349

\* W-2 Wages for year preceding valuation date; Annualized for new hires



## VI. Demographic Exhibits

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

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	<u>Number</u>	<u>Annual Benefit</u>
1. Benefit recipients @ 1/1/2019	10	\$ 395,708
2. New benefit recipients	1	\$ 24,778
3. Terminations		
a) Death	0	\$ 0
b) Other	0	0
c) Total Terminations	0	\$ 0
4. Benefit increases	-	10,643
5. Benefit recipients @ 1/1/2021: (1) + (2) - (3.c) + (4)	11	\$ 431,129

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### Terminated Vested Members Demographic Data as of January 1, 2021

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	<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
d) Total Terminations	0	\$ 0
4. Terminated vested members @ 1/1/2021: (1) + (2) - (3.d)	0	\$ 0

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## 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.

<b>Fiscal Year</b>	<b>Actives Per Retirees</b>	<b>Ratio of Assets to Payroll</b>	<b>Effect on MMO of a 1% Change in Assets</b>	<b>Ratio of Actuarial Accrued Liability to Payroll</b>	<b>Effect on MMO of a 1% Change in Liability</b>
2020	0.6	10.7	\$8,000	10.1	\$8,000

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