



Town of Narragansett Pension Plan

7/1/2018 Cost Projection

January 31, 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 7/1/2018 funding valuation. As a result, these sections of the 2018 funding report dated 12/30/2018 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, 2018. Assumptions used in measuring the liabilities are consistent with the July 1, 2018 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.



7/1/2018 Cost Projection

Valuation Date (7/1)	Plan Year Ending (6/30)	Employer ADC	Employer Contribution	Valuation Payroll	Projected Payroll	Employer Contribution as a % of Projected Payroll	Benefit Payments	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Liability	Funded Ratio
2014	2015	4,881,459	4,999,356	12,188,272	12,188,272	41.0%	4,369,538	66,160,637	109,086,049	42,925,412	60.6%
2014	2016	5,082,997	5,190,005	12,188,272	12,675,803	40.9%	4,369,538	66,160,637	109,086,049	42,925,412	60.6%
2015	2017	5,428,475	5,399,268	12,984,298	13,503,670	40.0%	4,846,536	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%	4,946,770	79,965,053	128,970,688	49,005,635	62.0%
2017	2019	6,057,902	6,057,902	13,835,881	14,389,316	42.1%	5,642,039	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%	7,390,241	94,104,936	140,878,874	46,773,938	66.8%
2019	2021	6,572,421	6,572,421	13,417,486	13,954,185	47.1%	7,730,848	98,284,231	146,506,894	48,222,663	67.1%
2020	2022	6,811,889	6,811,889	13,760,281	14,310,692	47.6%	8,237,005	103,749,416	152,529,039	48,779,623	68.0%
2021	2023	6,996,821	6,996,821	13,957,910	14,516,226	48.2%	8,555,392	111,100,870	158,434,417	47,333,547	70.1%
2022	2024	7,158,441	7,158,441	14,310,013	14,882,414	48.1%	9,033,755	118,459,069	164,530,853	46,071,784	72.0%
2023	2025	7,292,547	7,292,547	14,547,851	15,129,765	48.2%	9,528,894	126,290,737	170,537,588	44,246,851	74.1%

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.



7/1/2018 Cost Projection

Valuation Date	Plan Year Ending	Payment against the ADC	Employer Normal Cost		Valuation Payroll	Projected Payroll	Employer Contribution as a % of projected payroll	Employer Contribution			Benefit Payments	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability	Unfunded Liability	Funded Ratio
			Normal Cost	Amortization				Employer ADC	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%	4,369,538	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%	4,846,536	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%	4,946,770	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	42.1%	6,057,902	6,057,902	1.7%	5,642,039	87,163,231	134,830,699	47,667,468	64.6%
7/1/2018	6/30/2020	100%	1,825,544	3,628,022	13,952,640	14,510,746	41.9%	6,080,003	6,080,003	0.4%	7,390,241	94,104,936	140,878,874	46,773,938	66.8%
7/1/2019	6/30/2021	100%	1,992,283	3,902,537	13,417,486	13,954,185	47.1%	6,572,421	6,572,421	8.1%	7,730,848	98,284,231	146,506,894	48,222,663	67.1%
7/1/2020	6/30/2022	100%	1,962,294	4,141,942	13,760,281	14,310,692	47.6%	6,811,889	6,811,889	3.6%	8,237,005	103,749,416	152,529,039	48,779,623	68.0%
7/1/2021	6/30/2023	100%	2,008,224	4,273,598	13,957,910	14,516,226	48.2%	6,996,821	6,996,821	2.7%	8,555,392	111,100,870	158,434,417	47,333,547	70.1%
7/1/2022	6/30/2024	100%	1,977,175	4,438,731	14,310,013	14,882,414	48.1%	7,158,441	7,158,441	2.3%	9,033,755	118,459,069	164,530,853	46,071,784	72.0%
7/1/2023	6/30/2025	100%	1,952,748	4,591,075	14,547,851	15,129,765	48.2%	7,292,547	7,292,547	1.9%	9,528,894	126,290,737	170,537,588	44,246,851	74.1%
7/1/2024	6/30/2026	100%	1,989,315	4,747,132	14,799,745	15,391,735	48.8%	7,511,167	7,511,167	3.0%	9,957,803	134,344,590	176,435,531	42,090,941	76.1%
7/1/2025	6/30/2027	100%	1,952,349	4,914,116	15,178,934	15,786,091	48.5%	7,656,254	7,656,254	1.9%	10,555,891	142,738,262	182,422,097	39,683,835	78.2%
7/1/2026	6/30/2028	100%	1,976,574	5,079,252	15,368,538	15,983,280	49.2%	7,863,774	7,863,774	2.7%	10,988,691	151,330,366	188,124,964	36,794,598	80.4%
7/1/2027	6/30/2029	100%	1,941,093	5,252,490	15,757,043	16,387,325	48.9%	8,013,402	8,013,402	1.9%	11,444,094	160,311,061	193,854,148	33,543,087	82.7%
7/1/2028	6/30/2030	100%	1,996,633	5,426,221	16,067,347	16,710,041	49.5%	8,271,470	8,271,470	3.2%	11,901,334	169,713,779	199,487,510	29,773,731	85.1%
7/1/2029	6/30/2031	100%	2,001,722	5,612,419	16,527,494	17,188,594	49.4%	8,491,165	8,491,165	2.7%	12,265,504	179,509,452	205,140,224	25,630,772	87.5%
7/1/2030	6/30/2032	100%	2,012,467	5,801,027	17,058,959	17,741,317	49.1%	8,710,987	8,710,987	2.6%	12,719,954	189,959,604	210,872,825	20,913,221	90.1%
7/1/2031	6/30/2033	100%	1,994,311	5,992,577	17,456,382	18,154,637	49.0%	8,895,772	8,895,772	2.1%	13,353,811	200,963,925	216,547,646	15,583,721	92.8%
7/1/2032	6/30/2034	100%	1,979,105	6,187,136	17,598,932	18,302,889	49.7%	9,096,536	9,096,536	2.3%	13,830,995	212,317,109	221,911,417	9,594,308	95.7%
7/1/2033	6/30/2035	100%	1,967,854	0	17,989,574	18,709,157	11.7%	2,188,971	2,188,971	-75.9%	14,310,265	224,248,381	227,207,063	2,958,682	98.7%
7/1/2034	6/30/2036	100%	2,006,067	0	18,379,259	19,114,429	11.7%	2,236,388	2,236,388	2.2%	14,607,917	236,780,354	232,446,292	(4,334,062)	101.9%
7/1/2035	6/30/2037	100%	2,024,247	0	18,968,706	19,727,454	11.4%	2,248,930	2,248,930	0.6%	14,941,153	242,833,325	237,843,173	(4,990,152)	102.1%
7/1/2036	6/30/2038	100%	2,011,755	0	19,534,488	20,315,868	11.0%	2,234,745	2,234,745	-0.6%	15,341,371	249,083,186	243,417,693	(5,665,493)	102.3%
7/1/2037	6/30/2039	100%	2,021,072	0	20,038,006	20,839,526	10.8%	2,250,669	2,250,669	0.7%	15,758,501	255,426,691	248,969,648	(6,457,043)	102.6%
7/1/2038	6/30/2040	100%	2,078,964	0	20,445,310	21,263,122	10.9%	2,317,680	2,317,680	3.0%	16,020,737	261,817,805	254,626,523	(7,191,282)	102.8%
7/1/2039	6/30/2041	100%	1,985,573	0	21,106,374	21,950,629	10.1%	2,217,014	2,217,014	-4.3%	16,958,000	268,492,622	260,545,905	(7,946,717)	103.1%
7/1/2040	6/30/2042	100%	2,013,087	0	20,723,340	21,552,274	10.4%	2,241,436	2,241,436	1.1%	17,603,519	274,643,624	265,803,975	(8,839,649)	103.3%
7/1/2041	6/30/2043	100%	2,085,680	0	20,833,416	21,666,753	10.7%	2,318,343	2,318,343	3.4%	17,977,733	280,499,367	270,866,530	(9,632,837)	103.6%
7/1/2042	6/30/2044	100%	2,160,572	0	21,340,120	22,193,725	10.9%	2,419,116	2,419,116	4.3%	18,219,888	286,490,517	276,060,721	(10,429,796)	103.8%
7/1/2043	6/30/2045	100%	2,196,526	0	22,006,622	22,886,887	10.7%	2,448,897	2,448,897	1.2%	18,585,362	292,815,870	281,533,207	(11,282,663)	104.0%
7/1/2044	6/30/2046	100%	2,087,703	0	22,676,958	23,584,036	9.9%	2,334,820	2,334,820	-4.7%	19,654,777	299,366,989	287,104,514	(12,262,475)	104.3%
7/1/2045	6/30/2047	100%	2,214,733	0	22,396,169	23,292,016	10.6%	2,468,954	2,468,954	5.7%	20,079,922	305,212,316	291,743,385	(13,468,931)	104.6%
7/1/2046	6/30/2048	100%	2,254,408	0	22,852,769	23,766,880	10.6%	2,519,289	2,519,289	2.0%	20,528,273	311,033,590	296,526,741	(14,506,849)	104.9%
7/1/2047	6/30/2049	100%	2,330,219	0	23,288,665	24,220,212	10.7%	2,591,563	2,591,563	2.9%	20,844,296	316,986,924	301,269,393	(15,717,531)	105.2%
7/1/2048	6/30/2050	100%	2,368,834	0	23,867,946	24,822,664	10.6%	2,631,202	2,631,202	1.5%	21,239,857	323,166,159	306,179,782	(16,986,377)	105.5%

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".

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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 247 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 2017 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 2017 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, 2018 valuation