BUCK

The Town of Middletown

The Town of Middletown Pension Plan

Actuarial Valuation Report

Plan Year: July 1, 2020 – June 30, 2021

February 2021

February 2021

Mr. Marc W. Tanguay
Finance Director
Town Hall
Town of Middletown
350 East Main Road
Middletown, Rhode Island 02842

Dear Mr. Tanguay:

Buck was retained by The Town of Middletown to complete this actuarial valuation of the Town of Middletown Pension Plan. This report presents the results of the valuation for the plan year and the fiscal year ending June 30, 2021, including the actuarially determined contribution.

Purpose of this Report

The plan sponsor can use this report for determining plan contributions. The report may also be used to prepare the plan's and the plan sponsor's audited financial statements.

Use of this report for any other purpose may not be appropriate and may result in mistaken conclusions due to failure to understand applicable assumptions, methodologies, or inapplicability of the report for that purpose. Because of the risk of misinterpretation of actuarial results, Buck recommends requesting its advance review of any statement, document, or filing to be based on information contained in this report. Buck will accept no liability for any such statement, document or filing made without its prior review.

Where presented, references to "funded ratio" and "unfunded accrued liability" often are measured on an actuarial value of assets basis. It should be noted that the same measurements using market value of assets would result in different funded ratios and unfunded accrued liabilities. Moreover, the funded ratio presented is appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the plan if the plan were to settle (i.e. purchase annuities) for a portion or all of its liabilities.

Under the plan sponsor's funding policy of contributing at least the actuarially determined contribution, and assuming no future gains and losses, future expected plan contributions are expected to dwindle to zero and the funded status is expected to converge to 100%.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, changes expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions, applicable law or regulations. Buck performed no analysis of the potential range of such future differences. An analysis of the potential range of such future differences is beyond the scope of this valuation.

Data Used

Buck performed the calculations using participant and financial data as of July 1, 2020 supplied by the Town as of June 30, 2020. Buck did not audit the data, although they were reviewed for reasonableness and consistency with the prior year data. The accuracy of the results of the valuation is dependent on the accuracy of the data.

Use of Models

Actuarial Standard of Practice No. 56 (“ASOP 56”) provides guidance to actuaries when performing actuarial services with respect to designing, developing, selecting, modifying, using, reviewing, or evaluating models. Buck uses third-party software in the performance of annual actuarial valuations and projections. The model is intended to calculate the liabilities associated with the provisions of the plan using data and assumptions as of the measurement date under the funding methods specified in this report. The output from the third-party vendor software is used as input to an internally developed model that applies applicable funding methods and policies to the liabilities derived and other inputs, such as plan assets and contributions, to generate many of the exhibits found in this report. Buck has an extensive review process whereby the results of the liability calculations are checked using detailed sample output, changes from year to year are summarized by source, and significant deviations from expectations are investigated. Other funding outputs and the internal model are similarly reviewed in detail and at a high level for accuracy, reasonability and consistency with prior results. Buck also reviews the third-party model when significant changes are made to the software. The review is performed by experts within the company who are familiar with applicable funding methods as well as the manner in which the model generates its output. If significant changes are made to the internal model, extra checking and review are completed. Significant changes to the internal model that are applicable to multiple clients are generally developed, checked and reviewed by multiple experts within the company who are familiar with the details of the required changes.

Actuarial Certification

Based on the individually reasonable assumptions used in the preparation of this report, and on the data furnished us, we certify that projection of the costs under this plan has been made using generally accepted actuarial principles and practices, and that our actuarially determined contributions make adequate provision for the funding of future benefits.

This report presents a statement of actuarial opinion by the undersigned actuaries. We are Members of the American Academy of Actuaries. We meet the Academy’s Qualification Standards to render the actuarial opinions contained herein. All the undersigned actuaries have reviewed the overall reasonableness and consistency of these results. The report has been prepared in accordance with all applicable Actuarial Standards of Practice, and we are available to answer questions concerning it.

The Table of Contents, which immediately follows, outlines the material contained in the report.

Respectfully submitted,

Buck Global, LLC (Buck)

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Contents

Sections

Section 1 – Summary

This report presents the results of the actuarial valuation of the Pension Plan for the plan year beginning July 1, 2020. In summary, the following is a comparison of the actuarially determined contributions, expenses, assets, liabilities, and participant data for the plan year beginning July 1, 2020 and the prior plan year.

	2020 Plan Year	2019 Plan Year
Normal Cost	$ 6,121	$ 63,008
Actuarial Accrued Liability	59,487,863	59,921,790
Plan Assets	57,320,205	59,878,866
Actuarial Value of Assets	58,824,705	60,059,997
Unfunded Actuarial Accrued Liability	663,158	(138,207)
Valuation Payroll	$ 147,306	$ 528,559
Actuarially Determined Contribution		
Determined on the valuation date	$ 872,125	$ 86,861
% of Valuation Payroll	592.05%	16.43%
Expected Employee Contributions	$ 8,793	$ 32,850
Funded Status on Entry Age Basis[1]		
• Fire Department	96.3%	99.6%
• Public Works	112.8%	107.5%
• Police Department	97.5%	98.4%
• School Custodial	100.0%	100.0%
• School Clerical	100.0%	100.0%
• Town Hall	138.7%	137.9%
• Total	98.9%	100.2%

[1] Actuarial value of assets divided by entry age normal liability. Difference in funded status if market value of assets was employed rather than actuarial value of assets would be immaterial. Funded status as presented here does not represent a funded status calculated on a settlement basis.

Section 1 – Summary (continued)

Actuarially Determined Contribution

The actuarially determined contribution increased from $86,861 for the 2019 plan year to $872,125 for the 2020 plan year.

Please note that since the unfunded liability is recognized immediately, the actuarially determined contribution is more volatile. Although the plan is well funded, asset performance can be volatile, which may trigger a significant change in the target contribution each year. Therefore, the Town may wish to consider alternative funding policies to minimize volatility in actuarially determined contribution levels.

Details regarding the actuarially determined contribution are shown in Section 2.

Plan Assets

The plan sponsor furnished the financial data. The actuarial value of plan assets decreased from $60,059,997 as of June 30, 2019 to $58,824,705 as of June 30, 2020.

Details regarding plan assets are shown in Section 3, Plan Assets.

Plan Participants

The plan sponsor provided the data concerning plan participants as of the valuation date.

Valuation Date	July 1, 2020	July 1, 2019
Number of Participants		
Active	4	7
Terminated Vested	4	4
Disabled	6	6
Retirees and Beneficiaries	123	125
Total	137	142

A reconciliation of the plan participants and a summary of participant characteristics are included in Section 4 of this report.

Actuarial Assumptions and Methods

The assumptions are based on an experience study report dated June 2015, as reviewed and updated in 2018 and 2020. All actuarial assumptions and methods are the same as those used in the prior actuarial valuation, except for the following:

- The Mortality Improvement Scale was changed from MP-2019 to MP-2020 to reflect the most recently available information.
- The salary scale was changed from 5.00% to 3.00% to better reflect anticipated experience.
- The interest rate used to value benefits guaranteed by John Hancock was updated from 2.90% to 1.90% to reflect the change in the annuity market since the prior year.

Section 5 contains a summary of the actuarial assumptions and methods used in this actuarial valuation.

Section 1 – Summary (continued)

Plan Provisions

The actuarial valuation results contained in this report are based on the plan provisions in effect on July 1, 2020. These plan provisions are the same as those used in the prior actuarial valuation. A summary of the plan provisions is in Section 6.

Plan Experience

Plan experience in the 2019-2020 plan year was less favorable than that anticipated under the funding assumptions used in the valuation, which led to the development of an overall experience loss for the year.

The primary sources of the loss were a return on assets that was lower than expected, and retirements that were earlier than expected. The following table quantifies the various sources of gains and losses.

Source (positive numbers indicate a gain, negative numbers a loss)	**Change in Unfunded Accrued Liability**
Demographic	
• Inactive mortality	$ 97,905
• Active mortality	(2,851)
• Retirement	(593,983)
• Termination	(1,995)
• Disability	280
• Other (e.g., data changes, decrement timing, etc.)	206,180
• Total	$ (294,464)
Salary growth	72,330
Contributions in excess of expected amounts	135,894
Investment growth	(423,027)
Total experience gain/(loss)	$ (509,267)

Section 2 – Actuarially Determined Contribution

Actuarially Determined Contribution	Fire	Public Works	Police	School Custodial	School Clerical	Town Hall	Total
1. Normal cost	$ 0	$ 6,121	$ 0	$ 0	$ 0	$ 0	$ 6,121
2. Amortization of unfunded accrued liability[1]	915,075	(620,315)	694,672	0	0	(326,274)	663,158
3. Estimated expenses[2]	58,265	13,183	66,067	1,062	601	2,822	142,000
4. Normal contribution (1. + 2. + 3.)	$ 973,340	$ (601,011)	$ 760,739	$ 1,062	$ 601	$ (323,452)	$ 811,279
5. Interest on 4. to end of the year	73,001	(45,076)	57,055	80	45	(24,259)	60,846
6. Adjustment for overfunding	(557,286)	646,087	(435,560)	(608)	(344)	347,711	0
7. Actuarially determined employer contribution	$ 489,055	$ 0	$ 382,234	$ 534	$ 302	$ 0	$ 872,125
Estimated employee contributions	$ 0	$ 8,793	$ 0	$ 0	$ 0	$ 0	$ 8,793
Ongoing cost for active employees as a percent of payroll (entry age normal cost, plus expenses, projected to year end)	N/A	14.1%	N/A	N/A	N/A	N/A	108.1%

[1] The unfunded actuarial liability is recognized immediately, but not more than necessary to offset the normal cost and expected expenses.
[2] Allocated on the ratio of plan assets.

Section 2 – Actuarially Determined Contribution (continued)

Plan Liabilities	Fire	Public Works	Police	School Custodial	School Clerical	Town Hall	Total
1. Actuarial accrued liability as of the valuation date							
Retired participants and beneficiaries	$ 24,577,182	$ 2,311,711	$25,599,906	$ 439,204	$ 248,999	$ 814,279	$53,991,281
Non-contributing and terminated participants entitled to deferred vested pensions	0	0	1,016,316	678	0	0	1,016,994
Disabled participants	474,485	496,089	1,447,385	0	0	28,568	2,446,527
Present active participants	0	2,033,061	0	0	0	0	2,033,061
Total	$25,051,667	$ 4,840,861	$28,063,607	$ 439,882	$ 248,999	$ 842,847	$59,487,863
2. Assets available to meet liability in (1.)	$24,136,592	$ 5,461,176	$27,368,935	$ 439,882	$ 248,999	$ 1,169,121	$58,824,705
3. Unfunded actuarial accrued liability (1.) - (2.)	$ 915,075	$ (620,315)	$ 694,672	$ 0	$ 0	$ (326,274)	$ 663,158
4. Funded status (2.) ÷ (1.)	96.3%	112.8%	97.5%	100.0%	100.0%	138.7%	98.9%
5. Normal cost							
a. Employer normal cost	$ 0	$ 6,121	$ 0	$ 0	$ 0	$ 0	$ 6,121
b. Expected employee contributions, discounted to beginning of year	0	8,481	0	0	0	0	8,481
c. Total normal cost	$ 0	$ 14,602	$ 0	$ 0	$ 0	$ 0	$ 14,602

Section 2 – Actuarially Determined Contribution (continued)

Amortization Amounts	Fire	Public Works	Police	School Custodial	School Clerical	Town Hall	Total
1. Prior year unfunded actuarial accrued liability	$ 108,675	$ (378,792)	$ 461,997	$ 0	$ 0	$(330,087)	$ (138,207)
2. Prior year normal cost plus expenses	100,946	40,035	72,942	1,289	679	3,117	219,008
3. Interest on 1. and 2. to end of the year	15,722	(25,407)	40,120	97	51	(24,523)	6,060
4. Prior year adjustment for overfunding	(200,953)	364,164	(512,817)	(1,236)	(651)	351,493	0
5. Expected contributions	24,390	0	62,242	150	79	0	86,861
6. Expected unfunded actuarial accrued liability (1.) + (2.) + (3.) + (4.) – (5.)	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
7. Actual unfunded actuarial accrued liability (before assumption, plan or method changes)	$ 827,840	$ (564,307)	$ 569,576	$ 0	$ 0	$(323,842)	$ 509,267
8. (Gain)/Loss (7.) – (6.)	$ 827,840	$ (564,307)	$ 569,576	$ 0	$ 0	$(323,842)	$ 509,267
9. (Gain)/Loss due to assumption changes	$ 87,235	$ (56,008)	$ 125,096	$ 0	$ 0	$ (2,432)	$ 153,891

Section 3 – Plan Assets

Reconciliation of Plan Assets		IPG Contract	Trusted Funds	Total
1.	Assets as of July 1, 2019			
	a. Fund assets as of July 1, 2019	$ 11,009,365	$ 48,801,847	$ 59,811,212
	b. Receivables (employer)	0	125,198	125,198
	c. Receivables (employee)	0	0	0
	d. Payable expenses	0	(57,544)	(57,544)
	e. Plan assets	$ 11,009,365	$ 48,869,501	$ 59,878,866
2.	Income			
	a. Employer Contributions	$ 0	$ 214,704	$ 214,704
	b. Employee Contributions	0	45,532	45,532
	c. Investment Return	517,407	1,825,613	2,343,020
	d. Transfers	(1,398,673)	1,398,673	0
	e. Total	$ (881,266)	$ 3,484,522	$ 2,603,256
3.	Expenses			
	a. Benefit Payments	$ 2,798,219	$ 2,077,960	$ 4,876,179
	b. Administrative Expenses	24,993	112,880	137,873
	c. Investment Expenses	0	94,275	94,275
	d. Total	$ 2,823,212	$ 2,285,115	$ 5,108,327
4.	Assets as of June 30, 2020			
	a. Fund assets (1d. + 2e. – 3d.)	$ 7,304,887	$ 50,068,908	$ 57,373,795
	b. Receivables (employer)	0	0	0
	c. Receivables (employee)	0	0	0
	d. Payable expenses	0	(53,590)	(53,590)
	e. Plan assets	$ 7,304,887	$ 50,015,318	$ 57,320,205

Section 3 – Plan Assets (continued)

Development of the Actuarial Value of Assets

1.	Plan assets as of July 1, 2019	$ 59,878,866
2.	Employee contributions	45,532
3.	Employer contributions	214,704
4.	Expenses	137,873
5.	Benefit payments	4,876,179
6.	Expected investment return at 7.50%	4,312,647
7.	Actual investment return	2,195,155
8.	Investment gain/(loss) [(7.) - (6.)]	(2,117,492)

9. Deferral of gains/(losses)

Year Ending	Gain/(Loss)	Percent Deferred	Amount Deferred
2020	$ (2,117,492)	80%	$ (1,693,994)
2019	$ (1,278,679)	60%	(767,207)
2018	978,418	40%	391,367
2017	2,826,669	20%	565,334
2016	(4,379,535)	0%	0
Total Deferral Amount			$ (1,504,500)

10. Asset values as of July 1, 2020

a.	Plan assets	$ 57,320,205
b.	80% of plan assets	$ 45,856,164
c.	120% of plan assets	$ 68,784,246
d.	Actuarial value of assets [(10.a.) – (9.), but not less than 10.b., nor greater than 10.c.]	$ 58,824,705

Section 3 – Plan Assets (continued)

Allocation of the Actuarial Value of Assets	Fire	Public Works	Police	School Custodial	School Clerical	Town Hall	Total
1. Allocated plan assets as of July 1, 2019	$24,862,710	$ 5,485,573	$28,390,087	$ 78,410	$ (151,235)	$ 1,213,321	$59,878,866
2. Employee contributions	28,839	16,693	0	0	0	0	45,532
3. Employer contributions	98,962	39,248	71,508	1,264	666	3,056	214,704
4. Expenses	57,328	12,806	65,239	121	(408)	2,787	137,873
5. Benefit payments	1,977,213	332,041	2,369,854	56,673	38,572	101,826	4,876,179
6. Expected investment return at 7.50%	1,793,201	400,584	2,040,622	3,798	(12,749)	87,191	4,312,647
7. Actual investment return							2,195,155
8. Allocated investment return [Total (7.) ÷ Total (6.)] × Allocated (6.)	912,747	203,899	1,038,684	1,933	(6,489)	44,381	2,195,155
9. Expected plan assets as of June 30, 2020 [(1.) + (2.) + (3.) – (4.) – (5.) + (8.)]	$23,868,717	$ 5,400,566	$27,065,186	$ 24,813	$ (195,222)	$ 1,156,145	$57,320,205
10. Allocated actuarial value of assets [Allocated (9.) ÷ Total (9.)] × Total actuarial value of assets	$24,495,206	$ 5,542,316	$27,775,574	$ 25,464	$ (200,346)	$ 1,186,491	$58,824,705
11. Adjusted allocated assets[1]	$24,136,592	$ 5,461,176	$27,368,935	$ 439,882	$ 248,999	$ 1,169,121	$58,824,705

[1] For the two groups who have transferred to the State Plan, allocated assets are set equal to the present value of future benefits, and the remaining assets are allocated over the other four groups.

Section 4 – Plan Participant Data

A. Reconciliation of Participant Data

Active Participants	Fire	Public Works	Police	School Custodial	School Clerical	Town Hall	Total
Total as of last valuation	3	4	0	0	0	0	7
Vested terminations							
Non-vested Terminations							
Deaths							
Retirements	(3)						(3)
New disabled							
Transfers to/from State Plan							
New entrants							
Total in this valuation	0	4	0	0	0	0	4

Terminated Vested Participants	Fire	Public Works	Police	School Custodial	School Clerical	Town Hall	Total
Total as of last valuation	0	0	3	1	0	0	4
Vested terminations							
Deaths							
Retirements							
Cash outs							
Adjustments							
Total in this valuation	0	0	3	1	0	0	4

Section 4 – Plan Participant Data (continued)

A. Reconciliation of Participant Data (continued)

Disabled Participants	Fire	Public Works	Police	School Custodial	School Clerical	Town Hall	Total
Total as of last valuation	1	1	3	0	0	1	6
Deaths							
Retirements							
New disabled							
Adjustments							
Total in this valuation	1	1	3	0	0	1	6

Retirees and Beneficiaries	Fire	Public Works	Police	School Custodial	School Clerical	Town Hall	Total
Total as of last valuation	48	9	56	4	3	5	125
Deaths	(1)	(1)	(2)	(1)			(5)
Retirements	3						3
New beneficiaries							
New alternate payees							
Adjustments							
Total in this valuation	50	8	54	3	3	5	123

Section 4 – Plan Participant Data (continued)

A. Active Participant Statistics

	2020	2019
Number	4	7
Average age	49.1	49.4
Average service	27.0	24.7
Average pay	$69,554	$87,357

B. Inactive Participant Statistics as of the Valuation Date

Average Age	Fire	Public Works	Police	School Custodial	School Clerical	Town Hall	Total
Terminated vested participants			54.7	49.9			53.5
Retirees	66.2	69.0	66.4	81.2	80.5	75.1	67.6
Beneficiaries	77.6	79.6	71.8	77.8			75.4
Disabled participants	53.1	54.0	56.0			88.9	60.7

Average Monthly Benefit	Fire	Public Works	Police	School Custodial	School Clerical	Town Hall	Total
Terminated vested participants			$ 2,171	$ 14			$ 1,632
Retirees	$ 4,073	$ 3,066	3,808	1,548	$ 1,069	$ 1,649	3,646
Beneficiaries	1,083	1,002	1,333	1,573			1,205
Disabled participants	3,141	4,165	3,374			224	2,942

Section 5 – Actuarial Assumptions and Methods

Actuarial Funding Assumptions

The experience study report dated June 2015, as reviewed and updated in 2018 and 2020, outlines the most recent comprehensive review of the actuarial assumptions used.

Funding valuation interest rate

7.50% per annum

Valuation of guaranteed benefits

Benefits guaranteed by John Hancock are valued at an interest rate equal to a rate representative of the current annuity market, plus 40 basis points to reflect the eligibility for future dividends. The resulting liability is limited to the contract value as of the measurement date. For the July 1, 2020 valuation, this rate is 1.90%. The prior year rate was 2.90%.

Compensation increase rate

3.00% per annum. The prior year rate was 5.00% per annum.

Retirement age:

Police and Fire Department

Rates according to the following table:

Years of Service	Percent Retiring
Less than 20	0%
20	25%
21 – 24	50%
25 or more	100%

100% upon the attainment of age 58 regardless of service.

All Others

100% at the age at which unreduced benefits are first available.

Mortality

Plan liabilities as of June 30, 2020 were valued using rates taken from *Pub-2010 Public Retirement Plans Mortality Tables Report* from the Society of Actuaries dated January 2019. These rates are applied as follows:

Participant Group	Non-disabled	Disabled
Fire/Police	PubS-2010 Healthy	PubS-2010 Disabled
Public Works, Town Hall, Schools	PubG-2010 Healthy	PubG-2010 Disabled
Contingent survivors	Contingent survivors table (total dataset)	N/A

All rates are amount-weighted and projected generationally from 2010 with Scale MP-2020. Separate annuitant and non-annuitant rate tables were used.

Section 5 – Actuarial Assumptions and Methods (continued)

Actuarial Funding Assumptions (continued)

Disability Incidence

United Auto Workers 1955 Table

Turnover

Sarason Table T-1 Table

Marriage Assumption

90% of males and 75% of females are married, with males four years older than their female spouse.

Expenses

Prior year's expenses, increased for inflation by 3.0%, rounded to the nearest thousand dollars.

Participant Data

Census data used in these calculations was supplied by the employer.

Section 5 – Actuarial Assumptions and Methods (continued)

Funding Methods

Actuarial Cost Method

Entry age normal. The actuarial present value of projected benefits of each individual is allocated on a level basis over the covered salary of the individual between date of hire and assumed date they cease active employment. The portion of this actuarial present value not provided for at the valuation date by the actuarial present value of future entry age normal cost is called the accrued liability.

Assets

Funding

The Actuarial Value of assets is determined using a method that spreads over a period of five years the difference between the actual investment income and the expected income (based on the valuation interest rate applied to the prior year's market value of assets). Resulting value constrained to be within corridor from 80% to 120% of market value.

Amortization Period

The unfunded accrued liability is amortized over a closed six-year period beginning with the July 1, 2012 valuation. As of the July 1, 2018 valuation, any unfunded accrued liability will be fully recognized in the recommended contribution amount.

Changes since the Prior Valuation

The Mortality Improvement Scale was changed from MP-2019 to MP-2020.

The salary scale was changed from 5.00% to 3.00%.

The interest rate used to value benefits guaranteed by John Hancock was updated from 2.90% to 1.90%.

The impact of these changes increased the actuarial accrued liability by approximately $154,000.

Section 6 – Summary of Plan Provisions

	Fire Department	Police Department	School Custodial, Town Hall, and School Clerical	Public Works
Eligibility	The later of the date the employee elects to make contributions to the plan, or the first day of the month coincident with or following the date of hire. Elected employees and Certified employees of the School Department are not eligible to participate. Employees hired after July 1, 2001 become members of the State plan and do not participate in this plan.			
Average Annual Compensation (AAC)	Average earnings during the three-consecutive year period in which the average is the highest.			
Normal Retirement Date	20 years of service.	20 years of service.	Age 65 with five years of service.	Earlier of age 65 or 30 years of service.
Normal Retirement Benefit	2.75% of AAC multiplied by the number of completed years and months of service. Maximum benefit is 75% of AAC.	3.00% (2.50% if less than 20 years of service) of AAC multiplied by the number of completed years and months of service. Maximum benefit for employees hired after 7/1/1986 is 70% of AAC.	2.00% of AAC multiplied by the number of completed years and months of service. Maximum benefit for employees hired after 7/1/1986 is 70% of AAC.	2.50% of AAC multiplied by the number of completed years and months of service. Maximum benefit for employees hired after 7/1/1986 is 70% of AAC.
Normal Form of Annuity	67½% Contingent Annuity, payable to the later of the date the spouse dies, or if she remarries, to the participant's dependent children until they attain age 18.	67½% Contingent Annuity, payable to the later of the date the spouse dies, or if she remarries, to the participant's dependent children until they attain age 18.	Modified Cash Refund	Modified Cash Refund
Employee Contributions	9% of Compensation	7% of Compensation	4% of Compensation	6% of Compensation

Section 6 – Summary of Plan Provisions (continued)

	Fire Department	Police Department	School Custodial, Town Hall, and School Clerical	Public Works
Interest on Employee Contributions	5% per year	5% per year	5% per year	5% per year
Early Retirement Date	None.	None.	Within five years of normal retirement date and completion of ten years of service.	Within five years of normal retirement date and completion of ten years of service.
Early Retirement Benefit	None.	None.	Accrued annuity reduced by 0.5% for each month by which the Early Retirement Date precedes the Normal Retirement Date.	Unreduced.
Disability Eligibility	Totally disabled for six months and eligible to receive disability payments under Social Security after completion of 10 years of service.	Totally disabled for six months and eligible to receive disability payments under Social Security after completion of 10 years of service.	Totally disabled for six months and eligible to receive disability payments under Social Security after completion of 10 years of service.	Totally disabled for six months and eligible to receive disability payments under Social Security after completion of 10 years of service.
Disability Benefit	Accrued benefit at date of disability, payable immediately, unreduced for early commencement. If disability incurred in the line of duty, the benefit is ⅔ of final compensation.	Accrued benefit at date of disability, payable immediately, unreduced for early commencement. If disability incurred in the line of duty, the benefit is ⅔ of final compensation.	Accrued benefit at date of disability, payable immediately, unreduced for early commencement.	Accrued benefit at date of disability, payable immediately, unreduced for early commencement.

Section 6 – Summary of Plan Provisions (continued)

	Fire Department	Police Department	School Custodial, Town Hall, and School Clerical	Public Works
Pre-Retirement Spouse's Benefit Eligibility (In-Service Death While Married)	Completion of 20 years of service.	Completion of 20 years of service.	Within five years of Normal Retirement Date after completion of 10 years of service.	Within five years of Normal Retirement Date after completion of 10 years of service.
Pre-Retirement Spouse's Benefit	67½% of accrued benefit, payable to the later of the date the spouse dies, or if she remarries, to the participant's dependent children until they attain age 18.	67½% of accrued benefit, payable to the later of the date the spouse dies, or if she remarries, to the participant's dependent children until they attain age 18.	50% of accrued benefit reduced for early commencement and adjusted for payment over spouse's lifetime.	50% of accrued benefit reduced for early commencement and adjusted for payment over spouse's lifetime.
Death Benefit (Not Eligible for Spouse's Benefit)	Refund of accumulated employee contributions.	Refund of accumulated employee contributions.	Refund of accumulated employee contributions.	Refund of accumulated employee contributions.
Vesting Provisions	Participant is fully vested in accumulated employee contributions. Participant is 100% vested in Employer provided portion of the benefit after completion of 10 years of service.	Participant is fully vested in accumulated employee contributions. Participant is 100% vested in Employer provided portion of the benefit after completion of 10 years of service.	Participant is fully vested in accumulated employee contributions. Participant is 100% vested in Employer provided portion of the benefit after completion of 10 years of service.	Participant is fully vested in accumulated employee contributions. Participant is 100% vested in Employer provided portion of the benefit after completion of 10 years of service.

Section 7 – Assessment of Risks

Overview

Funding future retirement benefits prior to when those benefits become due involves assumptions regarding future economic and demographic experience. These assumptions are applied to calculate actuarial liabilities, current contribution requirements and the funded status of the plan. However, to the extent future experience deviates from the assumptions used, variations will occur in these calculated values. These variations create risk to the plan. Understanding the risks to the funding of the plan is important. Actuarial Standard of Practice No. 51 ("ASOP 51") requires certain disclosures of potential risks to the plan and provides useful information for intended users of actuarial reports that determine plan contributions or evaluate the adequacy of specified contribution levels to support benefit provisions.

Under ASOP 51, risk is defined as the potential of actual future measurements to deviating from expected future measurements resulting from actual future experience deviating from actuarially assumed experience. It is important to note that not all risk is negative, but all risk should be understood and accepted based on knowledge, judgement and educated decisions. Future measurements may deviate in ways that produce positive or negative financial impacts on the plan.

Outlined below are the main sources of risks associated with the pension plan

- **Investment risk**

  The investment risk is the most significant risk to plan funding and is the main source of experience gain or loss. Actual plan returns may vary significantly from expected returns and could lead to funding deficits and may lead to additional contribution requirements. Currently the funded status of the plan is measured as the difference in plan liabilities and the Actuarial Value of Assets, which smooths investment losses or gains in excess of the expected return over five years. Section 3 shows the significant variability of asset returns over the past five years. While the actuarial value of assets tends to smooth out gains and losses, a sharp decline in assets may necessitate a sudden and large contribution. The plan may wish to consider modifying its amortization basis from immediate recognition of experience gains and losses to a longer period to reduce volatility in contribution requirements.

- **Interest rate sensitivity**

  Since the plan is composed largely of retirees, the main assumptions are the interest rate and mortality. The interest rate is based on the best estimates of the actuary in consultation with the plan sponsor and investment advisor. If the future investment return expectations ever change (i.e., due to a change in asset allocation or market expectations), this will trigger a change in the long-term rate of return assumption (currently 7.50%) used to discount the actuarial accrued liability. A 1% decline in interest rate would increase plan liabilities by about $5.5 million.

- **Mortality experience**

  If retirees live longer than expected, the funding liability and actuarially determined contributions will be higher than forecasted. Plan liabilities have been based on updated standard mortality tables but does not reflect the actual life expectancy of plan participants. Each year that actual experience differs from that expected there could be small changes in plan liabilities that could increase or decrease the funded status resulting in additional contributions.

Section 7 – Assessment of Risks (continued)

- **Plan maturity**

Approximately 90% of the plan's liabilities are attributable to retirees. A high percentage of liability concentrated in retirees indicates a mature plan. An increasing percentage may indicate a need for a less risky and/or more liquid asset allocation which may lead to a lower long-term return on asset assumption and increased costs.