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Town of North Providence, Rhode Island Fire Plan – COLA, Supplemental Benefits, and CPI Payments

July 1, 2020

Interim Actuarial Valuation Report

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At the request of the plan sponsor, this report summarizes the actuarial results of the Town of North Providence, Rhode Island Fire Plan – COLA, Supplemental Benefits, and CPI Payments as of July 1, 2020. The purpose of this report is to communicate the following results of the valuation:

• Funded Status;
• and Determine Recommended Contribution.

This report has been prepared in accordance with the applicable Federal and State laws. Consequently, it may not be appropriate for other purposes. Please contact Nyhart prior to disclosing this report to any other party or relying on its content for any purpose other than that explained above. Failure to do so may result in misrepresentation or misinterpretation of this report.

The results in this report were prepared using information provided to us by other parties. The census and asset information has been provided to us by the employer. We have reviewed the provided data for reasonableness when compared to prior information provided, but have not audited the data. Where relevant data may be missing, we have made assumptions we believe to be reasonable. We are not aware of any significant issues with and have relied on the data provided. Any errors in the data provided may result in a different result than those provided in this report. A summary of the data used in the valuation is included in this report.

Certain assumptions and methods were chosen by the employer and have been disclosed in the "Actuarial Assumptions" section of this report. In our opinion, all actuarial assumptions and methods are individually reasonable and in combination represent our best estimate of anticipated experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

• plan experience differing from that anticipated by the economic or demographic assumptions;
• changes in economic or demographic assumptions;
• increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and
• changes in plan provisions or applicable law.

We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement. This report has been prepared in accordance with generally accepted actuarial principles and practice.

Neither Nyhart nor any of its employees have any relationship with the plan or its sponsor which could impair or appear to impair the objectivity of this report. To the extent that this report or any attachment concerns tax matters, it is not intended to be used and cannot be used by a taxpayer for the purpose of avoiding penalties that may be imposed by law.

Actuarial Certification

This report contains the liability for the COLA, supplemental benefits, and CPI payments only for the Town of North Providence Fire members. All other liabilities associated with the Town of North Providence Fire members are contained in the MERS Valuation Report. The plan provisions in the back of the report detail the information required in order to calculate the COLA, supplemental benefits, and CPI payments and are not meant to suggest that other benefit amounts are included in the liability.

The undersigned are compliant with the continuing education requirements of the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States and are available for any questions.

Nyhart

Scott Gavin, FSA, EA, MAAA Enrollment Number: 20-07543	Lawrence Watts, Jr., FSA, CFA, EA, MAAA Enrollment Number: 20-08496

December 14, 2020
Date

Executive Summary

The actuarial report provides the plan sponsor with several ways to measure the funded status of the pension plan. The following detail is included in the report:

- Actuarial Recommended Contribution
- Asset Performance
- Plan Demographics

This report is filled with actuarial terminology. However, the ultimate objective of the valuation is to provide a rational method of funding the plan. It is necessary to fund the benefit promised by the employer in a manner that is logical and employer friendly, yet safeguards the participants' interest. The actuarially derived contribution, however, is not the true cost of the pension plan. The true cost is illustrated by the following formula:

Ultimate Pension Cost = Benefits Paid - Investment Income + Plan Expenses

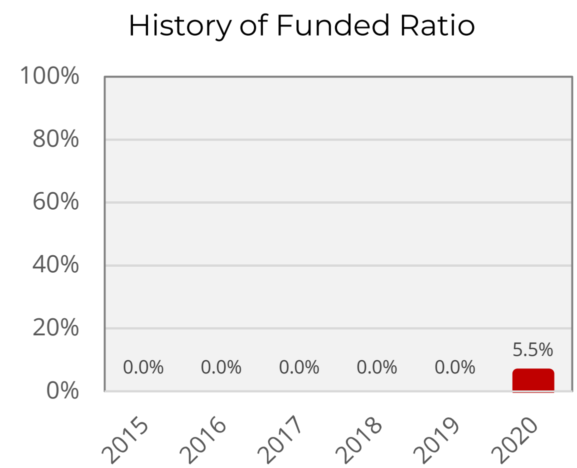
While the plan's liability and normal cost determine the current contribution recommendations, the true cost is controlled only by the "defined" benefit and investment income generated by the underlying assets. The actuarial process only controls the timing of costs.

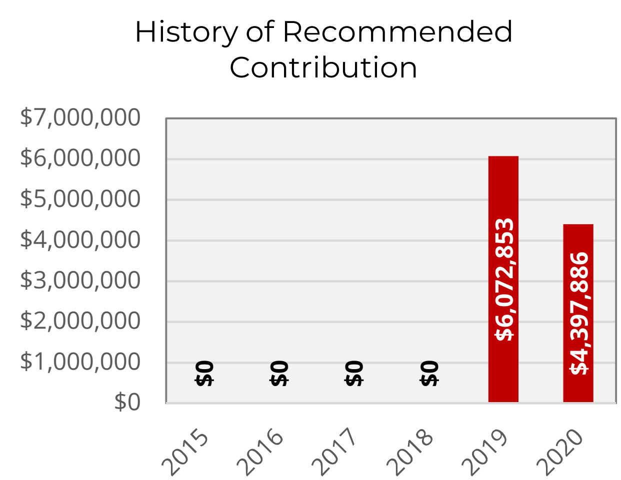
We suggest that a plan sponsor treat the actuarial report as you would treat a scorecard. It is simply a measure of progress toward the ultimate goal of paying all pension benefits when participants retire.

Summary Results

The actuarial valuation's primary purpose is to produce a scorecard measure displaying the funding progress of the plan toward the ultimate goal of paying benefits at retirement. The accrued liability is based on an entry age level percentage of pay.

	July 1, 2019	July 1, 2020
Funded Status Measures		
Accrued Liability	$ 48,469,628	$ 30,906,149
Actuarial Value of Assets	$ 0	$ 1,701,729
Unfunded Actuarial Accrued Liability (UAAL)	$ 48,469,628	$ 29,204,420
Funded Percentage (AVA)	0%	5.51%
Funded Percentage (MVA)	0%	5.51%
Cost Measures		
Actuarial Recommended Contribution	$ 6,072,853	$ 4,397,886
Actuarial Recommended Contribution (as a percentage of payroll)	106.9%	75.2%
Asset Performance		
Market Value of Assets (MVA)	$ 0	$ 1,701,729
Actuarial Value of Assets (AVA)	0	1,701,729
Actuarial Value/Market Value	N/A	N/A
Market Value Rate of Return	N/A	N/A
Actuarial Value Rate of Return	N/A	N/A
Participant Information		
Active Participants	89	89
Terminated Vested Participants	1	1
Retirees and Beneficiaries	84	84
Total	174	174
Expected Payroll	$ 5,680,225	$ 5,850,632





Changes since Prior Valuation and Key Notes

The healthy and disabled tables for generational mortality improvement have been updated from a scale based on assumptions developed from the 2018 Social Security Administration's Trustees' Report to a scale based on assumptions developed from the 2019 Social Security Administration's Trustees' Report. The mortality tables (RP-2014 Blue Collar and RP-2014 Disabled, respectively) and the year in which improvements begin (2006) remain the same. These changes result in a decrease in the liabilities and the actuarial recommended contribution.

The Town has established a trust to begin pre-funding future Fire COLA benefit payments. In addition to the payment of annual benefits from general revenues, as has been done in the past, the Town has committed to contributing $400,000 annually to this trust. Reflecting the development of pre-funding a trust, the assumed interest rate for the funding valuation has been changed from 3.50% to 6.40%. This rate was set in consultation with the Town's auditor and investment advisor, and it is also being reflected in the Plan's associated GASB disclosures. This change results in a decrease in the liabilities and the actuarial recommended contribution relative to the prior assumption.

This report represents a roll-forward interim valuation using census data as of July 1, 2019. This is the second published funding valuation report for the Fire COLA benefit, and it is the first roll-forward interim funding report.

Five Year Valuation Summary

	07/01/2016	07/01/2017	07/01/2018*	07/01/2019	07/01/2020**
Funding					
Accrued Liability	N/A	N/A	$ 25,292,677	$ 48,469,628	$ 30,906,149
Actuarial Value of Assets	N/A	N/A	$ 0	$ 0	$ 1,701,729
Unfunded Actuarial Accrued Liability	N/A	N/A	$ 25,292,677	$ 48,469,628	$ 29,204,420
Funded Percentage	N/A	N/A	0%	0%	5.5%
Total Normal Cost (NC)	N/A	N/A	$ 252,417	$ 1,016,022	$ 409,693
NC as a Percent of Covered Payroll	N/A	N/A	4.8%	17.9%	7.0%
Actual Contribution	N/A	N/A	N/A	$ 2,764,817	TBD
Recommended Contribution	N/A	N/A	N/A	$ 6,072,853	$ 4,397,886
Recommended Contribution (% of Pay)	N/A	N/A	N/A	106.9%	75.2%
Interest Rate	N/A	N/A	7.00%	3.50%	6.40%
Expense Load Assumption	N/A	N/A	N/A	$0	$0
Rate of Return					
Actuarial Value of Assets	N/A	N/A	N/A	N/A	N/A
Market Value of Assets	N/A	N/A	N/A	N/A	N/A
Demographic Information					
Active Participants	N/A	N/A	86	89	89
Terminated Vested Participants	N/A	N/A	1	1	1
Retired Participants	N/A	N/A	55	59	59
Beneficiaries	N/A	N/A	2	2	2
Disabled Participants	N/A	N/A	23	23	23
Total Participants	N/A	N/A	167	174	174
Covered Payroll	N/A	N/A	$ 5,242,932	$ 5,680,225	$ 5,850,632
Average Covered Pay	N/A	N/A	$ 60,964	$ 63,823	$ 65,737

* Uses June 30, 2018 GASB 67/68 Disclosure values since no valuation report was completed

** Interim year roll-forward valuation based on prior year's census data

Identification of Risks

The results presented in this report are shown as single point values. However, these values are derived using assumptions about future markets and demographic behavior. If actual experience deviates from our assumptions, the actual results for the plan will consequently deviate from those presented in this report. Therefore, it is critical to understand the risks facing this pension plan. The following table shows the risks we believe are most relevant to the Town of North Providence, Rhode Island Fire Plan – COLA, Supplemental Benefits, and CPI Payments. The risks are generally ordered with those we believe to have the most significance at the top. Also shown are possible methods by which a more detailed assessment of the risk can be performed.

Type of Risk	Method to Assess Risk
Interest Rate Risk	Projections; Scenario Testing
Investment Return	Scenario Testing; Asset Liability Study
Contribution Risk	Projections and Contribution Strategy; Annual Monitoring
Demographic Risk	Projections; Stress Testing
Political Risk	Scenario Testing

Plan Maturity Measures - July 1, 2020

Each pension plan has a distinct life-cycle. New plans promise future benefits to active employees and then accumulate assets to pre-fund those benefits. As the plan matures, benefits are paid and the pre-funded assets begin to decumulate until ultimately, the plan pays out all benefits. A plan's maturity has a dramatic influence on how risks should be viewed. The following maturity measures illustrate where the Town of North Providence, Rhode Island Fire Plan – COLA, Supplemental Benefits, and CPI Payments falls in its life-cycle.

Duration of Liabilities: 16.1

Duration is the most common measure of plan maturity. It is defined as the sensitivity of the liabilities to a change in the interest rate assumption. The metric also approximates the weighted average length of time, in years, until benefits are expected to be paid. A plan with high duration is, by definition, more sensitive to changes in interest rates. A plan with low duration is more susceptible to risk if asset performance deviates from expectations as there would be less time to make up for market losses in adverse market environments while more favorable environments could result in trapped surplus from gains. Conversely, high duration plans can often take on more risk when investing, and low duration plans are less sensitive to interest rate fluctuations.

Demographic Distribution - Ratio of Actively Accruing Participants to All Participants: 50.9%

A plan with a high ratio is more sensitive to fluctuations in salary and statutory changes. A plan with a low ratio is at higher risk from demographic experience. Such a plan should pay close attention to valuation assumptions as there will be less opportunity to realize future offsetting gains or losses when current experience deviates from assumptions. Plans with a low ratio also have limited opportunities to make alterations to plan design to affect future funded status.

Asset Leverage - Ratio of Payroll for Plan Participants to Market Value of Assets: 343.8%

Younger plans typically have a large payroll base from which to draw in order to fund the plan while mature plans often have a large pool of assets dedicated to providing benefits to a population primarily consisting of members no longer on payroll. Plans with low asset leverage will find it more difficult to address underfunding, as the contributions needed to make up the deficit will represent a higher percentage of payroll than for a plan with high asset leverage.

Benefit Payment Percentage - Ratio of Annual Benefit Payments to Market Value of Assets: 62.5%

As a plan enters its decumulation phase, a larger percentage of the pre-funded assets are paid out each year to retirees. A high percentage is not cause for alarm as long as the plan is nearly fully funded. However, such a plan is more sensitive to negative asset performance, especially if cash contributions are not an option to make up for losses.

Assets and Liabilities

The basic building blocks of the actuarial report are contained in this section. These include:

- Actuarial Accrued Liabilities
- Asset Information
- Summary of Contributions

Roll Forward of Actuarial Accrued Liability

A plan's Actuarial Accrued Liability will change from one year to the next. It increases due to benefit accruals (Normal Cost) and interest, and it decreases as benefits are paid. Demographic experience, assumptions changes, and plan changes can cause increases or decreases. For the interim valuation, the current year's liability is based off of last year's census database, so demographic experience is $0. However, the liability reflects any updates to assumptions or plan changes made during the prior plan year and is rolled forward with interest.

	July 1, 2020
1. Actuarial Accrued Liability prior year	$48,469,628
2. Increases or decreases due to:	
(a) Normal Cost	$1,016,022
(b) Interest Adjustment	$1,890,989
(c) Benefits Paid	($1,063,089)
(d) Demographic Experience and Valuation Refinements	$0
(e) Interest Rate Assumption Changes	($19,235,751)
(f) Mortality Assumption Changes	($171,650)
(g) Other Assumption Changes	$0
(h) Plan Changes*	$0
3. Actuarial Accrued Liability current year	$30,906,149

Assets and Liabilities

Asset Information

The amount of assets backing the pension promise is the most significant driver of volatility and future costs within a pension plan. The investment performance of the assets directly offsets the ultimate cost.

	July 1, 2020
Market Value Reconciliation	
Market value of assets, beginning of prior year	$0
Contributions	
Employer contributions	$2,764,817
Employee contributions	$0
Total	$2,764,817
Investment income	$1
Benefit payments	($1,063,089)
Administrative expenses	$0
Market value of assets, beginning of current year	$1,701,729
Historical Rates of Return	
Rate of return for 2019	N/A
Rate of return for 2018	N/A
Rate of return for 2017	N/A
Rate of return for 2016	N/A
Actuarial Value of Assets	
Value at beginning of current year	$1,701,729

Monitoring the pension plan's investment performance is crucial to eliminating surprises.

Summary of Contributions

Below is a summary of historical and recommended contributions.

Recommended Contributions for Current Plan Year*

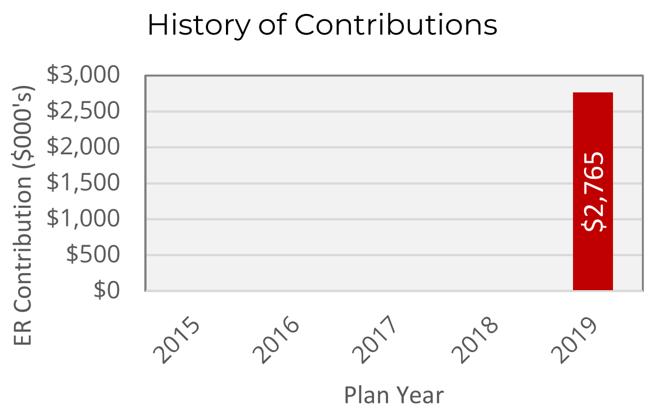
Contribution Date	Amount
January 1, 2021	$4,397,886
Totals	**$4,397,886**

Recommended Contributions for Prior Plan Year*

Contribution Date	Amount
January 1, 2020	$6,072,853
Totals	**$6,072,853**

Actual Contributions for Prior Plan Year*

Contribution Date	Amount
June 26, 2020	$2,764,817
Totals	**$2,764,817**



***Date is an approximation for timing of all contributions made throughout the year. Total includes pay- go contributions of benefit payments from General Revenues.**

Funding Results

The basic building block of the actuarial report is contained in this section. This includes:

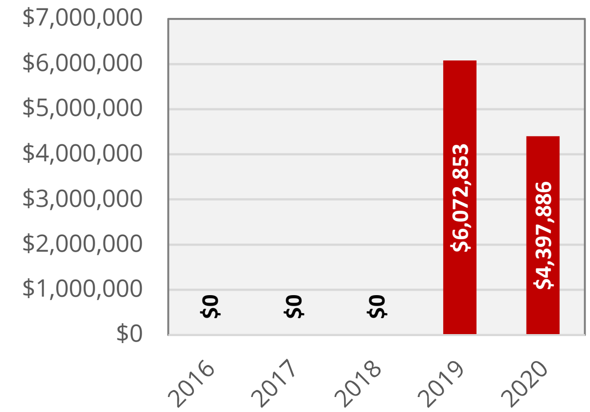
- Recommended Contribution

Development of Actuarial Recommended Contribution

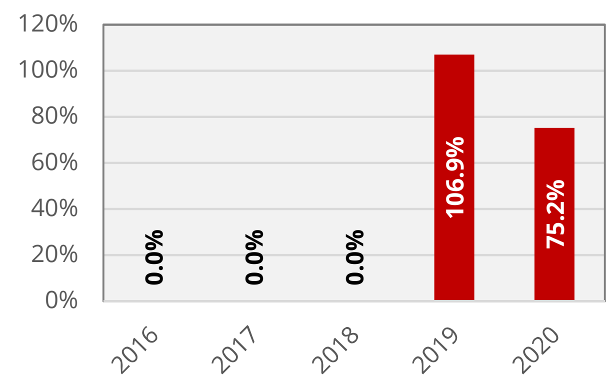
The recommended contribution is the annual amount necessary to fund the plan according to funding policies and/or applicable laws.

Recommended Contribution	July 1, 2020
1. Actuarial Accrued Liability	$30,906,149
2. Actuarial value of assets	$1,701,729
3. Unfunded accrued liability, (1)-(2)	$29,204,420
4. Normal Cost	
a. Total normal cost	$409,693
b. Expected participant contributions	$0
c. Net normal cost	$409,693
5. Net Amortization Payment	$3,853,875
6. Interest at Valuation Rate on (4) + (5)	$134,318
7. Actuarial recommended funding contribution for valuation year	$4,397,886
8. Valuation payroll	$5,850,632
9. Calculated contribution as a percentage of payroll, (7)/(8)	75.2%
10. Expected payroll for July 1, 2021 – June 30, 2022, (8) x 1.03	$6,026,151
11. Estimated Actuarial recommended funding contribution for FYE June 30, 2022, (10) x (9)	$4,529,857

History of Recommended Contribution



History of Recommended Contribution (% of Payroll)



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Data, Assumptions, and Plan Provisions

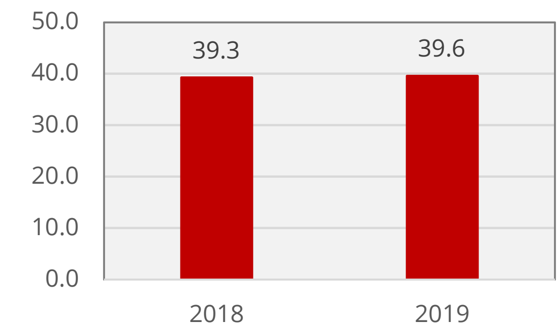
- Demographic Information
- Plan Provisions
- Assumptions and Methods

Demographic Information

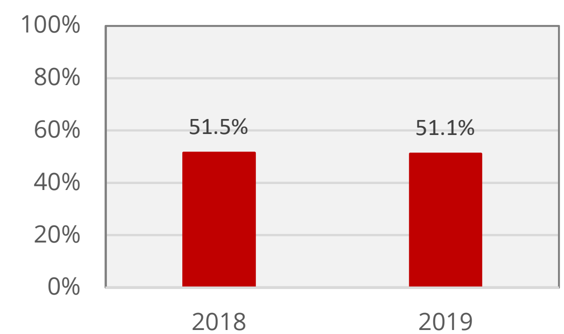
The foundation of a reliable actuarial report is the participant information provided by the plan sponsor. Monitoring trends in demographic information is crucial for long-term pension planning.

	July 1, 2018*	July 1, 2019**
Participant Counts		
Active Participants	86	89
Retired Participants	55	59
Beneficiaries	2	2
Disabled Participants	23	23
Terminated Vested Participants	1	1
Total Participants	167	174
Active Participant Demographics (Ongoing)		
Average Age	39.3	39.6
Average Service	12.5	12.8
Average Compensation	$60,964	$63,823
Total Covered Payroll	$5,242,932	$5,680,225

History of Average Active Participant Age



History of Active Participant Ratio



*July 1, 2018 Values are from June 30, 2018 GASB 67/68 Disclosure.
**July 1, 2020 rolled-forward payroll of $5,850,632 reflects 3% assumed increase.

Demographic Information (continued)

	July 1, 2018*	July 1, 2019**
Retiree Statistics		
Average Age	59.8	60.4
Average Monthly Benefit	$3,186	$3,055
Beneficiary Statistics		
Average Age	65.0	66.0
Average Monthly Benefit	$2,374	$2,374
Terminated Participant Statistics		
Average Age	56.0	57.0
Average Monthly Benefit	$3,709	$3,709
Disabled Participant Statistics		
Average Age	57.9	58.9
Average Monthly Benefit	$2,585	$2,585

* July 1, 2018 values are from June 30, 2018 GASB 67/68 Disclosure.
**July 1, 2020 valuation based on roll-forward of July 1, 2019 census data.

Monitoring the average age of the population is important due to the relationship of actuarial cost to age. Generally speaking, an older population generates a higher actuarial cost.

Changes in the ratio of active to retired participants can be a significant driver of costs in a volatile asset market.

Participant Reconciliation

	Active	Terminated Vested	Disabled	Retired	Beneficiaries	Totals
Prior Year* (7/1/2018)	86	1	23	55	2	167
Active						
To Retired	(1)	0	0	1	0	0
Additions	4	0	0	3**	0	7
Departures	0	0	0	0	0	0
Current Year (7/1/2019)	89	1	23	59	2	174

* July 1, 2018 Values are from June 30, 2018 GASB 67/68 Disclosure.

**There were 3 alternate payees of participants in payment status that were added to the 2019 census data.

Active Participant Schedule (7/1/2019)

Active participant information grouped based on age and service.

	Years of Service									
Age Group	**0 to 5**	**5 to 10**	**10 to 15**	**15 to 20**	**20 to 25**	**25 to 30**	**30 to 35**	**35 to 40**	**40 & Up**	**Total**
Under 25	7									7
25 to 29	11	2								13
30 to 34	8	6	2							16
35 to 39	1	3	8							12
40 to 44			4	4						8
45 to 49			1	4	6					11
50 to 54			1	3	4	6				14
55 to 59			1	3		2				6
60 to 64					1			1		2
65 to 69										0
70 & up										0
Total	27	11	17	14	11	8	0	1	0	89

Plan Status:

The plan is open to new participants and all participants are eligible to accrue additional benefits.

Eligibility for Participation:

Firefighters employed by the Town of North Providence. The Town is a participating member in MERS.

Credited Service:

For Vesting - full years and completed months from date of hire.

For Benefit Accrual - full years and completed months from date of hire.

Final Average Compensation:

Prior to July 1, 2012, the average of the participant's 3 highest consecutive years of compensation. On or after July 1, 2012, the average of the participant's 5 highest consecutive years of compensation. Upon termination, the highest of the two final average compensation definitions previously listed will be the participant's final average compensation for purposes of determining the participant's accrued benefit.

Normal Retirement Benefit:

Eligibility	Retirement prior to July 1, 2012:	-Completion of 20 years of contributing service regardless of age
	Retirement on or after July 1, 2012:	-Completion of 25 years of contributing service and attaining age 50
		-Completion of 27 years of contributing service regardless of age
		-If less than 25 years of contributing service, SSNRA
		-Attainment of age 52 if as of June 30, 2012 had at least 10 years of contributing service, attained age 45 and had a Prior Retirement Date before age 52
		-Prior Retirement Date if continue to work and contribute until that date, but will only receive benefit as of June 30, 2012, unreduced

Benefit	Maximum of:	(i) 2.00% times Final Average Compensation times credited service, capped at 37.5 years. The maximum benefit is 75% of Final Average Compensation.
		(ii) 2.50% times Final Average Compensation times credited service prior to July 1, 2012 plus 2.00% times Final Average Compensation times credited service on or after July 1, 2012. The maximum benefit is 75% of Final Average Compensation
		(iii) If a participant retires after attaining age 57 with 30 years of credited service, the participant receives the greater or (i) or (ii) described above or 2.25% times Final Average Compensation times credited service

Early Retirement Benefit:

Eligibility Within 5 years of reaching their retirement eligibility date and has 20 or more years of service

Benefit Actuarially reduced normal retirement benefit

Occupational Disability Benefit:

Eligibility Employees who are injured or who contract illness in the line of duty

Benefit 2/3 of salary at the time of disability, payable as a life annuity

Normal form of payment:

The normal form of payment for a married participant is a monthly benefit payable for the participant's lifetime with 67.5% of such benefit continuing to a surviving spouse. The normal form of payment for an unmarried participant is a monthly benefit payable for the participant's lifetime with no further payments after the participant's death.

Cost of Living Increases:

Eligibility Any retiree that retired with 20 or more years of service and their surviving spouses
Any disabled retiree that is receiving an occupational disability benefit

Benefit 3.00% Simple COLA paid each January 1 for all retirees that retired with 20 or more years of service
3.00% Simple COLA paid each January 1 for all occupationally disabled retirees. If the member became occupationally disabled after July 1, 2015 and before attaining 20 years of service, COLA payments will begin on January 1 following their 20th employment anniversary. For liability purposes, COLA payments are treated as beginning immediately.

Supplemental Benefit:

Certain disabled participants, per instruction from the Town, are eligible to receive a supplemental benefit equal to the ordinary occupational disability benefit minus a reduction percentage set by the state. This is payable as a monthly benefit until the participant's death.

CPI Payments:

CPI Payments are made to all disabled participants beginning on their 25th anniversary of employment. The payments are calculated based off the percentage increase in the CPI-U using 1967 as the base table. Each year the percentage increase is applied to the original annual benefit plus any CPI payments made since CPI payments began.

Any participants that become disabled after July 1, 2018 will not receive CPI payments.

Plan Provisions Not Included

We are not aware of any plan provisions relevant to the prepared report that are not included.

Adjustments Made for Subsequent Events

We are not aware of any event following the measurement date and prior to the date of this report that would materially impact the results of this report.

Changes Since Prior Report

There are no changes from the prior year.

Except where otherwise indicated, the following assumptions were selected by the plan sponsor with the concurrence of the actuary. Prescribed assumptions are based on the requirements of the relevant law, the Internal Revenue Code, and applicable regulation. The actuary was not able to evaluate the prescribed assumptions for reasonableness for the purpose of the measurement.

Valuation Date: July 1, 2020

Participant Information as of: July 1, 2019

Participant information was provided by the Town and checked against the MERS report for reasonability.

Interest Rate *(CO):* 6.40% This assumption is based on direction from the plan's auditor.

Long Term Rate of Return *(CO):* 6.40% This assumption is based on direction from the plan's auditor.

Inflation *(FE):* 2.00% This assumption is based on direction from the plan's auditor.

Cost of Living Increases *(FE):* 3.00% Simple COLA paid annually on January 1.

CPI Payments *(FE):* Any disabled retiree currently receiving a CPI payment is assumed to receive a 5% increase in their CPI payment from the prior year. This was determined to be a reasonable estimation of how the CPI payments work and flow off the CPI-U 1967 base table.

Salary Projection Scale *(FE):* Salary projections are a combination of service-related increases plus a flat 3.00% annual increase

Years of Service	Service-Related Component	Total
1	11.0%	14.0%
2	10.0%	13.0%
3	8.0%	11.0%
4	5.0%	8.0%
5	3.5%	6.5%
6	4.0%	7.0%
7-8	1.5%	4.5%
9+	1.0%	4.0%

The salary projection scale is based off assumptions for police and fire members outlined in the Municipal Employees Retirement System (MERS) Actuarial Valuation Report as of June 30, 2019

Supplemental Benefits *(FE):*

One in five participants that become disabled will receive a supplemental disability benefit in an amount of 50% of their regular monthly benefit. This benefit is payable immediately upon disability until a participant's death. The frequency and amount of this benefit was determined to be a reasonable approximation based on the current population of disabled participants receiving this benefit.

Retirement Rates *(FE):*

Service	Rate
20	12.0%
21-23	10.0%
24	12.0%
25	14.0%
26	16.0%
27	18.0%
28-29	20.0%
30-34	35.0%
35+	100%

The retirement rates are based off assumptions for police and fire members outlined in the MERS Actuarial Valuation Report as of June 30, 2019. All employees are assumed to retire upon attaining 35 years of service. It is also assumed that participants do not retire until they can receive their benefit unreduced.

Withdrawal Rates *(FE):*

See sample rates below.

Service	Rate
5	2.6506%
10	1.4342%
15	0.7714%
20+	0.0000%

The withdrawal rates are based off assumptions for police and fire members outlined in the MERS Actuarial Valuation Report as of June 30, 2019

Disability Rates *(FE):* See sample rates below.

Age	Accidental Rate
25	0.170%
30	0.220%
35	0.290%
40	0.440%
45	0.720%
50+	1.210%

The disability rates are based off the accidental disability rates for police and fire members assumed and outlined in the MERS Actuarial Valuation Report as of June 30, 2019

Mortality *(FE)*:

Healthy: RP-2014 Blue Collar Mortality with generational improvements projected beginning in 2006 based on Social Security Administration's assumptions developed from the 2019 Trustees' Report

Disabled: RP-2014 Disabled Mortality with generational improvements projected beginning in 2006 based on Social Security Administration's assumptions developed from the 2019 Trustees' Report

As the plan is not large enough to have credible experience, mortality assumptions are set to reflect general population trends.

Marital Status and Ages *(FE):* 80% of Participants assumed to be married with wives assumed to be 3 years younger than husbands.

Funding Method: Liabilities in the report are based on application of an Entry Age Normal cost method.

In determining the Actuarially Recommended Contribution, the excess of the entry age actuarial accrued liability over the actuarial value of plan assets is amortized over a layered, closed 10-year period as a level percentage of pay. For this purpose, payroll is assumed to grow at 3.0% annually. Similarly, payroll is assumed to grow 3.0% annually for roll-forward purposes.

Asset Valuation Method: Fair market value of assets

Changes Since Prior Report:

The healthy and disabled tables for generational mortality improvement have been updated from a scale based on assumptions developed from the 2018 Social Security Administration's Trustees' Report to a scale based on assumptions developed from the 2019 Social Security Administration's Trustees' Report. The mortality tables (RP-2014 Blue Collar and RP-2014 Disabled, respectively) and the year in which improvements begin (2006) remain the same. These changes result in a decrease in the liabilities and the actuarial recommended contribution.

The assumed interest rate was changed from 3.50% to 6.40%. This change results in a decrease to the calculated liabilities and the actuarial recommended contribution.

FE indicates an assumption representing an estimate of future experience
MD indicates an assumption representing observations of estimates inherent in market data
CO indicates an assumption representing a combination of an estimate of future experience and observations of market data

Other Measurements

The actuarial report also shows the necessary items required for plan reporting and any state requirements.

- Exhibit 1 – Schedule of Amortizations

Other Measurements

Exhibit 1 - Schedule of Amortizations

Date Established	Remaining Period (Years)	Outstanding Balance	Annual Payment
07/01/2019	9	$45,039,434	$5,678,613
07/01/2020	10	($15,835,014)	($1,824,738)
Total		$29,204,420	$3,853,875