



Town of Narragansett Pension Plan

July 1, 2019
Actuarial Valuation Report

Town of Narragansett

Actuarial Valuation as of July 1, 2019

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At the request of the plan sponsor, this report summarizes the Town of Narragansett Pension Plan as of July 1, 2019. The purpose of this report is to communicate the following results of the valuation:

- Funded Status; and
- Actuarially Determined Contribution as of July 1, 2019 for the plan year ending June 30, 2021

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 information has been provided to us by the Town. Asset information has been provided to us by the Board. 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.

The actuarial assumptions and methods were chosen by the Board. 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.

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


Elizabeth A. Wiley, FSA, EA

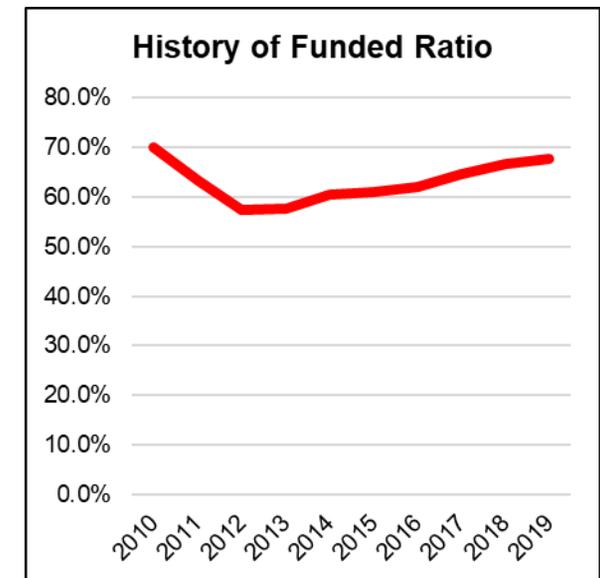

Carter M. Angell, FSA, EA, MAAA

December 6, 2019
Date

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

Valuation Date For Plan Year Ending	July 1, 2018 June 30, 2020	July 1, 2019 June 30, 2021
Funded Status Measures		
Entry Age Accrued Liability	\$140,878,874	\$147,346,509
Actuarial Value of Assets	94,104,936	99,830,602
Unfunded Accrued Liability	\$46,773,938	\$47,515,907
Funded Percentage (AVA)	66.8%	67.8%
Funded percentage (MVA)	64.5%	66.4%
Cost Measures		
Actuarially Determined Contribution	\$6,080,003	\$6,343,867
Actuarially Determined Contribution (as a percentage of projected payroll)	41.9%	43.1%
Asset Performance		
Market Value of Assets (MVA)	\$90,834,555	\$97,816,042
Actuarial Value of Assets (AVA)	\$94,104,936	\$99,830,602
Actuarial Value/Market Value	103.6%	102.1%
Participant Information		
Active Participants	247	250
Terminated Vested Participants	20	22
Retirees, Beneficiaries, and Disabled Participants	210	226
Total	477	498
Total Expected Payroll For Plan Year Ending	\$14,152,836	N/A
Projected Payroll For Plan Year Ending	\$14,510,746	\$14,718,949



Changes Since Prior Valuation and Key Notes

There have been no changes to the plan provisions since the last valuation.

The mortality for municipal members has been updated from the RP-2014 Mortality Table with generational improvements from 2006 based on assumptions from the 2017 SSA Trustee's Report to the RP-2014 Mortality Table with generational improvements from 2006 based on assumptions from the 2018 SSA Trustee's Report. This change caused a decrease in the funding liability.

The mortality for police and fire members has been updated from the RP-2014 Blue Collar Mortality Table with generational improvements from 2006 based on assumptions from the 2017 SSA Trustee's Report to the RP-2014 Blue Collar Mortality Table with generational improvements from 2006 based on assumptions from the 2018 SSA Trustee's Report. This change caused a decrease in the funding liability.

The mortality for disabled participants has been updated from the RP-2014 Disabled Mortality Table with generational improvements from 2006 based on assumptions from the 2017 SSA Trustee's Report to the RP-2014 Disabled Mortality Table with generational improvements from 2006 based on assumptions from the 2018 SSA Trustee's Report. This change caused a decrease in the funding liability.

Five Year Valuation Summary

	07/01/2015	07/01/2016	07/01/2017	07/01/2018	07/01/2019
Funding					
Accrued Liability	\$121,691,129	\$128,970,688	\$134,830,699	\$140,878,874	\$147,346,509
Actuarial Value of Assets	\$74,427,566	\$79,965,053	\$87,163,231	\$94,104,936	\$99,830,602
Unfunded Actuarial Accrued Liability	\$47,263,563	\$49,005,635	\$47,667,468	\$46,773,938	\$47,515,907
Funded Percentage	61.2%	62.0%	64.6%	66.8%	67.8%
Normal Cost (NC)	\$2,932,008	\$2,971,240	\$2,955,588	\$2,959,880	\$3,007,323
NC as a Percent of Covered Payroll	22.6%	21.8%	21.4%	21.2%	21.3%
Actual Contribution	\$5,190,005	\$5,399,268	\$5,957,877	\$6,133,571	TBD
Recommended Contribution	\$5,082,997	\$5,428,475	\$5,858,887	\$6,057,902	\$6,080,003
Recommended Contribution (% of Pay)	40.1%	40.2%	41.4%	42.1%	41.9%
Interest Rate	7.2%	7.2%	7.2%	7.2%	7.2%
Rate of Return					
Actuarial Value of Assets	9.2%	5.5%	6.5%	5.7%	4.4%
Market Value of Assets	0.6%	0.4%	10.4%	5.9%	6.0%
Demographic Information					
Active Participants	255	253	250	247	250
Terminated Vested Participants	19	18	17	20	22
Retired Participants	163	167	170	185	197
Beneficiaries	11	13	12	10	13
Disabled Participants	13	13	13	15	16
Total Participants	461	464	462	477	498
Covered Payroll	\$12,984,298	\$13,607,598	\$13,835,881	\$13,952,640	\$14,152,836
Average Covered Pay	\$50,919	\$53,785	\$55,344	\$56,488	\$56,611

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 Hendricks Regional Health Employees' Retirement Plan. 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
Investment Return	Scenario Testing; Asset Liability Study
Contribution Risk	Scenario Testing
Participant Longevity	Projections and Contribution Strategy
Salary Growth	Stress Testing
Demographic Risk	Stress Testing

Plan Maturity Measures - July 1, 2019

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 Narragansett Pension Plan falls in its life-cycle.

Duration of Liabilities: 13.5

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: 42.2%

A plan with a high ratio is more sensitive to fluctuations in salary (if a salary-based plan) 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: 14.5%

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: 6.3%

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.

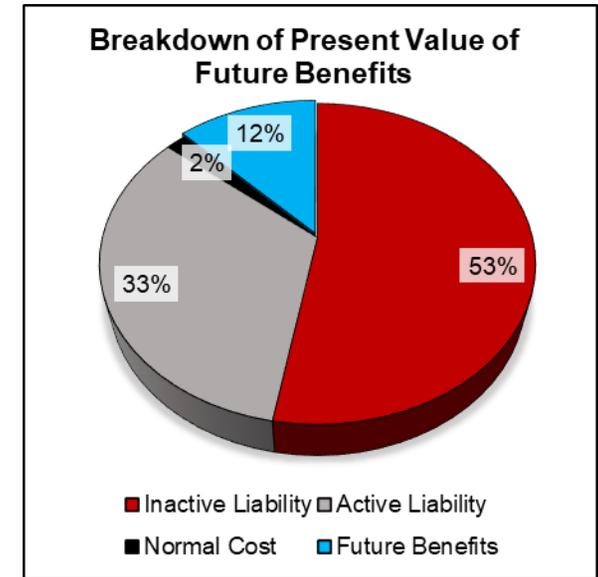
Present Value of Future Benefits

The Present Value of Future Benefits represents the future benefits payable to the existing participants.

July 1, 2019

Present Value of Future Benefits

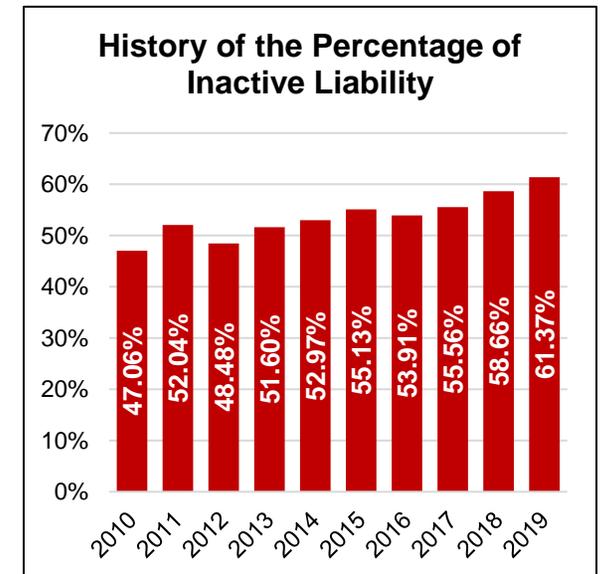
Active participants	
Retirement	\$77,259,809
Disability	2,024,724
Death	707,365
Termination	831,993
Refund of contributions	0
Total active	\$80,823,891
Inactive participants	
Retired participants	\$81,779,180
Beneficiaries	2,068,005
Disabled participants	4,767,883
Terminated vested participants	1,813,703
Total inactive	\$90,428,771
Total	\$171,252,662
 Present value of future payrolls	 \$96,880,331



Funding Liability

The Funding Liability measures the present value of benefits earned as of the valuation date, using a specified set of actuarial assumptions.

	July 1, 2019
Entry Age Normal Liabilities	
Active participants	
Retirement	\$56,177,805
Disability	600,573
Death	194,035
Termination	(54,675)
Refund of contributions	0
Total Active	\$56,917,738
Inactive participants	
Retired participants	\$81,779,180
Beneficiaries	2,068,005
Disabled participants	4,767,883
Terminated vested participants	1,813,703
Total Inactive	\$90,428,771
Total	\$147,346,509
 Total Normal Cost	 \$3,007,323



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.

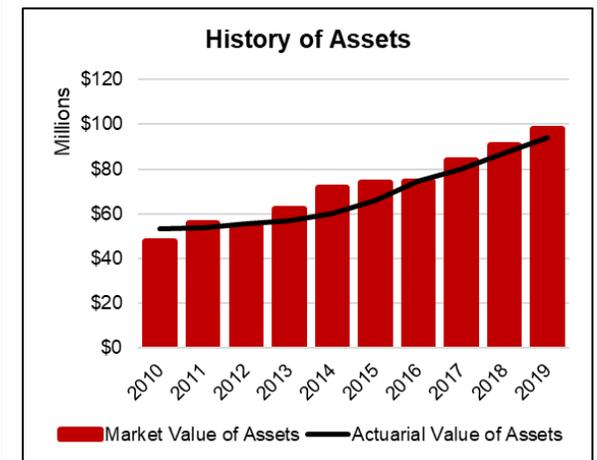
July 1, 2019

Market Value Reconciliation

Market value of assets, beginning of prior year	\$90,834,555
Contributions	
Employer contributions	6,133,571
Member contributions	1,558,428
Non-employer contributing entity	0
Total	7,691,999
Investment income	5,466,648
Benefit payments	(6,179,160)
Market value of asset, beginning of current year	\$97,816,042
Return on Market Value	6.0%

Actuarial value of assets

Value at beginning of current year	\$99,830,602
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Asset Information (continued) – 20% Phase in

Plan Assets are used to develop funded percentages and contribution requirements.

July 1, 2019

1.	Expected market value of assets		
	(a) Market value of assets, beginning of prior year		\$90,834,555
	(b) Contributions		7,691,999
	(c) Benefit payments		(6,179,160)
	(d) Expected return		6,593,603
	(e) Expected market value of assets, beginning of current year		\$98,940,997
2.	Market value of assets, beginning of current year		\$97,816,042
3.	Actual return on market value		\$5,468,648
4.	Amount subject to phase in [(3)-(1d)]		(\$1,124,955)
5.	Phase in of asset gain/(loss)		
	(a) Current year (80% x (\$1,124,955))		(\$899,964)
	(b) First prior year (60% x (\$1,105,322))		(663,193)
	(c) Second prior year (40% x \$2,405,951)		962,380
	(d) Third prior year (20% x (\$7,068,914))		(1,413,783)
	(e) Total phase-in		(\$2,014,560)
6.	Preliminary actuarial value of assets, beginning of current year [(2)-(5e)]		\$99,830,602
7.	80% Market value of assets		\$78,252,834
8.	120% Market value of assets		\$117,379,250
9.	Adjustment to actuarial value of assets due to 20% corridor		\$0
10.	Final actuarial value of assets (6) - (9)		\$99,830,602
11.	Return on actuarial value of assets		4.4%

Reconciliation of Gain/Loss

July 1, 2019

Liability (gain)/loss

Actuarial liability, beginning of prior year	\$140,878,874
Normal cost	2,959,880
Benefit payments	(6,179,160)
Expected Interest	10,137,807
Change in actuarial assumptions	(191,158)
Change in plan provisions	<u>0</u>
Expected actuarial liability, beginning of current year	\$147,606,243
Actual actuarial liability	\$147,346,509
Liability (gain)/loss	(\$259,734)

Asset (gain)/loss

Actuarial value of assets, beginning of prior year	\$94,104,936
Contributions	7,691,999
Benefit payments	(6,179,160)
Expected investment return	<u>4,437,818</u>
Expected actuarial value of assets, beginning of current year	\$100,055,593
Actual actuarial value of assets, beginning of current year	\$99,830,602
Asset (gain)/loss	\$224,991

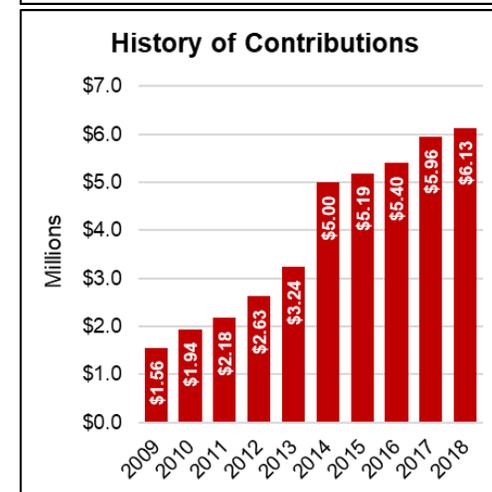
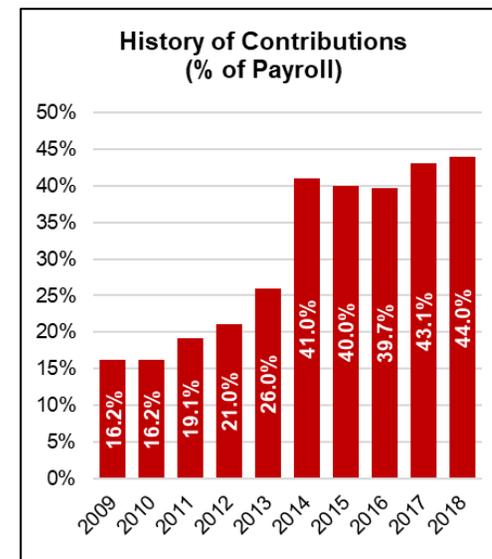
Total (gain)/loss

(\$34,743)

Development of Actuarially Determined Contribution for Plan Year Ending June 30, 2021

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

Valuation Date For Plan Year Ending	July 1, 2019 June 30, 2021
Funded Position	
1. Entry age accrued liability	\$147,346,509
2. Actuarial value of assets	\$99,830,602
3. Unfunded actuarial accrued liability (UAAL)	\$47,515,907
Employer Contributions	
1. Normal Cost	
(a) Total normal cost	\$3,007,323
(b) Expected participant contributions	(1,177,172)
(c) Net normal cost	\$1,830,151
2. Amortization of UAAL	3,856,121
3. Applicable interest	409,412
4. Calculated contribution at valuation date	\$6,095,684
5. Total payroll	\$14,152,836
6. Calculated contribution as a percentage of total payroll (4) / (5)	43.1%
7. Projected payroll	\$14,718,949
8. Actuarially determined contribution (6) x (7)	\$6,343,867



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.

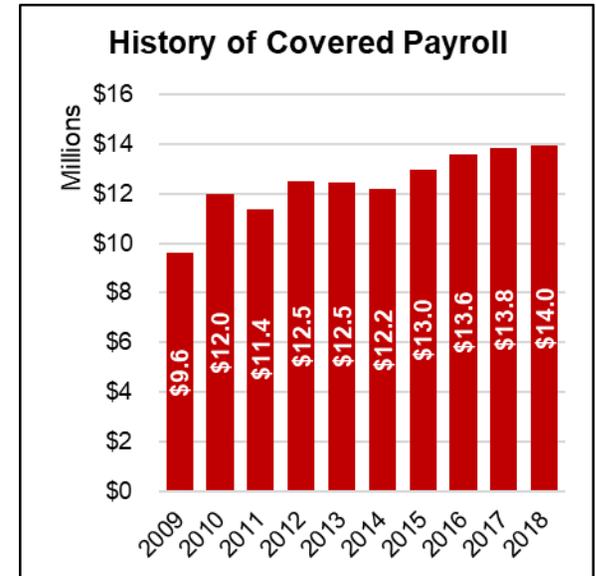
July 1, 2019

Participant Counts

Active Participants	250
Retired Participants	197
Beneficiaries	13
Disabled Participants	16
Terminated Vested Participants	22
Total Participants	498

Active Participant Demographics

Average Age	47.3
Average Service	10.3
Average Compensation	\$56,611
Total Payroll	\$14,152,836



July 1, 2019

Retiree Statistics

Average Age	66.9
Average Monthly Benefit	\$2,468

Beneficiary Statistics

Average Age	76.4
Average Monthly Benefit	\$1,231

Disabled Participant Statistics

Average Age	65.5
Average Monthly Benefit	\$2,208

Terminated Vested Participant Statistics

Average Age	52.0
Average Monthly Benefit	\$1,178

Terminated Participants Due a Return of Employee Contributions Statistics

Average Age	52.2
Total Employee Contributions Payable	\$157,406

Participant Reconciliation

	Active	Terminated Vested	Disabled	Retired	Survivor	Totals
Prior Year	247	20	15	185	10	477
Active						
To Terminated Vested	(5)	5	0	0	0	0
To Disabled	(1)	0	1	0	0	0
To Retired	(15)	0	0	15	0	0
To Lump Sum Cash-Out	(3)	0	0	0	0	(3)
To Death	(1)	0	0	0	0	(1)
Terminated Vested						
To Active	0	0	0	0	0	0
To Retired	0	(1)	0	1	0	0
To Lump Sum Cash-Out	0	(3)	0	0	0	(3)
Terminated Non-Vested						
To Active	1	0	0	0	0	1
Retired						
To Death	0	0	0	(4)	0	(4)
Lump Sum Cash-Out						
To Active	1	0	0	0	0	1
Survivor						
To Death	0	0	0	0	0	0
Additions	26	1	0	0	3	30
Departures	0	0	0	0	0	0
Current Year	250	22	16	197	13	498

Active Participant Schedule

Active participant information grouped based on age and service.

Age Group	Years of Service										Total	Average Pay
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up		
Under 25	4	1	1	0	0	0	0	0	0	0	6	\$28,697
25 to 29	8	10	6	0	0	0	0	0	0	0	24	\$48,090
30 to 34	2	6	15	3	0	0	0	0	0	0	26	\$64,255
35 to 39	2	3	5	10	2	0	0	0	0	0	22	\$66,638
40 to 44	0	5	4	5	6	1	0	0	0	0	21	\$61,129
45 to 49	3	6	4	3	8	8	2	0	0	0	34	\$65,834
50 to 54	3	10	5	8	5	5	4	0	0	0	40	\$52,014
55 to 59	3	3	9	5	5	6	4	0	0	0	35	\$53,311
60 to 64	1	4	7	5	4	2	1	0	0	0	24	\$49,872
65 to 69	2	4	3	2	2	1	0	0	0	0	14	\$20,955
70 & up	0	0	2	2	0	0	0	0	0	0	4	\$28,220
Total	28	52	61	43	32	23	11	0	0	0	250	\$54,139

Name of plan

Town of Narragansett Pension Plan

Effective date

The plan was originally effective as of July 1, 1984.

Participation

All permanent, regular and probationary status employees who work for at least five months of a year and for at least twenty hours per week who elect to contribute to the Plan at the prescribed rates are eligible to participate in the Plan.

School Department employees who have been, are, or will be eligible for membership in the State Teacher’s Retirement System shall be excluded from this Plan.

The Plan shall exclude any Police Officer covered under the 1666 Plan who has refused to join the Plan.

Normal retirement benefit

For all employees hired prior to July 1, 2011: A benefit equal to 2.5% of Final Average Compensation multiplied by years of credited service (subject to a maximum benefit of 75% of Final Average Compensation).

For Council 94 and Local 1033 employees hired on or after July 1, 2011: A benefit equal to 2.0% of Final Average Compensation multiplied by years of credited service up to 20 and 2.5% of Final Average Compensation multiplied by years of service in excess of 20, limited to 14 (subject to a maximum benefit of 75% of Final Average Compensation).

For Council 94 and Local 1033 employees hired on or after July 1, 2014: A benefit equal to 2.0% of Final Average Compensation multiplied by years of credited service (subject to a maximum benefit of 75% of Final Average Compensation).

For School employees hired on or after July 1, 2015: A benefit equal to 2.0% of Final Average Compensation multiplied by years of credited service (subject to a maximum benefit of 75% of Final Average Compensation).

For Police and Fire Union members hired on or after July 1, 2013: A benefit equal to 2.0% of Final Average Compensation multiplied by years of credited service.

Normal retirement date

Municipal Employees	<p>A member may retire upon the later of attainment of age 58 or the completion of 10 years of credited service, but, in any case, he can retire immediately after completing 20 years of credited service</p> <p>For Local 1033 members hired on or after 7/1/2014: A member may retire after completing 25 years of service</p> <p>For Council 94 members hired on or after 7/1/2014: A member may retire upon the later of attainment of age 65 or the completion of 10 years of credited service, but, in any case, he can retire immediately after completing 25 years of credited service</p> <p>For School employees hired on or after 7/1/2015: A member may retire upon the later of attainment of age 65 or the completion of 10 years of credited service, or at any age after the completion of 25 years of credited service.</p>
Firefighters	<p>For Firefighters hired prior to July 1, 2011: A Firefighter may retire upon completion of 20 years of credited service</p> <p>For Firefighters hired on or after July 1, 2011, except Blanchette and Hultzman: A Firefighter may retire 23 years from their date of hire with a minimum 20 years of credited service</p> <p>For Firefighters hired on or after July 1, 2013: A Firefighter may retire upon completion of 25 years of credited service</p>
Police Officers (including Chapter 1666)	<p>For Police Union members hired before July 1, 2013: A Police Union member may retire upon the earlier of attainment of age 58 or the completion of 20 years of credited service</p> <p>For Police Union members hired on or after July 1, 2013: A Police Union member may retire upon the completion of 25 years of credited service</p>

Average monthly salary

Average annual basic compensation during the highest three consecutive years of service.

Early retirement

A member who has attained age 55 with 10 years of credited service, or has attained age 50 with 20 years of credited service may elect to retire and receive a monthly benefit equal to the actuarial equivalent of the accrued benefit determined as of the normal retirement date.

Disability retirement

Non-Occupational Causes

Municipal Employees After the completion of seven years of credited service but prior to attainment of age 58, a disabled member is entitled to the greater of (a) 2.5% of Final Average Compensation multiplied by years of credited service (subject to a minimum of 25% and maximum of 50%) or (b) 1 2/3% of Final Average Compensation multiplied by years of credited service (subject to a minimum of 25%)

Firefighters and Police Officers After the completion of seven years of credited service but prior to attainment of age 58 (age 55 for firefighters), a benefit equal to 2.5% of Final Average Compensation multiplied by years of credited service (subject to a minimum of 25% and a maximum of 50%)

Occupational Causes A benefit equal to 66 2/3% of the annualized rate of compensation determined as of the date of disability, reduced by the monthly value of any payments provided for the member under any worker's compensation law.

Preretirement death benefit

Municipal Employees

Non-Occupational Causes Upon the death of a member his beneficiary shall be entitled to the greater of (a) a refund of employee contributions with interest plus a lump sum benefit equal to \$400 times years of credited service (subject to a minimum of \$2,000 and a maximum of \$8,000) or (b) for a member with 10 or more years of credited service, a refund of employee contributions with interest, plus a monthly benefit equal to 50% of the member's accrued benefit.

Occupational Causes Upon the death of a member, his beneficiary shall receive a refund of employee contributions with interest, plus a benefit equal to 50% of compensation.

Firefighters and Police Officers Upon the death of a Firefighter or Police Officer who has completed 10 years of credited service, the beneficiary may elect either a refund of employee contributions with interest or a benefit equal to 50% of the accrued benefit. Special rules apply for death after meeting the eligibility for retirement.

Termination Benefit

For vested participants: Accrued benefit payable at normal retirement date

For non-vested participants: A return of employee contributions with interest payable as a lump sum

Vesting

For non-Firefighters: 100% vested after 10 years of Credited Service

For Firefighters: 100% vested after 20 years of Credited Service (25 years of Credited Service for Firefighters hired on or after 7/1/2013)

Compensation

Annual base compensation excluding longevity, incentive and holiday pay. School employees shall have longevity pay included in compensation.

Credited service

Contributing employees will receive credit for all service rendered to the Town from date of membership subject to certain special provisions.

Cost of Living Adjustments

Municipal Employees	Who retire on or after July 1, 2002 shall receive annual 3% compounded COLAs beginning on the July 1 of the year that the employee turns 58 years old. Council 94 employees hired on or after 7/1/2014 shall receive annual 3% simple COLAs beginning on the July 1 of the year that the employee turns 58 years old. School employees hired on or after 7/1/2015 shall receive a compounded COLA on each July 1 st based on the COLA given to Social Security recipients, if any.
Firefighters	Who retire on or after July 1, 2002 and before July 1, 2015 shall receive annually a 3% compounded COLA beginning on the July 1 of the year that the firefighter turns 52 years old. Who retire on or after July 1, 2015 shall receive annually a 3% simple COLA beginning on the July 1 of the year that the firefighter turns 52 years old, subject to the suspension below. The COLA has been suspended for 8 years for active members as of July 1, 2013.

Police Officers

Who retire on or after July 1, 2002, if employed before July 1, 2013, shall receive annual 3% compounded COLAs beginning on the earlier of July 1 or the year that the employee turns 52 years old of July 1 of the year that is the fifth anniversary of the police officer's retirement, subject to the suspension below.

Employees hired on or after July 1, 2013 shall receive a 3% simple COLA at retirement and when eligible

The COLA has been suspended for 8 years for active members as of July 1, 2013

Optional forms of payment

In lieu of the normal form of benefit, any member who is married at the time of retirement may elect a pension that provides, upon the member's death, for 67.5% of the pension to continue to the dependent spouse or dependent children.

Participant contributions

As of July 1, 2018

Municipal Employees	10% of salary; for Council 94 and Local 1033 employees, 11% of salary
Firefighters	11% of salary, holiday, incentive & longevity
Police Officers	11% of base salary, holiday, incentive & longevity
Laborers & Clerical	10% of base salary & longevity
Mid-managers	10% of base salary & longevity
Non Union	10% of base salary
School	10% of base salary & longevity

Contributions cease once a participant has reached 30 years of service

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, 2019

Participant and Asset Information Collected as of

July 1, 2019

Cost Method (CO)

Individual Entry Age Cost Method % of pay

Amortization Method (CO)

20 year closed level percent of pay amortization of Unfunded Actuarial Accrued Liability. For this purpose, pay is assumed to grow at 4.00% annually

Asset Valuation Method

The actuarial value of assets is equal to the fair market value of assets on the valuation date adjusted for a 5-year phase in of gains and losses on fair market value of assets.

Interest Rates (CO)

7.20%

This assumption has been set by the plan sponsor in conjunction with their asset advisor. Detailed evaluation of this assumption was outside the scope of our engagement.

Annual Pay Increases (FE)

Age	Percent
20-29	6.00%
30-34	5.50%
35-39	5.00%
40-44	4.50%
45+	4.00%

The annual pay increases are based on a study of actual experience for the plan from July 1, 2007 – July 1, 2017. See the experience study report dated March 30, 2018.

Expense and/or Contingency Loading (FE)

None

Mortality Rates (FE)

Healthy Lives

Municipal Employees, Survivors

RP-2014 Mortality Table with Social Security Generational Improvements from 2006 based on 2018 Trustee's Report

Firefighters and Police

RP-2014 Blue Collar Mortality Table with Social Security Generational Improvements from 2006 based on 2018 Trustee's Report

Disabled Lives

Municipal Employees

RP-2014 Disabled Mortality Table with Social Security Generational Improvements from 2006 based on 2018 Trustee's Report

Firefighters and Police

RP-2014 Disabled Mortality Table with Social Security Generational Improvements from 2006 based on 2018 Trustee's Report

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

Retirement Rates (FE)

Non-Public Safety Employees

Local 1033 Hired On or After 7/1/2014

100% at the earlier of 25 years of service or age 58 with 10 years of service

Council 94 Hired On or After 7/1/2014 and School Hired On or After 7/1/2015

100% at the earlier of 25 years of service or age 65 with 10 years of service

All others

25% at 20 years of service, 20% at 21-24 years of service, 100% at 25 years of service and 100% at age 58 with 10 years of service

Public Safety Employees

Police Hired On or After 7/1/2013

100% at the earlier of 25 years of service or age 58

All others

35% at 20 years of service, 20% at 21-24 years of service, 100% at 25 years of service and 100% at age 58

The retirement rates are based on a study of actual experience for the plan from July 1, 2007 – July 1, 2017. See the experience study report dated March 30, 2018.

Disability Rates (FE)

50% of the rates in accordance with the 1985 Pension Disability Table

<u>Age</u>	<u>Percent</u>
25	0.05%
35	0.11%
45	0.26%
55	0.75%

As the plan is not large enough to have credible experience, disability rates are determined based on the results of broad population studies.

Withdrawal Rates (FE)

Non-Public Safety Employees A rate of 7.5% annually up to 10 years of service, followed by rates in accordance with the T-2 Table of *The Pension Actuary's Handbook*

<u>Age</u>	<u>Percent</u>
25	5.29%
35	4.70%
45	1.77%
55	0.00%

Public Safety Employees No withdrawal is assumed

The withdrawal rates are based on a study of actual experience for the plan from July 1, 2007 – July 1, 2017. See the experience study report dated March 30, 2018.

Marital Status and Ages (FE)

85% of Participants assumed to be married with wives assumed to be 4 years younger than husbands.

Cost of Living Adjustment (CO)

For Council 94: 3% increase is assumed once the participant is eligible with a simple COLA occurring once the benefit reaches \$35,000

For Local 1033: 3% increase is assumed once the participant is eligible. For employees retiring after January 1, 2012, a 3% increase with a simple COLA occurring once the benefit reaches \$45,000

For Police and Fire: the COLA is suspended for active members as of July 1, 2013 for 8 years

For Fire members expected to retire before July 1, 2015: the COLA is 3% compounded when eligible and subject to the suspension noted above

For Fire members expected to retire on or after July 1, 2015: the COLA is 3% simple when eligible and subject to the suspension noted above

Cost of Living Adjustment - continued

For Police members hired on
or after July 1, 2013: a 3% simple COLA when eligible

For School employees hired
on or after July 1, 2015: 2% increase is assumed once the participant is eligible

For all other employees: 3% compound COLA is assumed once eligible

Other procedures

Benefits projected to assumed retirement age for active participants have been limited so as not to exceed maximum benefit limits imposed by Code Section 415(b) and/or maximum compensation limits of Code Section 401(a)(17).

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

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

- ✓ Schedule of Amortizations
- ✓ Actuarially Determined Contribution by Division

Schedule of Amortizations

July 1, 2019

<u>Date Established</u>	<u>Remaining Period Years</u>	<u>Outstanding Balance</u>	<u>Annual Payment</u>
7/1/2014	15	\$42,974,480	3,511,827
7/1/2015	16	3,205,958	249,069
7/1/2016	17	1,778,936	131,895
7/1/2017	18	(1,157,290)	(82,165)
7/1/2018	19	(549,661)	(37,483)
7/1/2019	20	1,263,484	82,978
	Total	\$47,515,907	\$3,856,121

Actuarially Determined Contribution by Division

	Town	Police	Fire	Beach	Water	Wastewater	Library	School	Total
(1) Total Normal Cost	848,689	967,819	484,692	5,577	54,210	108,305	6,741	531,290	3,007,323
(2) Expected Employee Contributions	<u>374,774</u>	<u>343,307</u>	<u>182,392</u>	<u>2,842</u>	<u>25,103</u>	<u>41,756</u>	<u>3,496</u>	<u>203,502</u>	<u>1,177,172</u>
(3) Employer Normal Cost = (1) - (2)	473,915	624,512	302,300	2,735	29,107	66,549	3,245	327,788	1,830,151
(4) Net Amortization Payment	950,475	952,417	851,724	7,520	88,063	148,812	79,750	777,360	3,856,121
(5) Interest at Valuation rate on (3) + (4)	<u>102,556</u>	<u>113,539</u>	<u>83,090</u>	<u>738</u>	<u>8,436</u>	<u>15,506</u>	<u>5,976</u>	<u>79,571</u>	<u>409,412</u>
(6) Calculated contribution at valuation date (3) + (4) + (5)	1,526,946	1,690,468	1,237,114	10,993	125,606	230,867	88,971	1,184,719	6,095,684
(7) Valuation Payroll	4,142,601	3,323,114	2,577,049	27,789	315,082	478,022	225,746	3,063,433	14,152,836
(8) Calculated contribution at valuation date as a percentage of valuation payroll (6) ÷ (7)	36.9%	50.9%	48.0%	39.6%	39.9%	48.3%	39.4%	38.7%	43.1%
(9) Projected Payroll	4,308,304	3,456,039	2,680,131	28,901	327,685	497,143	234,776	3,185,970	14,718,949
(10) Actuarially determined contribution (8) x (9), with adjustments due to rounding	1,589,979	1,759,296	1,286,596	11,446	130,762	240,145	92,514	1,233,129	6,343,867