



Town of Narragansett Pension Plan

7/1/2019 Cost Projection

December 6, 2019



Certification

This report was prepared for the Town of Narragansett Pension Plan to show the projected ongoing funded status and cost of the pension plan. Please contact Nyhart prior to disclosing this report to any other party or relying on its content for any purpose other than the intended use.

Except where indicated otherwise, the results included in this report are based on the same data, assumptions, methods, and plan provisions as the 7/1/2019 funding valuation. As a result, these sections of the 2019 funding report dated 12/6/2019 should be considered part of this report.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such facts 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 or other additional cost or contribution requirement based on the plan's funded status); and changes in plan provisions of applicable law. The scope of our assignment did not include an analysis of the potential range of future measurements.

This report has been prepared in accordance with generally accepted actuarial principles and practice.

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



Carter M. Angell, FSA, EA, MAAA



Elizabeth A. Wiley, ASA, EA



Important Comments About Cost Information Included in this Report

The cost projections contained in this report are based on data as of July 1, 2019. Assumptions used in measuring the liabilities are consistent with the July 1, 2019 actuarial report unless stated otherwise. Reasonable actuarial techniques and assumptions were used to produce the cost projections. Data was provided by the Town.

The following pages show cost projections under specific economic scenarios and are meant to be used for illustration purposes only. Actual results will vary from projections shown in this report due to actual participant data, actual asset returns, and any assumption changes that may be warranted. These projections are not meant to provide a definitive cost savings or increase related to plan changes.

These projections reflect numerous assumptions and one should focus on the general trend of the results rather than the absolute dollar amounts.



7/1/2019 Cost Projection

Valuation Date (7/1)	Plan Year Ending "PYE" (6/30)	Employer ADC for PYE	Employer Contribution for PYE	Valuation Payroll	Projected Payroll for PYE	Employer Contribution as a % of Projected Payroll	Benefit Payments for PYE	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Liability	Funded Ratio
2015	2017	5,428,475	5,399,268	12,984,298	13,503,670	40.0%	4,946,770	74,427,566	121,691,129	47,263,563	61.2%
2016	2018	5,858,887	5,957,877	13,607,598	14,151,902	42.1%	5,642,039	79,965,053	128,970,688	49,005,635	62.0%
2017	2019	6,057,902	6,133,571	13,835,881	14,389,316	42.6%	6,179,160	87,163,231	134,830,699	47,667,468	64.6%
2018	2020	6,080,003	6,080,003	13,952,640	14,510,746	41.9%	7,968,516	94,104,936	140,878,874	46,773,938	66.8%
2019	2021	6,343,867	6,343,867	14,152,836	14,718,949	43.1%	8,351,379	99,830,602	147,346,509	47,515,907	67.8%
2020	2022	6,701,360	6,701,360	13,709,819	14,258,212	47.0%	8,675,333	104,758,205	152,886,103	48,127,898	68.5%
2021	2023	6,915,959	6,915,959	13,854,084	14,408,247	48.0%	9,136,067	111,543,599	158,633,105	47,089,506	70.3%
2022	2024	7,118,650	7,118,650	14,200,946	14,768,984	48.2%	9,627,445	118,429,697	164,568,340	46,138,643	72.0%
2023	2025	7,283,863	7,283,863	14,470,485	15,049,304	48.4%	10,044,242	125,829,924	170,457,929	44,628,005	73.8%
2024	2026	7,487,982	7,487,982	14,723,891	15,312,847	48.9%	10,650,641	133,706,262	176,225,735	42,519,473	75.9%
2025	2027	7,635,765	7,635,765	15,107,163	15,711,450	48.6%	11,071,905	141,954,506	182,058,494	40,103,988	78.0%

Projections above are based on plan provisions and assumptions as detailed in the 7/1/2019 valuation report dated December 6, 2019 unless noted otherwise on the following page.

"ADC" refers to the "Actuarially Determined Contribution".

These numbers are estimates only and are not guarantees of future plan costs.



7/1/2019 Cost Projection

Valuation Date	Plan Year Ending	Payment against the ADC	Employer		Valuation Payroll	Projected Payroll	Employer Contribution as a % of projected payroll	Employer Contribution as a % of projected payroll			Benefit Payments	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability	Unfunded Liability	Funded Ratio
			Normal Cost	Amortization				Employer ADC	Employer Contribution	Increase					
7/1/2014	6/30/2015	102%	1,654,426	2,886,466	12,188,272	12,188,272	41.0%	4,881,459	4,999,356	54.4%	4,369,538	66,160,637	109,086,049	42,925,412	60.6%
7/1/2014	6/30/2016	100%	1,654,426	2,886,466	12,188,272	12,675,803	40.9%	5,082,997	5,190,005	3.8%	4,846,536	66,160,637	109,086,049	42,925,412	60.6%
7/1/2015	6/30/2017	100%	1,921,283	3,210,567	12,984,298	13,503,670	40.0%	5,428,475	5,399,268	4.0%	4,946,770	74,427,566	121,691,129	47,263,563	61.2%
7/1/2016	6/30/2018	100%	1,932,688	3,460,677	13,607,598	14,151,902	42.1%	5,858,887	5,957,877	10.3%	5,642,039	79,965,053	128,970,688	49,005,635	62.0%
7/1/2017	6/30/2019	100%	1,905,183	3,523,138	13,835,881	14,389,316	42.6%	6,057,902	6,133,571	2.9%	6,179,160	87,163,231	134,830,699	47,667,468	64.6%
7/1/2018	6/30/2020	100%	1,825,545	3,628,022	13,952,640	14,510,746	41.9%	6,080,003	6,080,003	-0.9%	7,968,516	94,104,936	140,878,874	46,773,938	66.8%
7/1/2019	6/30/2021	100%	1,830,151	3,856,121	14,152,836	14,718,949	43.1%	6,343,867	6,343,867	4.3%	8,351,379	99,830,602	147,346,509	47,515,907	67.8%
7/1/2020	6/30/2022	100%	1,909,246	4,097,359	13,709,819	14,258,212	47.0%	6,701,360	6,701,360	5.6%	8,675,333	104,758,205	152,886,103	48,127,898	68.5%
7/1/2021	6/30/2023	100%	1,954,648	4,253,947	13,854,084	14,408,247	48.0%	6,915,959	6,915,959	3.2%	9,136,067	111,543,599	158,633,105	47,089,506	70.3%
7/1/2022	6/30/2024	100%	1,945,181	4,438,483	14,200,946	14,768,984	48.2%	7,118,650	7,118,650	2.9%	9,627,445	118,429,697	164,568,340	46,138,643	72.0%
7/1/2023	6/30/2025	100%	1,924,160	4,611,125	14,470,485	15,049,304	48.4%	7,283,863	7,283,863	2.3%	10,044,242	125,829,924	170,457,929	44,628,005	73.8%
7/1/2024	6/30/2026	100%	1,951,341	4,770,704	14,723,891	15,312,847	48.9%	7,487,982	7,487,982	2.8%	10,650,641	133,706,262	176,225,735	42,519,473	75.9%
7/1/2025	6/30/2027	100%	1,908,871	4,937,714	15,107,163	15,711,450	48.6%	7,635,765	7,635,765	2.0%	11,071,905	141,954,506	182,058,494	40,103,988	78.0%
7/1/2026	6/30/2028	100%	1,940,548	5,106,589	15,283,716	15,895,065	49.4%	7,852,162	7,852,162	2.8%	11,489,356	150,359,895	187,622,156	37,262,261	80.1%
7/1/2027	6/30/2029	100%	1,953,032	5,284,143	15,685,593	16,313,017	49.5%	8,074,943	8,074,943	2.8%	11,947,699	159,161,244	193,225,420	34,064,176	82.4%
7/1/2028	6/30/2030	100%	1,986,819	5,465,688	16,118,794	16,763,546	49.6%	8,314,719	8,314,719	3.0%	12,331,899	168,435,770	198,833,900	30,398,130	84.7%
7/1/2029	6/30/2031	100%	1,984,719	5,652,816	16,435,346	17,092,760	49.8%	8,512,194	8,512,194	2.4%	12,769,212	178,156,323	204,404,262	26,247,939	87.2%
7/1/2030	6/30/2032	100%	1,992,097	5,841,725	17,018,622	17,699,367	49.3%	8,725,788	8,725,788	2.5%	13,412,622	188,478,567	209,990,033	21,511,466	89.8%
7/1/2031	6/30/2033	100%	1,974,773	6,040,743	17,442,420	18,140,117	49.3%	8,943,078	8,943,078	2.5%	13,859,065	199,340,266	215,610,613	16,270,347	92.5%
7/1/2032	6/30/2034	100%	1,967,931	6,242,268	17,531,077	18,232,320	50.2%	9,152,625	9,152,625	2.3%	14,300,114	210,527,240	220,882,716	10,355,476	95.3%
7/1/2033	6/30/2035	100%	1,969,829	0	17,945,149	18,662,955	11.8%	2,202,229	2,202,229	-75.9%	14,613,918	222,351,867	226,106,147	3,754,280	98.3%
7/1/2034	6/30/2036	100%	1,979,745	0	18,337,460	19,070,958	11.6%	2,212,231	2,212,231	0.5%	14,959,991	234,829,632	231,289,299	(3,540,333)	101.5%
7/1/2035	6/30/2037	100%	1,998,815	0	18,916,105	19,672,749	11.3%	2,223,021	2,223,021	0.5%	15,382,268	240,743,515	236,606,713	(4,136,802)	101.7%
7/1/2036	6/30/2038	100%	1,978,949	0	19,453,634	20,231,779	10.9%	2,205,264	2,205,264	-0.8%	15,698,153	246,792,170	242,043,947	(4,748,223)	102.0%
7/1/2037	6/30/2039	100%	2,025,922	0	19,919,520	20,716,301	10.9%	2,258,077	2,258,077	2.4%	15,990,259	252,893,660	247,510,722	(5,382,938)	102.2%
7/1/2038	6/30/2040	100%	2,057,110	0	20,491,169	21,310,816	10.8%	2,301,568	2,301,568	1.9%	16,916,276	259,156,909	253,108,693	(6,048,216)	102.4%
7/1/2039	6/30/2041	100%	1,954,451	0	21,057,712	21,900,020	9.9%	2,168,102	2,168,102	-5.8%	17,551,046	265,680,615	258,961,159	(6,719,456)	102.6%
7/1/2040	6/30/2042	100%	1,987,707	0	20,682,944	21,510,262	10.3%	2,215,557	2,215,557	2.2%	17,913,894	271,660,576	264,153,064	(7,507,512)	102.8%
7/1/2041	6/30/2043	100%	2,062,058	0	20,804,392	21,636,568	10.6%	2,293,476	2,293,476	3.5%	18,165,996	277,308,790	269,128,276	(8,180,514)	103.0%
7/1/2042	6/30/2044	100%	2,130,563	0	21,301,059	22,153,101	10.7%	2,370,382	2,370,382	3.4%	18,639,831	283,111,734	274,220,466	(8,891,268)	103.2%
7/1/2043	6/30/2045	100%	2,138,400	0	21,949,804	22,827,796	10.4%	2,374,091	2,374,091	0.2%	19,022,046	289,222,662	279,553,537	(9,669,125)	103.5%
7/1/2044	6/30/2046	100%	2,197,697	0	22,324,074	23,217,037	10.6%	2,461,006	2,461,006	3.7%	20,097,477	295,380,904	284,835,660	(10,545,244)	103.7%
7/1/2045	6/30/2047	100%	2,100,471	0	23,092,328	24,016,021	9.8%	2,353,570	2,353,570	-4.4%	20,537,713	301,644,836	290,219,773	(11,425,063)	103.9%
7/1/2046	6/30/2048	100%	2,219,230	0	22,796,324	23,708,177	10.4%	2,465,650	2,465,650	4.8%	20,837,199	307,246,988	294,676,365	(12,570,623)	104.3%
7/1/2047	6/30/2049	100%	2,296,304	0	23,209,974	24,138,373	10.6%	2,558,668	2,558,668	3.8%	21,196,768	312,793,018	299,233,316	(13,559,702)	104.5%
7/1/2048	6/30/2050	100%	2,343,667	0	23,801,598	24,753,662	10.6%	2,623,888	2,623,888	2.5%	21,568,562	318,619,863	303,966,412	(14,653,451)	104.8%

Projections above are based on plan provisions and assumptions as detailed in the 7/1/2018 valuation report dated December 30, 2018 unless noted otherwise on the following page.

"ADC" refers to the "Actuarially Determined Contribution".

These numbers are estimates only and are not guarantees of future plan costs.



Assumptions for Cost Projection

Category	Assumption
Asset Return, Interest Rate	Plan assets earn 7.20% annually, except as specified otherwise
Active Population	The number of active employees stays constant at 250 throughout the 30-year projection period.
Town Contributions	The Town contributes the full Actuarial Recommended Funding Contribution (ARFC) each year or as otherwise noted
Contributions Shown	Include only Employer Defined Benefit money, unless otherwise noted
Actuarial Recommended Funding Contribution Calculation	Consists of 2 pieces – benefits being earned during the current year and the amount to cover the amortization of the unfunded liability
Future New Entrants	Modeled after actual new entrant data from 2015-2018. New entrants were modeled for Police, Fire, Municipal, School, Local 1033, and Council 94 employees separately.
Salary Growth	6.0% for participants age 20-29, decreasing 0.5% over 5-year increments until reaching 4.0% for participants age 45 and older. These include merit, inflation, and any other type of wage increase.



Assumptions for Cost Projection

Category	Assumption
Mortality	Healthy Lives - RP-2014 Mortality Table with Social Security Generational Improvements from 2006 based on the 2018 Trustee's Report, with Blue Collar adjustments for Police and Fire employees. Disabled Lives - RP-2014 Disabled Mortality Table with Social Security Generational Improvements from 2006 based on the 2018 Trustee's Report
Inflation	Inflation is assumed at 2% per year unless explicitly stated otherwise
Retirement Rates, Withdrawal Rates, Disability Rates, COLA, Married Percentage	All other assumptions match those used in the July 1, 2019 valuation