

# Barnstable County Retirement Association

**Governmental Accounting Standards Board  
(GASB) Statements No. 67 and 68  
Accounting Valuation Report**

as of December 31, 2019



This report has been prepared at the request of the Barnstable County Retirement Board to assist the sponsors of the Board in preparing their financial report for their liabilities associated with the Barnstable County Retirement Association. This valuation report may not otherwise be copied or reproduced in any form without the consent of the Barnstable County Retirement Board and may only be provided to other parties in its entirety. The measurements shown in this actuarial valuation may not be applicable for other purposes.

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June 23, 2020

Retirement Board  
Barnstable County Retirement Association  
750 Attucks Lane  
Hyannis, MA 02601

Dear Board Members:

We are pleased to submit this Governmental Accounting Standards Board (GASB) Statements No.67 and 68 Actuarial Valuation as of December 31, 2019 for the Barnstable County Retirement Association, a cost-sharing multiple employer defined benefit pension plan. It contains the actuarial information that will need to be disclosed in order to comply with GASB 67 and 68.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist the Board and the member units in preparing their financial reports for their liabilities associated with the Barnstable County Retirement Association. The census and financial information on which our calculations were based were provided by Barnstable County Retirement Association. That assistance is gratefully acknowledged.

The measurements shown in this actuarial valuation may not be applicable for other purposes. 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; and changes in plan provisions or applicable law.

The actuarial calculations were completed under my supervision. I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of my knowledge, the information supplied in the actuarial valuation is complete and accurate. Further, in my opinion, the assumptions as approved by the Board are reasonably related to the experience of and expectations for Barnstable County Retirement Association.

I look forward to reviewing this report with you and to answering any questions.

Sincerely,

Segal

A handwritten signature in blue ink, appearing to read "Kathleen Riley", is written over a horizontal line.

Kathleen A. Riley, FSA, MAAA, EA  
Senior Vice President and Actuary

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# Section 1: Actuarial Valuation Summary

## Purpose

This report has been prepared by Segal to present certain disclosure information required by Governmental Accounting Standards Board (GASB) Statements No. 67 and 68 as of December 31, 2019. This report is based on the Barnstable County Retirement Association Actuarial Valuation and Review as of January 1, 2020, which reflects:

- The benefit provisions of Massachusetts General Law Chapter 32;
- The characteristics of covered active participants, inactive participants, and retired participants and beneficiaries as of December 31, 2019, provided by Retirement Association;
- The assets of the Plan as of December 31, 2019, provided by the staff of the Retirement Association;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.

## Significant Issues

The following key findings were the result of this actuarial valuation:

1. It is important to note that this valuation is based on plan assets as of December 31, 2019. Due to the COVID-19 pandemic, market conditions have changed significantly since the valuation date. The Plan's actuarial status does not reflect short-term fluctuations of the market, but rather is based on the market values on the last day of the Plan Year.
2. The Net Pension Liability (NPL) is equal to the difference between the Total Pension Liability (TPL) and the Plan Fiduciary Net Position. The Plan Fiduciary Net Position is equal to the market value of assets and therefore, the NPL measure is very similar to an Unfunded Actuarial Accrued Liability (UAAL) on a market value basis. The NPL decreased from \$790.4 million as of December 31, 2018 to \$751.3 million as of December 31, 2019, and the Plan's fiduciary Net Position as a percent of the TPL increased from 57.63% to 62.34%.
3. The NPL measured as of December 31, 2019 and December 31, 2018 was determined based upon the results of the actuarial valuations as of January 1, 2020 and January 1, 2018, respectively.
4. The discount rate used to measure the TPL and NPL as of December 31, 2019 and December 31, 2018 was 7.15% and 7.375%, respectively.

## Section 1: Actuarial Valuation Summary

### Important information about actuarial valuations

In order to prepare a valuation, Segal relies on a number of input items. These include:

<b>Plan of benefits</b>	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan description in this report (as well as the plan summary included in our funding valuation report) to confirm that Segal has correctly interpreted the plan of benefits.
<b>Participant data</b>	An actuarial valuation for a plan is based on data provided to the actuary by the Barnstable County Retirement Association. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
<b>Assets</b>	The valuation is based on the market value of assets as of the valuation date, as provided by the Barnstable County Retirement Association. The Barnstable County Retirement Association uses an “actuarial value of assets” that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
<b>Actuarial assumptions</b>	In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The forecasted benefits are then discounted to a present value, based on the assumed rate of return that will be achieved on the plan’s assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

## Section 1: Actuarial Valuation Summary

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

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The valuation is prepared at the request of the Barnstable County Retirement Board to assist the Board and the member units in preparing items related to the pension plan in their financial reports. Segal is not responsible for the use or misuse of its report, particularly by any other party.

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An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.

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If Barnstable County Retirement Board is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.

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Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The Board should look to their other advisors for expertise in these areas.

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As Segal has no discretionary authority with respect to the management or assets of Barnstable County Retirement Association, it is not a fiduciary in its capacity as actuaries and consultants with respect to Barnstable County Retirement Association.

# Section 2: GASB Information

## Exhibit 1: Net Pension Liability

	December 31, 2019	December 31, 2018
<b>Components of the Net Pension Liability</b>		
Total Pension Liability	\$1,994,947,882	\$1,865,385,410
Plan Fiduciary Net Position	1,243,664,647	1,075,010,769
Net Pension Liability	751,283,235	790,374,641
Plan Fiduciary Net Position as a percentage of the Total Pension Liability*	62.34%	57.63%

\* These funded percentages are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligation or the need for or the amount of future contributions.

*Actuarial assumptions.* The total pension liability as of December 31, 2019 was measured by an actuarial valuation as of January 1, 2020, using the following actuarial assumptions, applied to all periods included in the measurement:

<b>Wage inflation</b>	3.25%
<b>Salary increases</b>	Varies by length of service with ultimate rates of 4.00% for Group 1, 4.25% for Group 2 and 4.50% for Group 4
<b>Net investment return:</b>	7.15% (previously, 7.375%)
<b>Cost of living adjustment:</b>	3% of first \$18,000
<b>Mortality rates:</b>	<p><i>Pre-Retirement:</i> RP-2014 Blue Collar Employee Mortality Table projected generationally with Scale MP-2017</p> <p><i>Healthy Retiree:</i> RP-2014 Blue Collar Healthy Annuitant Mortality Table projected generationally with Scale MP-2017</p> <p><i>Disabled Retiree:</i> RP-2014 Blue Collar Healthy Annuitant Mortality Table set forward one year and projected generationally with Scale MP-2017</p>

## Section 2: GASB Information

### Target asset allocation

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These returns are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage, adding expected inflation. The target allocation (approved by the Board) and projected arithmetic real rates of return for each major asset class, after deducting inflation, but before investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic Equity	21.00%	6.15%
International developed markets equity	13.00%	6.78%
International emerging markets equity	5.00%	8.65%
Core fixed income	15.00%	1.11%
High-yield fixed income	8.00%	3.51%
Real estate	10.00%	4.33%
Commodities	4.00%	4.13%
Hedge fund, GTAA, Risk parity	11.00%	3.19%
Private equity	13.00%	9.99%
Total	100.00%	

Note: Some asset classes included in the pension plan's target asset allocation have been combined.

*Discount rate.* The discount rate used to measure the Total Pension Liability (TPL) was 7.15% as of December 31, 2019 and 7.375% as of December 31, 2018. The projection of cash flows used to determine the discount rate assumed plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only employer contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Plan Fiduciary Net Position (FNP) was projected to be available to make all projected future benefit payments for current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the TPL as of both December 31, 2019 and December 31, 2018.

## Section 2: GASB Information

### Discount rate sensitivity

*Sensitivity of the Net Pension Liability to changes in the discount rate.* The following presents the Net Pension Liability (NPL) of the Barnstable County Retirement Association as of December 31, 2019 calculated using the discount rate of 7.15%, as well as what the Barnstable County Retirement Association's NPL would be if it were calculated using a discount rate that is 1-percentage-point lower (6.15%) or 1-percentage-point higher (8.15%) than the current rate.

<b>Net Pension Liability</b>	<b>1% Decrease (6.15%)</b>	<b>Current Discount Rate (7.15%)</b>	<b>1% Increase (8.15%)</b>
Barnstable County Retirement Association's net pension liability as of December 31, 2019	\$987,975,703	\$751,283,235	\$552,434,284

## Section 2: GASB Information

### Exhibit 2: Schedule of Changes in Net Pension Liability – Last Two Fiscal Years

	December 31, 2019	December 31, 2018
<b>Total Pension Liability</b>		
Service cost	\$43,484,596	\$42,052,752
Interest	137,186,701	131,278,572
Change of benefit terms	0	0
Differences between expected and actual experience	-1,444,828	0
Changes of assumptions	47,758,691	0
Benefit payments, including refunds of member contributions	-97,422,688	-91,883,200
Net change in Total Pension Liability	\$129,562,472	\$81,448,124
Total Pension Liability – beginning	<u>1,865,385,410</u>	<u>1,783,937,286</u>
Total Pension Liability – ending	<u>\$1,994,947,882</u>	<u>\$1,865,385,410</u>
<b>Plan Fiduciary Net Position</b>		
Contributions – employer	\$65,839,710	\$62,544,990
Contributions – employee	29,546,720	28,391,645
Net investment income	172,171,974	-26,151,050
Benefit payments, including refunds of member contributions	-97,422,688	-91,883,200
Administrative expense	-1,481,838	-1,385,431
Net change in Plan Fiduciary Net Position	\$168,653,878	\$28,483,046
Plan Fiduciary Net Position – beginning	<u>1,075,010,769</u>	<u>1,103,493,815</u>
Plan Fiduciary Net Position – ending	<u>\$1,243,664,647</u>	<u>\$1,075,010,769</u>
Net Pension Liability – ending	\$751,283,235	\$790,374,641
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	62.34%	57.63%
Covered employee payroll <sup>1</sup>	\$293,746,441	\$283,145,854
Plan Net Pension Liability as percentage of covered employee payroll	255.76%	279.14%

<sup>1</sup> Covered employee payroll for 2019 and 2018 as estimated in the January 1, 2020 and January 1, 2018 funding valuation reports, respectively.

## Section 2: GASB Information

### Notes to schedule:

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**Changes in Actuarial Assumptions:**

Effective January 1, 2020:

- The net investment return assumption was lowered from 7.375% to 7.15%.
- The administrative expense assumption was changed from \$1,500,000 for calendar 2018 to \$1,850,000 for calendar 2020.

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**Changes in Plan Provisions:**

None

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## Section 2: GASB Information

### Exhibit 3: Schedule of Contributions – Last Six Fiscal Years

Year Ended December 31	Actuarially Determined Contributions <sup>1</sup>	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency / (Excess)	Covered-Employee Payroll	Contributions as a Percentage of Covered Employee Payroll
2014	\$51,562,171	\$51,562,171	\$0	\$253,920,106	20.31%
2015	53,626,351	53,626,351	0	264,076,910	20.31%
2016	56,269,528	56,269,528	0	269,672,807	20.87%
2017	59,292,237	59,292,237	0	271,510,348	21.84%
2018	62,544,990	62,544,990	0	283,145,854	22.09%
2019	65,839,710	65,839,710	0	293,746,441	22.41%

#### Notes to Schedule:

<b>Valuation date:</b>	Actuarially determined contribution for 2019 was determined with the January 1, 2018 actuarial valuation.				
<b>Actuarial cost method:</b>	Entry Age Actuarial Cost Method				
<b>Amortization method:</b>	Appropriations increase 5.28% per year through fiscal 2034 with a smaller payment in fiscal 2035.				
<b>Remaining amortization period:</b>	As of July 1, 2018, 4 years for 2010 Early Retirement Incentive and 17 years for 2002 and 2003 Early Retirement Incentives, retiree sheriffs liability and remaining unfunded liability.				
<b>Asset valuation method:</b>	Sum of actuarial value at beginning of the year, contributions and investment earnings based on the actuarial interest assumption less benefit payments and operating expenses plus 20% of the market value at the end of the year in excess of that sum, plus additional adjustment toward market value as necessary so that final actuarial value is within 20% of market value.				
<b>Actuarial assumptions:</b>					
• Investment rate of return	7.375% (previously, 7.675%)				
• Wage inflation rate	3.25% (previously 3.50%)				
• Projected salary increases	Varies by length of service with ultimate rates of 4.25% for Group 1, 4.50% for Group 2 and 4.75% for Group 4.				
• Cost of living adjustments	3% of first \$18,000				
• Other assumptions	Same as those used in the January 1, 2018 funding actuarial valuation.				
<b>Plan membership:</b>					
• Retired participants and beneficiaries receiving benefits					3,117
• Inactive participants entitled to a return of their employee contributions					564
• Inactive participants with a vested right to a deferred or immediate benefit					130
• Active participants					4,633
• Total					8,444

<sup>1</sup> The Actuarial Determined Contribution for 2019 is based on the January 1, 2018 actuarial valuation.

## Section 2: GASB Information

### Exhibit 4: Pension Expense

Reporting Date for Employer under GASB 68 Measurement Date	June 30, 2020 December 31, 2019	June 30, 2019 December 31, 2018
<b>Components of Pension Expense</b>		
Service cost	\$43,484,596	\$42,052,752
Interest on the Total Pension Liability	137,186,701	131,278,572
Expensed portion of current-period changes in proportion and differences between employer's contributions and proportionate share of contributions	0	0
Current-period benefit changes	0	0
Expensed portion of current-period difference between expected and actual experience in the Total Pension Liability	-240,803	0
Expensed portion of current-period changes of assumptions	7,959,781	0
Member contributions	-29,546,720	-28,391,645
Projected earnings on plan investments	-79,152,314	-81,296,677
Expensed portion of current-period differences between actual and projected earnings on plan investments	-18,603,932	21,489,547
Administrative expense	1,481,838	1,385,431
Recognition of beginning of year deferred outflows of resources as pension expense	53,056,608	31,808,777
Recognition of beginning of year deferred inflows of resources as pension expense	-20,100,347	-20,100,347
Net amortization of deferred amounts from changes in proportion and differences between employer's contributions and proportionate share of contributions	<u>0</u>	<u>0</u>
<b>Pension Expense</b>	<b>\$95,525,408</b>	<b>\$98,226,410</b>

## Section 2: GASB Information

### Deferred outflows of resources and deferred inflows of resources

Reporting Date for Employer under GASB 68	June 30, 2020	June 30, 2019
Measurement Date	December 31, 2019	December 31, 2018
<b>Deferred Outflows of Resources</b>		
Changes in proportion and differences between employer's contributions and proportionate share of contributions <sup>1</sup>	\$24,791,920	\$20,258,876
Changes of assumptions or other inputs	87,341,813	66,169,041
Net difference between projected and actual earnings on pension plan investments	0	46,157,764
Difference between expected and actual experience in the Total Pension Liability	<u>0</u>	<u>0</u>
<b>Total Deferred Outflows of Resources</b>	<b>\$112,133,733</b>	<b>\$132,585,681</b>
<b>Deferred Inflows of Resources</b>		
Changes in proportion and differences between employer's contributions and proportionate share of contributions <sup>1</sup>	\$24,791,920	\$20,258,876
Changes of assumptions or other inputs	0	0
Net difference between projected and actual earnings on plan investments	44,897,778	0
Difference between expected and actual experience in the Total Pension Liability	<u>6,332,661</u>	<u>7,438,327</u>
<b>Total Deferred Inflows of Resources</b>	<b>\$76,022,359</b>	<b>\$27,697,203</b>
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
<b>Reporting Date for Employer under GASB 68 Year Ended June 30:</b>		
2020	N/A	\$32,956,261
2021	\$9,761,010	20,645,965
2022	9,130,375	20,015,330
2023	20,385,967	31,270,922
2024	<b>-10,884,955</b>	0
2025	7,718,977	0
Thereafter	0	0

Note: Average expected remaining service life as of December 31, 2019 is 6 years.

<sup>1</sup> Calculated in accordance with Paragraphs 54 and 55 of GASB 68

## Section 2: GASB Information

### Exhibit 5: Determination of Proportionate Share

Employer Name	FY 2019 Total Appropriation	Percent of FY 2019 Total Appropriation excluding County Hospital and Retired Sheriffs	Share of NPL as of January 1, 2019	Percent of Total NPL as of January 1, 2019	FY 2020 Total Appropriation	Percent of FY 2020 Total Appropriation excluding County Hospital and Retired Sheriffs	Share of NPL as of January 1, 2020	Percent of Total NPL as of January 1, 2020
Barnstable County	\$2,785,669	4.493202%	\$34,388,815	4.350951%	\$2,673,518	4.097001%	\$29,844,669	3.972492%
County Hospital	8,262	0.000000%	113,988	0.014422%	8,794	0.000000%	100,762	0.013412%
Retired Sheriffs	1,506,576	0.000000%	24,908,609	3.151494%	1,601,421	0.000000%	22,730,968	3.025619%
Town of Barnstable	9,480,598	15.291923%	117,037,064	14.807795%	10,540,794	16.153118%	117,667,623	15.662219%
Barnstable Fire	413,778	0.667412%	5,108,049	0.646282%	467,765	0.716821%	5,221,693	0.695037%
Barnstable Housing	181,257	0.292362%	2,237,600	0.283106%	190,855	0.292474%	2,130,528	0.283585%
Town of Bourne	3,756,237	6.058700%	46,370,383	5.866886%	3,865,096	5.923021%	43,146,337	5.743019%
Bourne Housing	61,065	0.098496%	753,842	0.095378%	57,853	0.088656%	645,817	0.085962%
Bourne Recreation	128,273	0.206901%	1,583,518	0.200350%	135,246	0.207256%	1,509,761	0.200958%
Bourne Water	145,771	0.235124%	1,799,529	0.227681%	127,798	0.195843%	1,426,618	0.189891%
Town of Brewster	2,381,425	3.841168%	29,398,461	3.719560%	2,474,927	3.792673%	27,627,783	3.677412%
Brewster Housing Authority	12,213	0.019699%	150,768	0.019076%	12,856	0.019701%	143,512	0.019102%
Buzzards Bay Water	79,384	0.128044%	979,988	0.123990%	83,565	0.128058%	932,842	0.124166%
Cape Code Mosquito	289,916	0.467626%	3,578,985	0.452821%	305,219	0.467729%	3,407,181	0.453515%
Cape Cod Regional Technical High School	506,836	0.817512%	6,256,841	0.791630%	488,535	0.748650%	5,453,550	0.725898%
Cape Light Compact	277,827	0.448127%	3,429,747	0.433939%	321,404	0.492532%	3,587,855	0.477564%
C.O.M.M. Fire	1,428,123	2.303520%	17,630,040	2.230593%	1,451,979	2.225068%	16,208,543	2.157448%
Town of Chatham	2,073,528	3.344540%	25,597,503	3.238654%	2,215,473	3.395076%	24,731,480	3.291898%
Chatham Housing	36,639	0.059098%	452,305	0.057227%	44,997	0.068955%	502,305	0.066860%
Cotuit Fire	305,323	0.492477%	3,769,183	0.476886%	327,832	0.502382%	3,659,612	0.487115%
Town of Dennis	3,291,383	5.308904%	40,631,805	5.140829%	3,458,310	5.299647%	38,605,357	5.138589%
Dennis Housing	76,059	0.122681%	938,941	0.118797%	73,669	0.112893%	822,372	0.109462%

## Section 2: GASB Information

Employer Name	FY 2019 Total Appropriation	Percent of FY 2019 Total Appropriation excluding County Hospital and Retired Sheriffs	Share of NPL as of January 1, 2019	Percent of Total NPL as of January 1, 2019	FY 2020 Total Appropriation	Percent of FY 2020 Total Appropriation excluding County Hospital and Retired Sheriffs	Share of NPL as of January 1, 2020	Percent of Total NPL as of January 1, 2020
Dennis Water	262,578	0.423531%	3,241,500	0.410122%	276,408	0.423578%	3,085,562	0.410706%
Dennis-Yarmouth Regional School	1,349,528	2.176749%	16,659,793	2.107835%	1,304,901	1.999680%	14,566,701	1.938909%
Town of Eastham	1,588,826	2.562730%	19,613,903	2.481596%	1,769,231	2.711237%	19,750,050	2.628842%
Town of Harwich	2,815,079	4.540640%	34,751,878	4.396887%	3,079,053	4.718459%	34,371,684	4.575063%
Hyannis Fire	1,107,107	1.785731%	13,667,129	1.729196%	1,210,435	1.854917%	13,512,171	1.798546%
Town of Mashpee	3,014,665	4.862566%	37,215,748	4.708621%	3,263,919	5.001755%	36,435,356	4.849750%
Mashpee Housing	61,065	0.098496%	753,842	0.095378%	70,709	0.108357%	789,330	0.105064%
Mashpee Water	163,396	0.263553%	2,017,108	0.255209%	172,056	0.263665%	1,920,673	0.255652%
Town of Nantucket	6,387,654	10.303098%	78,854,971	9.976910%	6,770,597	10.375522%	75,580,649	10.060207%
Nantucket Housing	18,319	0.029548%	226,146	0.028613%	25,712	0.039402%	287,025	0.038205%
County of Nantucket	232,046	0.374283%	2,864,585	0.362434%	244,267	0.374324%	2,726,770	0.362948%
Nantucket Regional Transportation Authority	36,639	0.059098%	452,305	0.057227%	38,569	0.059105%	430,548	0.057308%
Nauset Regional School	891,544	1.438034%	11,006,024	1.392507%	912,788	1.398791%	10,189,516	1.356282%
North Sagamore Water	54,958	0.088646%	678,451	0.085839%	57,853	0.088656%	645,817	0.085962%
Town of Orleans	2,088,410	3.368544%	25,781,220	3.261899%	2,037,703	3.122654%	22,747,021	3.027756%
Orleans Housing	42,745	0.068946%	527,683	0.066764%	51,425	0.078806%	574,061	0.076411%
Ground Water Protection District	0	0.000000%	0	0.000000%	0	0.000000%	0	0.000000%
Town of Provincetown	1,807,513	2.915465%	22,313,573	2.823164%	1,877,001	2.876388%	20,953,094	2.788974%
Town of Sandwich	3,914,243	6.313559%	48,320,951	6.113677%	4,068,978	6.235458%	45,422,286	6.045960%
Sandwich Housing	30,532	0.049247%	376,915	0.047688%	32,140	0.049253%	358,781	0.047756%
Sandwich Water	195,407	0.315186%	2,412,281	0.305207%	205,699	0.315221%	2,296,232	0.305641%
Town of Truro	1,150,703	1.856050%	14,205,317	1.797289%	1,166,488	1.787571%	13,021,587	1.733246%

## Section 2: GASB Information

Employer Name	FY 2019 Total Appropriation	Percent of FY 2019 Total Appropriation excluding County Hospital and Retired Sheriffs	Share of NPL as of January 1, 2019	Percent of Total NPL as of January 1, 2019	FY 2020 Total Appropriation	Percent of FY 2020 Total Appropriation excluding County Hospital and Retired Sheriffs	Share of NPL as of January 1, 2020	Percent of Total NPL as of January 1, 2020
Veterans District	65,528	0.105695%	808,937	0.102349%	69,032	0.105787%	770,609	0.102572%
Town of Wellfleet	1,279,645	2.064030%	15,797,094	1.998684%	1,270,090	1.946335%	14,178,104	1.887185%
Town of Yarmouth	4,398,397	7.094485%	54,297,786	6.869880%	4,550,219	6.972930%	50,794,413	6.761020%
Yarmouth Housing	41,116	0.066319%	507,573	0.064219%	49,762	0.076257%	555,497	0.073940%
West Barnstable Fire	116,023	0.187142%	1,432,293	0.181217%	128,562	0.197013%	1,435,147	0.191026%
Cape Cod Regional Transit Authority	189,300	0.305335%	2,336,890	0.295669%	205,699	0.315221%	2,296,232	0.305641%
Monomoy Regional School District	983,141	1.585778%	12,136,781	1.535573%	1,028,494	1.576104%	11,481,151	1.528205%
Provincetown Housing	0	0.000000%	0	0.000000%	0	0.000000%	0	0.000000%
<b>Grand Totals:<sup>1</sup></b>	<b>\$63,512,249</b>	<b>100.000000%</b>	<b>\$790,374,641</b>	<b>100.000000%</b>	<b>\$66,865,696</b>	<b>100.000000%</b>	<b>\$751,283,235</b>	<b>100.000000%</b>

<sup>1</sup> Covered employee payroll for 2019 is based on each unit's proportionate share of the fiscal 2019 appropriation with adjustments to exclude the County Hospital and Retired Sheriffs.

## Section 2: GASB Information

### Exhibit 6: Determination of Proportionate Share Amounts by Employer

Employer Name	2020 Share of Cost Allocator (1)	Net Pension Liability (2)	Covered Employee Payroll (3)	Discount Rate Sensitivity		
				1% Decrease (6.15%) (4)	Current Discount Rate (7.15%) (5)	1% Increase (8.15%) (6)
Barnstable County	3.972492%	\$29,844,669	\$11,602,984	\$39,247,259	\$29,844,669	\$21,945,410
County Hospital	0.013412%	100,762	0	132,507	100,762	74,092
Retired Sheriffs	3.025619%	22,730,968	0	29,892,380	22,730,968	16,714,556
Town of Barnstable	15.662219%	117,667,623	47,146,301	154,738,918	117,667,623	86,523,468
Barnstable Fire	0.695037%	5,221,693	2,114,974	6,866,792	5,221,693	3,839,620
Barnstable Housing	0.283585%	2,130,528	851,865	2,801,753	2,130,528	1,566,622
Town of Bourne	5.743019%	43,146,337	17,242,916	56,739,630	43,146,337	31,726,404
Bourne Housing	0.085962%	645,817	264,372	849,282	645,817	474,883
Bourne Recreation	0.200958%	1,509,761	528,744	1,985,413	1,509,761	1,110,159
Bourne Water	0.189891%	1,426,618	558,118	1,876,075	1,426,618	1,049,022
Town of Brewster	3.677412%	27,627,783	11,221,114	36,331,941	27,627,783	20,315,287
Brewster Housing Authority	0.019102%	143,512	58,749	188,726	143,512	105,527
Buzzards Bay Water	0.124166%	932,842	381,870	1,226,735	932,842	685,938
Cape Code Mosquito	0.453515%	3,407,181	1,380,608	4,480,616	3,407,181	2,505,371
Cape Cod Regional Technical High School	0.725898%	5,453,550	2,232,473	7,171,696	5,453,550	4,010,109
Cape Light Compact	0.477564%	3,587,855	1,468,732	4,718,212	3,587,855	2,638,225
C.O.M.M. Fire	2.157448%	16,208,543	6,609,295	21,315,059	16,208,543	11,918,481
Town of Chatham	3.291898%	24,731,480	9,664,258	32,523,155	24,731,480	18,185,575
Chatham Housing	0.066860%	502,305	205,623	660,557	502,305	369,355
Cotuit Fire	0.487115%	3,659,612	1,498,107	4,812,576	3,659,612	2,690,989
Town of Dennis	5.138589%	38,605,357	15,803,559	50,768,010	38,605,357	28,387,327
Dennis Housing	0.109462%	822,372	323,121	1,081,461	822,372	604,707

## Section 2: GASB Information

Employer Name	2020 Share of Cost Allocator (1)	Net Pension Liability (2)	Covered Employee Payroll (3)	Discount Rate Sensitivity		
				1% Decrease (6.15%) (4)	Current Discount Rate (7.15%) (5)	1% Increase (8.15%) (6)
Dennis Water	0.410706%	3,085,562	1,263,110	4,057,671	3,085,562	2,268,878
Dennis-Yarmouth Regional School	1.938909%	14,566,701	5,963,053	19,155,953	14,566,701	10,711,200
Town of Eastham	2.628842%	19,750,050	7,960,529	25,972,321	19,750,050	14,522,625
Town of Harwich	4.575063%	34,371,684	14,070,455	45,200,514	34,371,684	25,274,219
Hyannis Fire	1.798546%	13,512,171	5,522,433	17,769,193	13,512,171	9,935,782
Town of Mashpee	4.849750%	36,435,356	14,716,697	47,914,348	36,435,356	26,791,680
Mashpee Housing	0.105064%	789,330	323,121	1,038,009	789,330	580,411
Mashpee Water	0.255652%	1,920,673	763,741	2,525,783	1,920,673	1,412,311
Town of Nantucket	10.060207%	75,580,649	30,314,633	99,392,401	75,580,649	55,576,033
Nantucket Housing	0.038205%	287,025	117,499	377,452	287,025	211,055
County of Nantucket	0.362948%	2,726,770	1,116,236	3,585,841	2,726,770	2,005,051
Nantucket Regional Transportation Authority	0.057308%	430,548	176,248	566,193	430,548	316,591
Nauset Regional School	1.356282%	10,189,516	4,171,199	13,399,732	10,189,516	7,492,564
North Sagamore Water	0.085962%	645,817	264,372	849,282	645,817	474,883
Town of Orleans	3.027756%	22,747,021	9,311,762	29,913,491	22,747,021	16,726,361
Orleans Housing	0.076411%	574,061	234,997	754,919	574,061	422,119
Ground Water Protection District	0.000000%	0	0	0	0	0
Town of Provincetown	2.788974%	20,953,094	8,577,396	27,554,385	20,953,094	15,407,248
Town of Sandwich	6.045960%	45,422,286	18,594,150	59,732,619	45,422,286	33,399,957
Sandwich Housing	0.047756%	358,781	146,873	471,815	358,781	263,819
Sandwich Water	0.305641%	2,296,232	939,989	3,019,662	2,296,232	1,688,467
Town of Truro	1.733246%	13,021,587	5,258,061	17,124,050	13,021,587	9,575,045

## Section 2: GASB Information

Employer Name	2020 Share of Cost Allocator (1)	Net Pension Liability (2)	Covered Employee Payroll (3)	Discount Rate Sensitivity		
				1% Decrease (6.15%) (4)	Current Discount Rate (7.15%) (5)	1% Increase (8.15%) (6)
Veterans District	0.102572%	770,609	293,746	1,013,390	770,609	566,645
Town of Wellfleet	1.887185%	14,178,104	5,728,056	18,644,929	14,178,104	10,425,457
Town of Yarmouth	6.761020%	50,794,413	20,327,254	66,797,239	50,794,413	37,350,195
Yarmouth Housing	0.073940%	555,497	205,623	730,507	555,497	408,469
West Barnstable Fire	0.191026%	1,435,147	587,493	1,887,291	1,435,147	1,055,294
Cape Cod Regional Transit Authority	0.305641%	2,296,232	939,989	3,019,662	2,296,232	1,688,467
Monomoy Regional School District	1.528205%	11,481,151	4,699,943	15,098,298	11,481,151	8,442,331
Provincetown Housing	<u>0.000000%</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
<b>Grand Totals:</b>	<b>100.000000%</b>	<b>\$751,283,235</b>	<b>\$293,746,441</b>	<b>\$987,975,703</b>	<b>\$751,283,235</b>	<b>\$552,434,284</b>

## Section 2: GASB Information

Employer Name	Schedule of Contributions				Pension Expense		
	Statutory Required Contribution (7)	Contributions In Relation to the Statutory Required Contribution (8)	Contribution Deficiency/ (Excess) (9)	Contributions as a Percentage of Covered Employee Payroll (10)	Proportionate Share of Plan Pension Expense (11)	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions (12)	Total Employer Pension Expense (13)
Barnstable County	\$2,615,477	\$2,702,041	<b>-86,564</b>	23.2875%	\$3,794,740	<b>-\$995,497</b>	\$2,799,243
County Hospital	8,830	8,639	191	0.0000%	12,812	<b>-5,979</b>	6,833
Retired Sheriffs	1,992,059	1,573,185	418,874	0.0000%	2,890,235	<b>-529,532</b>	2,360,703
Town of Barnstable	10,311,961	10,364,347	<b>-52,386</b>	21.9834%	14,961,400	760,562	15,721,962
Barnstable Fire	457,610	459,517	<b>-1,907</b>	21.7268%	663,936	71,066	735,002
Barnstable Housing	186,712	190,855	<b>-4,143</b>	22.4044%	270,896	<b>-17,427</b>	253,469
Town of Bourne	3,781,187	3,840,170	<b>-58,983</b>	22.2710%	5,486,042	<b>-336,206</b>	5,149,836
Bourne Housing	56,597	56,833	<b>-236</b>	21.4974%	82,115	<b>-49,393</b>	32,722
Bourne Recreation	132,310	132,861	<b>-551</b>	25.1277%	191,966	3,729	195,695
Bourne Water	125,024	125,545	<b>-521</b>	22.4943%	181,394	<b>-41,189</b>	140,205
Town of Brewster	2,421,198	2,431,289	<b>-10,091</b>	21.6671%	3,512,863	82,405	3,595,268
Brewster Housing Authority	12,577	12,856	<b>-279</b>	21.8829%	18,248	<b>-17,613</b>	635
Buzzards Bay Water	81,751	83,565	<b>-1,814</b>	21.8831%	118,611	12,884	131,495
Cape Code Mosquito	298,593	301,361	<b>-2,768</b>	21.8281%	433,222	30,332	463,554
Cape Cod Regional Technical High School	477,929	479,921	-1,992	21.4973%	693,417	<b>-36,534</b>	656,883
Cape Light Compact	314,426	315,737	<b>-1,311</b>	21.4973%	456,195	521,086	977,281
C.O.M.M. Fire	1,420,457	1,426,378	<b>-5,921</b>	21.5814%	2,060,911	<b>-91,330</b>	1,969,581
Town of Chatham	2,167,376	2,176,410	<b>-9,034</b>	22.5202%	3,144,599	8,626	3,153,225
Chatham Housing	44,020	44,997	<b>-977</b>	21.8833%	63,868	11,793	75,661
Cotuit Fire	320,715	322,052	-1,337	21.4973%	465,318	37,583	502,901
Town of Dennis	3,383,232	3,397,333	<b>-14,101</b>	21.4973%	4,908,658	35,051	4,943,709
Dennis Housing	72,070	76,115	<b>-4,045</b>	23.5562%	104,564	10,208	114,772

## Section 2: GASB Information

Employer Name	Schedule of Contributions				Pension Expense		
	Statutory Required Contribution (7)	Contributions In Relation to the Statutory Required Contribution (8)	Contribution Deficiency/ (Excess) (9)	Contributions as a Percentage of Covered Employee Payroll (10)	Proportionate Share of Plan Pension Expense (11)	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions (12)	Total Employer Pension Expense (13)
Dennis Water	270,407	271,534	-1,127	21.4973%	392,328	-53,979	338,349
Dennis-Yarmouth Regional School	1,276,572	1,281,893	-5,321	21.4973%	1,852,151	-241,216	1,610,935
Town of Eastham	1,730,822	1,738,036	-7,214	21.8332%	2,511,212	129,414	2,640,626
Town of Harwich	3,012,208	3,024,763	-12,555	21.4973%	4,370,348	342,761	4,713,109
Hyannis Fire	1,184,157	1,189,093	-4,936	21.5320%	1,718,068	10,738	1,728,806
Town of Mashpee	3,193,061	3,206,370	-13,309	21.7873%	4,632,743	114,347	4,747,090
Mashpee Housing	69,174	70,709	-1,535	21.8831%	100,363	40,747	141,110
Mashpee Water	168,321	169,022	-701	22.1308%	244,213	-19,788	224,425
Town of Nantucket	6,623,611	6,657,584	-33,973	21.9616%	9,610,054	594,054	10,204,108
Nantucket Housing	25,154	25,712	-558	21.8827%	36,495	1,118	37,613
County of Nantucket	238,964	239,960	-996	21.4972%	346,708	19,554	366,262
Nantucket Regional Transportation Authority	37,732	38,569	-837	21.8834%	54,744	856	55,600
Nauset Regional School	892,972	896,694	-3,722	21.4973%	1,295,593	4,628	1,300,221
North Sagamore Water	56,597	56,833	-236	21.4974%	82,115	249	82,364
Town of Orleans	1,993,466	2,001,774	-8,308	21.4973%	2,892,276	-145,879	2,746,397
Orleans Housing	50,309	51,425	-1,116	21.8833%	72,992	1,691	74,683
Ground Water Protection District	0	0	0	0.0000%	0	-148,814	-148,814
Town of Provincetown	1,836,252	1,843,906	-7,654	21.4973%	2,664,179	128,342	2,792,521
Town of Sandwich	3,980,643	3,999,704	-19,061	21.5106%	5,775,428	321,688	6,097,116
Sandwich Housing	31,442	32,140	-698	21.8829%	45,619	950	46,569
Sandwich Water	201,233	202,072	-839	21.4973%	291,965	-53,423	238,542
Town of Truro	1,141,164	1,145,920	-4,756	21.7936%	1,655,690	-73,974	1,581,716

## Section 2: GASB Information

Employer Name	Schedule of Contributions				Pension Expense		
	Statutory Required Contribution (7)	Contributions In Relation to the Statutory Required Contribution (8)	Contribution Deficiency/ (Excess) (9)	Contributions as a Percentage of Covered Employee Payroll (10)	Proportionate Share of Plan Pension Expense (11)	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions (12)	Total Employer Pension Expense (13)
Veterans District	67,533	67,815	-282	23.0863%	97,983	10,404	108,387
Town of Wellfleet	1,242,517	1,247,696	-5,179	21.7822%	1,802,741	34,330	1,837,071
Town of Yarmouth	4,451,436	4,469,990	-18,554	21.9901%	6,458,492	-365,142	6,093,350
Yarmouth Housing	48,682	49,762	-1,080	24.2006%	70,631	2,011	72,642
West Barnstable Fire	125,771	126,295	-524	21.4973%	182,478	7,913	190,391
Cape Cod Regional Transit Authority	201,233	202,072	-839	21.4973%	291,965	-9,044	282,921
Monomoy Regional School District	1,006,166	1,010,360	-4,194	21.4973%	1,459,824	-116,994	1,342,830
Provincetown Housing	0	0	0	0.0000%	0	-2,167	-2,167
<b>Grand Totals:</b>	<b>\$65,839,710</b>	<b>\$65,839,710</b>	<b>\$0</b>	<b>22.4100%</b>	<b>\$95,525,408</b>	<b>\$0</b>	<b>\$95,525,408</b>

## Section 2: GASB Information

Employer Name	Deferred Outflows of Resources					Deferred Inflows of Resources			
	Differences Between Expected and Actual Experience (14)	Changes of Assumptions (15)	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions (16)	Total Deferred Outflows of Resources (17)	Differences Between Expected and Actual Experience (18)	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments (19)	Changes of Assumptions (20)	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions (21)	Total Deferred Inflows of Resources (22)
Barnstable County	\$0	\$3,469,647	\$449,542	\$3,919,188	\$251,564	\$1,783,561	\$0	\$5,345,640	\$7,380,765
County Hospital	0	11,714	0	11,714	849	6,022	0	17,714	24,585
Retired Sheriffs	0	2,642,630	205,185	2,847,815	191,602	1,358,436	0	1,997,302	3,547,340
Town of Barnstable	0	13,679,664	5,947,794	19,627,460	991,835	7,031,990	0	1,524,686	9,548,511
Barnstable Fire	0	607,058	389,050	996,107	44,014	312,056	0	207,343	563,413
Barnstable Housing	0	247,688	111,982	359,670	17,958	127,323	0	211,745	357,026
Town of Bourne	0	5,016,057	217,936	5,233,993	363,686	2,578,488	0	1,610,048	4,552,222
Bourne Housing	0	75,081	1,516	76,597	5,444	38,595	0	173,187	217,226
Bourne Recreation	0	175,520	58,599	234,119	12,726	90,226	0	38,744	141,696
Bourne Water	0	165,854	79,966	245,820	12,025	85,257	0	289,850	387,132
Town of Brewster	0	3,211,919	862,426	4,074,345	232,878	1,651,076	0	510,790	2,394,744
Brewster Housing Authority	0	16,684	926	17,610	1,210	8,576	0	17,906	27,692
Buzzards Bay Water	0	108,449	76,935	185,384	7,863	55,748	0	18,257	81,868
Cape Code Mosquito	0	396,108	165,484	561,592	28,720	203,618	0	89,348	321,686
Cape Cod Regional Technical High School	0	634,012	528,173	1,162,185	45,969	325,912	0	663,115	1,034,996
Cape Light Compact	0	417,113	2,134,412	2,551,525	30,242	214,415	0	0	244,657
C.O.M.M. Fire	0	1,884,354	156,646	2,041,000	136,624	968,646	0	522,394	1,627,664
Town of Chatham	0	2,875,204	441,013	3,316,217	208,465	1,477,989	0	119,624	1,806,078
Chatham Housing	0	58,396	57,486	115,882	4,234	30,018	0	46	34,298
Cotuit Fire	0	425,455	262,138	687,593	30,847	218,704	0	44,878	294,429
Town of Dennis	0	4,488,137	458,207	4,946,344	325,409	2,307,112	0	526,162	3,158,683
Dennis Housing	0	95,606	45,418	141,024	6,932	49,146	0	53,620	109,698

## Section 2: GASB Information

Employer Name	Deferred Outflows of Resources				Deferred Inflows of Resources				
	Differences Between Expected and Actual Experience (14)	Changes of Assumptions (15)	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions (16)	Total Deferred Outflows of Resources (17)	Differences Between Expected and Actual Experience (18)	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments (19)	Changes of Assumptions (20)	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions (21)	Total Deferred Inflows of Resources (22)
Dennis Water	0	358,718	37,891	396,609	26,009	184,398	0	164,841	375,248
Dennis-Yarmouth Regional School	0	1,693,479	419,079	2,112,558	122,785	870,527	0	1,244,996	2,238,308
Town of Eastham	0	2,296,078	1,031,316	3,327,394	166,476	1,180,292	0	262,401	1,609,169
Town of Harwich	0	3,995,943	1,605,251	5,601,194	289,723	2,054,102	0	443,744	2,787,569
Hyannis Fire	0	1,570,882	524,530	2,095,412	113,896	807,507	0	458,408	1,379,811
Town of Mashpee	0	4,235,859	1,174,848	5,410,707	307,118	2,177,430	0	571,396	3,055,944
Mashpee Housing	0	91,765	127,744	219,509	6,653	47,172	0	0	53,825
Mashpee Water	0	223,291	14,257	237,548	16,190	114,782	0	101,787	232,759
Town of Nantucket	0	8,786,767	2,532,610	11,319,377	637,079	4,516,809	0	651,914	5,805,802
Nantucket Housing	0	33,369	56,252	89,621	2,419	17,153	0	41,349	60,921
County of Nantucket	0	317,006	280,477	597,483	22,984	162,956	0	90,616	276,556
Nantucket Regional Transportation Authority	0	50,054	2,811	52,865	3,629	25,730	0	46	29,405
Nauset Regional School	0	1,184,601	232,193	1,416,794	85,889	608,940	0	582,445	1,277,274
North Sagamore Water	0	75,081	10,546	85,627	5,444	38,595	0	18,302	62,341
Town of Orleans	0	2,644,497	558,565	3,203,062	191,738	1,359,395	0	1,609,516	3,160,649
Orleans Housing	0	66,739	58,130	124,869	4,839	34,307	0	41,386	80,532
Ground Water Protection District	0	0	514	514	0	0	0	438,535	438,535
Town of Provincetown	0	2,435,940	907,901	3,343,841	176,616	1,252,187	0	369,184	1,797,987
Town of Sandwich	0	5,280,651	972,836	6,253,487	382,870	2,714,502	0	386,824	3,484,196
Sandwich Housing	0	41,711	3,023	44,734	3,024	21,441	0	44	24,509
Sandwich Water	0	266,953	5,804	272,757	19,355	137,226	0	110,164	266,745
Town of Truro	0	1,513,849	231,226	1,745,075	109,761	778,189	0	434,920	1,322,870

## Section 2: GASB Information

Employer Name	Deferred Outflows of Resources				Deferred Inflows of Resources				
	Differences Between Expected and Actual Experience (14)	Changes of Assumptions (15)	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions (16)	Total Deferred Outflows of Resources (17)	Differences Between Expected and Actual Experience (18)	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments (19)	Changes of Assumptions (20)	Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions (21)	Total Deferred Inflows of Resources (22)
Veterans District	0	89,589	41,104	130,693	6,496	46,053	0	18,815	71,364
Town of Wellfleet	0	1,648,302	616,444	2,264,746	119,509	847,304	0	663,257	1,630,070
Town of Yarmouth	0	5,905,198	137,694	6,042,892	428,153	3,035,548	0	1,447,987	4,911,688
Yarmouth Housing	0	64,580	58,373	122,953	4,682	33,197	0	30,822	68,701
West Barnstable Fire	0	166,846	85,316	252,162	12,097	85,766	0	124,058	221,921
Cape Cod Regional Transit Authority	0	266,953	270,765	537,718	19,355	137,226	0	168,958	325,539
Monomoy Regional School District	0	1,334,762	106,544	1,441,306	96,776	686,130	0	250,162	1,033,068
Provincetown Housing	<u>0</u>	<u>0</u>	<u>37,042</u>	<u>37,042</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>82,644</u>	<u>82,644</u>
<b>Grand Totals:</b>	<b>\$0</b>	<b>\$87,341,813</b>	<b>\$24,791,920</b>	<b>\$112,133,733</b>	<b>\$6,332,661</b>	<b>\$44,897,778</b>	<b>\$0</b>	<b>\$24,791,920</b>	<b>\$76,022,359</b>

## Section 2: GASB Information

### Deferred Inflows/(Outflows) Recognized In Future Pension Expense (Year Ended June 30)

Employer Name	2021 (23)	2022 (24)	2023 (25)	2024 (26)	2025 (27)	Thereafter (28)
Barnstable County	-\$607,741	-\$857,670	-\$445,169	-\$1,439,680	-\$111,317	\$0
County Hospital	-4,670	-4,264	-904	-2,882	-151	0
Retired Sheriffs	-234,177	-185,512	274,521	-574,282	19,926	0
Town of Barnstable	2,289,351	2,389,661	4,211,039	-1,004,950	2,193,856	0
Barnstable Fire	138,906	98,204	157,047	-71,131	109,669	0
Barnstable Housing	10,251	16,531	1,384	-48,650	23,128	0
Town of Bourne	224,363	71,772	904,529	-830,510	311,617	0
Bourne Housing	-41,009	-41,816	-23,350	-30,370	-4,084	0
Bourne Recreation	23,342	11,397	52,069	-10,683	16,298	0
Bourne Water	-22,652	-42,196	15,741	-63,776	-28,429	0
Town of Brewster	441,358	433,447	971,093	-403,685	237,388	0
Brewster Housing Authority	-15,742	1,990	4,074	-1,955	1,551	0
Buzzards Bay Water	25,004	23,996	46,823	-2,394	10,088	0
Cape Code Mosquito	74,598	71,403	84,978	-27,333	36,261	0
Cape Cod Regional Technical High School	34,325	2,661	138,435	-29,499	-18,733	0
Cape Light Compact	567,704	564,692	618,445	469,103	86,922	0
C.O.M.M. Fire	119,256	109,742	386,045	-285,659	83,953	0
Town of Chatham	329,946	404,804	742,105	-283,153	316,437	0
Chatham Housing	18,321	17,788	25,124	4,022	16,329	0
Cotuit Fire	85,129	126,677	162,445	-30,597	49,509	0
Town of Dennis	536,631	368,430	1,095,334	-609,173	396,437	0
Dennis Housing	20,888	10,837	22,830	-21,687	-1,542	0

## Section 2: GASB Information

### Deferred Inflows/(Outflows) Recognized In Future Pension Expense (Year Ended June 30)

Employer Name	2021 (23)	2022 (24)	2023 (25)	2024 (26)	2025 (27)	Thereafter (28)
Dennis Water	-13,885	-7,666	74,710	-64,355	32,557	0
Dennis-Yarmouth Regional School	-51,962	69,431	229,236	-330,012	-42,443	0
Town of Eastham	386,014	438,459	648,034	-126,627	372,347	0
Town of Harwich	789,342	786,074	1,073,318	-393,914	558,804	0
Hyannis Fire	186,297	192,189	336,617	-218,384	218,882	0
Town of Mashpee	587,730	561,754	999,554	-332,080	537,805	0
Mashpee Housing	51,000	41,236	43,576	10,440	19,432	0
Mashpee Water	5,170	-5,807	22,602	-37,534	20,358	0
Town of Nantucket	1,576,029	1,491,606	2,251,701	-683,133	877,372	0
Nantucket Housing	4,843	4,530	8,698	-3,373	14,000	0
County of Nantucket	54,982	88,393	156,401	-7,619	28,770	0
Nantucket Regional Transportation Authority	6,454	5,980	12,242	-5,873	4,657	0
Nauset Regional School	137,011	-14,725	201,359	-248,049	63,924	0
North Sagamore Water	8,636	-883	17,863	-9,144	6,814	0
Town of Orleans	149,667	84,876	476,005	-635,729	-32,406	0
Orleans Housing	9,146	8,514	16,860	-7,288	17,105	0
Ground Water Protection District	-148,814	-149,100	-140,107	0	0	0
Town of Provincetown	400,575	471,702	671,045	-174,964	177,495	0
Town of Sandwich	911,833	782,483	1,371,036	-688,559	392,498	0
Sandwich Housing	5,607	5,206	10,426	-4,895	3,879	0
Sandwich Water	-23,588	-25,626	63,511	-32,514	24,228	0
Town of Truro	95,208	136,381	338,204	-209,002	61,414	0

## Section 2: GASB Information

### Deferred Inflows/(Outflows) Recognized In Future Pension Expense (Year Ended June 30)

Employer Name	2021 (23)	2022 (24)	2023 (25)	2024 (26)	2025 (27)	Thereafter (28)
Veterans District	20,415	10,472	31,143	-10,921	8,220	0
Town of Wellfleet	218,538	231,820	414,014	-248,846	19,149	0
Town of Yarmouth	294,802	169,250	1,127,006	-860,456	400,603	0
Yarmouth Housing	9,228	8,295	16,444	3,291	16,993	0
West Barnstable Fire	26,554	-1,559	19,624	-40,418	26,039	0
Cape Cod Regional Transit Authority	20,790	54,088	134,126	-31,951	35,125	0
Monomoy Regional School District	32,173	102,598	336,685	-173,461	110,243	0
Provincetown Housing	<u>-2,167</u>	<u>-2,170</u>	<u>-20,604</u>	<u>-20,661</u>	<u>0</u>	<u>0</u>
<b>Grand Totals:</b>	<b>\$9,761,010</b>	<b>\$9,130,375</b>	<b>\$20,385,967</b>	<b>-\$10,884,955</b>	<b>\$7,718,977</b>	<b>\$0</b>

# Section 3: GASB Information

## Exhibit I: Actuarial Assumptions and Actuarial Cost Method

<b>Net Investment Return:</b>	7.15% (previously, 7.375%)			
	The net investment return assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgment. As part of the analysis, a building block approach was used that reflects inflation expectations and anticipated risk premiums for each of the portfolio's asset classes, as well as the Plan's target asset allocation.			
<b>Salary Increases:</b>	<b>Years of Service</b>	<b>Group 1</b>	<b>Group 2</b>	<b>Group 4</b>
	0	6.00%	6.00%	7.00%
	1	5.50%	5.50%	6.50%
	2	5.50%	5.50%	6.00%
	3	5.25%	5.25%	5.75%
	4	5.25%	5.25%	5.25%
	5	4.75%	4.75%	5.25%
	6	4.75%	4.75%	4.75%
	7	4.50%	4.50%	4.75%
	8	4.50%	4.50%	4.50%
	9	4.25%	4.25%	4.50%
	10	4.25%	4.25%	4.50%
	11	4.00%	4.25%	4.50%
	12+	4.00%	4.25%	4.50%
	Includes an allowance for wage inflation of 3.25%.			
	The salary scale assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgment.			
<b>Interest on Employee Contributions:</b>	3.5%			

## Section 3: GASB Information

**Administrative Expenses:** \$1,850,000 for calendar 2020, increasing 3.25% per year (previously, \$1,500,000 for calendar 2018, increasing 3.25% per year).  
The administrative expense assumption is based on information on expenses provided by the Retirement System.

**Mortality Rates:** *Pre-Retirement:* RP-2014 Blue Collar Employee Mortality Table projected generationally with Scale MP-2017  
*Healthy Retiree:* RP-2014 Blue Collar Healthy Annuitant Mortality Table projected generationally with Scale MP-2017  
*Disabled Retiree:* RP-2014 Blue Collar Healthy Annuitant Mortality Table set forward one year and projected generationally with Scale MP-2017  
The mortality tables reasonably reflect the projected mortality experience of the Plan as of the measurement date based on historical and current demographic data. As part of the analysis, a comparison was made between the actual number of retiree deaths and the projected number based on the prior years' assumptions over the most recent ten years. The mortality tables were then adjusted to future years using generational projection under Scale MP-2017 to reflect future mortality improvement.

### Termination Rates before Retirement:

Age	Groups 1 and 2 - Rate (%)		
	Mortality		
	Male	Female	Disability
20	0.05	0.02	0.01
25	0.06	0.02	0.02
30	0.06	0.02	0.03
35	0.07	0.03	0.06
40	0.08	0.04	0.10
45	0.13	0.07	0.15
50	0.22	0.12	0.19
55	0.36	0.19	0.24
60	0.61	0.27	0.28

Notes: Mortality rates do not reflect generational projection.  
55% of the disability rates shown represent accidental disability.  
20% of the accidental disabilities will die from the same cause as the disability.  
55% of the death rates shown represent accidental death.

## Section 3: GASB Information

Group 4 - Rate (%)				
Mortality				
Age	Male	Female	Disability	
20	0.05	0.02	0.10	
25	0.06	0.02	0.20	
30	0.06	0.02	0.30	
35	0.07	0.03	0.30	
40	0.08	0.04	0.30	
45	0.13	0.07	1.00	
50	0.22	0.12	1.25	
55	0.36	0.19	1.20	
60	0.61	0.27	0.85	

Notes: Mortality rates do not reflect generational projection.  
 90% of the disability rates shown represent accidental disability.  
 60% of the accidental disabilities will die from the same cause as the disability.  
 90% of the death rates shown represent accidental death.

## Section 3: GASB Information

### Withdrawal Rates:

Years of Service	Rate per year (%)	
	Groups 1 and 2	Group 4
0	15.0	1.5
1	12.0	0.0
2	10.0	
3	9.0	
4	8.0	
5	7.6	
6	7.5	
7	6.7	
8	6.3	
9	5.9	
10	5.4	
11	5.0	
12	4.6	
13	4.1	
14	3.7	
15	3.3	
16 – 20	2.0	
21 – 29	1.0	
30+	0.0	

The termination rates and disability rates were based on historical and current demographic data, adjusted to reflect economic conditions of the area and estimated future experience and professional judgment. As part of the analysis, a comparison was made between the actual number of terminations and disability retirements and the projected number based on the prior years' assumptions over the past ten years.

## Section 3: GASB Information

### Retirement Rates:

Age	Rate per year (%)		
	Groups 1 and 2		Group 4
	Male	Female	
45 – 49	--	--	1.0
50 – 51	1.0	1.5	2.0
52	1.0	2.0	2.0
53	1.0	2.5	5.0
54	2.0	2.5	7.5
55	2.0	5.5	15.0
56 – 57	2.5	6.5	10.0
58	5.0	6.5	10.0
59	6.5	6.5	15.0
60	12.0	5.0	20.0
61	20.0	13.0	20.0
62	30.0	15.0	25.0
63	25.0	12.5	25.0
64	22.0	18.0	30.0
65	40.0	15.0	100.0
66 – 67	25.0	20.0	--
68	30.0	25.0	--
69	30.0	20.0	--
70	100.0	100.0	--

The retirement rates were based on historical and current demographic data, adjusted to reflect economic conditions of the area and estimated future experience and professional judgment. As part of the analysis, a comparison was made between the actual number of retirements by age and the projected number based on the prior years' assumption over the most recent ten years.

## Section 3: GASB Information

<b>Retirement Rates for Inactive Vested Participants:</b>	55 for participants hired prior to April 2, 2012. For participants hired April 2, 2012 or later, 60 for Group 1, 55 for Group 2, and 50 for Group 4. The retirement age for inactive vested participants was based on historical and current demographic data, adjusted to reflect economic conditions of the area and estimated future experience and professional judgment.
<b>Unknown Data for Participants:</b>	Same as those exhibited by participants with similar known characteristics. If not specified, participants are assumed to be male.
<b>Family Composition:</b>	75% of participants are assumed to be married. None are assumed to have dependent children. Females are assumed to be three years younger than their spouses.
<b>Benefit Election:</b>	All participants are assumed to elect Option A. The benefit election reflects the fact that all benefit options are actuarially equivalent.
<b>2019 Salary:</b>	2019 salaries are equal to salaries provided in the data, annualized for new hires.
<b>Total Service:</b>	Total creditable service reported in the data. If missing, total creditable service estimated from date of hire.
<b>Net 3(8)(c) Liability:</b>	No liability is valued for benefits paid to or received from other municipal retirement systems.
<b>Actuarial Value of Assets:</b>	A preliminary actuarial value is first determined by taking the actuarial value of assets at the beginning of the year and adding assumed investment earnings (at the assumed actuarial rate of return) and the net new money during the year (contributions less benefit payments and administrative expenses). Twenty percent of the difference between the market value of assets as reported in the System's Annual Statement and the preliminary actuarial value of assets is added to the preliminary actuarial value. In order that the actuarial value not differ too significantly from the market value of assets, the final actuarial value of assets must be within 20% of the market value of assets.
<b>Actuarial Cost Method:</b>	Entry Age Normal Actuarial Cost Method. Entry Age is the attained age of the participant minus total creditable service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are allocated by salary. Normal Cost is determined using the plan of benefits applicable to each participant.
<b>Expected Remaining Service Lives:</b>	The average of the expected service lives of all employees is determined by: <ul style="list-style-type: none"><li>• Calculating each active employee's expected remaining service life as the present value of \$1 per year of future service at zero percent interest.</li><li>• Setting the remaining service life to zero for each nonactive or retired member.</li><li>• Dividing the sum of the above amounts by the total number of active employee, nonactive, and retired members.</li><li>• This amount was then rounded up to the nearest whole number.</li></ul>
<b>Justification for Change in Actuarial Assumptions:</b>	Based on past experience and future expectations, the following actuarial assumption were changed as of January 1, 2020: <ul style="list-style-type: none"><li>• The investment return assumption was lowered from 7.375% to 7.15%.</li><li>• The administrative expense assumption was changed from 1,500,000 for calendar 2018, increasing 3.25% per year, to \$1,850,000 for calendar 2020, increasing 3.25% per year.</li></ul>

Section 3: GASB Information

## Exhibit II: Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

<b>Plan Year:</b>	January 1 through December 31
<b>Plan Status:</b>	Ongoing

**Retirement Benefits:** Employees covered by the Contributory Retirement Law are classified into one of four groups depending on job classification. Group 1 comprises most positions in state and local government. It is the general category of public employees. Group 4 comprises mainly police and firefighters. Group 2 is for other specified hazardous occupations. (Officers and inspectors of the State Police are classified as Group 3.)

For employees hired prior to April 2, 2012, the annual amount of the retirement allowance is based on the member's final three-year average salary multiplied by the number of years and full months of creditable service at the time of retirement and multiplied by a percentage according to the following table based on the age of the member at retirement:

Age Last Birthday at Date of Retirement			
Percent	Group 1	Group 2	Group 4
2.5	65 or over	60 or over	55 or over
2.4	64	59	54
2.3	63	58	53
2.2	62	57	52
2.1	61	56	51
2.0	60	55	50
1.9	59	--	49
1.8	58	--	48
1.7	57	--	47
1.6	56	--	46
1.5	55	--	45

A member's final three-year average salary is defined as the greater of the highest consecutive three-year average annual rate of regular compensation and the average annual rate of regular compensation received during the last three years of creditable service prior to retirement.

For employees hired on April 2, 2012 or later, the annual amount of the retirement allowance is based on the member's final five-year average salary multiplied by the number of years and full months of creditable service

## Section 3: GASB Information

at the time of retirement and multiplied by a percentage according to the following tables based on the age and years of creditable service of the member at retirement:

**For members with less than 30 years of creditable service:  
Age Last Birthday at Date of Retirement**

Percent	Group 1	Group 2	Group 4
2.50	67 or over	62 or over	57 or over
2.35	66	61	56
2.20	65	60	55
2.05	64	59	54
1.90	63	58	53
1.75	62	57	52
1.60	61	56	51
1.45	60	55	50

**For members with 30 years of creditable service or greater:  
Age Last Birthday at Date of Retirement**

Percent	Group 1	Group 2	Group 4
2.500	67 or over	62 or over	57 or over
2.375	66	61	56
2.250	65	60	55
2.125	64	59	54
2.000	63	58	53
1.875	62	57	52
1.750	61	56	51
1.625	60	55	50

A member's final five-year average salary is defined as the greater of the highest consecutive five-year average annual rate of regular compensation and the average annual rate of regular compensation received during the last five years of creditable service prior to retirement.

## Section 3: GASB Information

For employees who became members after January 1, 2011, regular compensation is limited to 64% of the federal limit found in 26 U.S.C. 401(a)(17). In addition, regular compensation for members who retire after April 2, 2012 will be limited to prohibit “spiking” of a member’s salary to increase the retirement benefit.

For all employees, the maximum annual amount of the retirement allowance is 80 percent of the member’s final average salary. Any member who is a veteran also receives an additional yearly retirement allowance of \$15 per year of creditable service, not exceeding \$300. The veteran allowance is paid in addition to the 80 percent maximum.

### Employee Contributions:

Date of Hire	Contribution Rate
Prior to January 1, 1975	5%
January 1, 1975 – December 31, 1983	7%
January 1, 1984 – June 30, 1996	8%
July 1, 1996 onward	9%

In addition, employees hired after December 31, 1978 contribute an additional 2 percent of salary in excess of \$30,000.

Employees hired after 1983 who voluntarily withdraw their contributions with less than 10 ten years of credited service receive 3% interest on their contributions.

Employees in Group 1 hired on or after April 2, 2012 with 30 years of creditable service or greater will pay a base contribution rate of 6%.

### Retirement Benefits (Superannuation):

Members of Group 1, 2 or 4 hired prior to April 2, 2012 may retire upon the attainment of age 55. For retirement at ages below 55, twenty years of creditable service is required.

Members hired prior to April 2, 2012 who terminate before age 55 with ten or more years of creditable service are eligible for a retirement allowance upon the attainment of age 55 (provided they have not withdrawn their accumulated deductions from the Annuity Savings Fund of the System).

Members of Group 1 hired April 2, 2012 or later may retire upon the attainment of age 60. Members of Group 2 or 4 hired April 2, 2012 or later may retire upon the attainment of age 55. Members of Group 4 may retire upon attainment of age 50 with ten years of creditable service.

Members hired April 2, 2012 or later who terminate before age 55 (60 for members of Group 1) with ten or more years of creditable service are eligible for a retirement allowance upon the attainment of age 55 (60 for members of Group 1) provided they have not withdrawn their accumulated deductions from the Annuity Savings Fund of the System.

### Ordinary Disability Benefit:

A member who is unable to perform his or her job due to a non-occupational disability will receive a retirement allowance if he or she has ten or more years of creditable service and has not reached age 55. The annual amount of such allowance shall be determined as if the member retired for superannuation at age 55 (age 60 for Group 1 members hired on or after April 2, 2012), based on the amount of creditable service at the date of disability. For veterans, there is a minimum benefit of 50 percent of the member’s most recent year’s pay plus an annuity based on his or her own contributions.

## Section 3: GASB Information

<b>Accidental Disability Benefit:</b>	For a job-connected disability, the benefit is 72 percent of the member's most recent annual pay plus an annuity based on his or her own contributions, plus additional amounts for surviving children. Benefits are capped at 75 percent of annual rate of regular compensation for employees who become members after January 1, 1988.
<b>Death Benefits:</b>	<p>In general, the beneficiary of an employee who dies in active service will receive a refund of the employee's own contributions. Alternatively, if the employee were eligible to retire on the date of death, a spouse's benefit will be paid equal to the amount the employee would have received under Option C. The surviving spouse of a member who dies with two or more years of credited service has the option of a refund of the employee's contributions or a monthly benefit regardless of eligibility to retire, if they were married for at least one year. There is also a minimum widow's pension of \$500 per month, and there are additional amounts for surviving children.</p> <p>If an employee's death is job-connected, the spouse will receive 72 percent of the member's most recent annual pay, in addition to a refund of the member's accumulated deductions, plus additional amounts for surviving children. However, in accordance with Section 100 of Chapter 32, the surviving spouse of a police officer, firefighter or corrections officer is killed in the line of duty will be eligible to receive an annual benefit equal to the maximum salary held by the member at the time of death.</p> <p>Upon the death of a job-connected disability retiree who retired prior to November 7, 1996 and could not elect an Option C benefit, a surviving spouse will receive an allowance of \$12,000 per year if the member dies for a reason unrelated to cause of disability.</p>
<b>"Heart And Lung Law" And Cancer Presumption:</b>	Any case of hypertension or heart disease resulting in total or partial disability or death to a uniformed fireman, permanent member of a police department, or certain employees of a county correctional facility is presumed to have been suffered in the line of duty, unless the contrary is shown by competent evidence. Any case of disease of the lungs or respiratory tract resulting in total disability or death to a uniformed fireman is presumed to have been suffered in the line of duty, unless the contrary is shown by competent evidence. There is an additional presumption for uniformed firemen that certain types of cancer are job-related if onset occurs while actively employed or within five years of retirement.
<b>Options:</b>	Members may elect to receive a full retirement allowance payable for life under Option A. Under Option B a member may elect to receive a lower monthly allowance in exchange for a guarantee that at the time of death any contributions not expended for annuity payments will be refunded to the beneficiary. Option C allows the member to take a lesser retirement allowance in exchange for providing a survivor with two-thirds of the lesser amount. Option C pensioners will have benefits converted from a reduced to a full retirement if the beneficiary predeceases the retiree.
<b>Post-Retirement Benefits:</b>	The Board has adopted the provisions of Section 51 of Chapter 127 of the Acts of 1999, which provide that the Retirement Board may approve an annual COLA in excess of the Consumer Price Index but not to exceed a 3% COLA on the first \$18,000 of a retirement allowance. Cost-of-living increases granted prior to July 1, 1998 are reimbursed by the Commonwealth and not reflected in this report.
<b>Changes in Plan Provisions:</b>	None.

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### Exhibit III: Definition of Terms

Definitions of certain terms as they are used in Statement 68. The terms may have different meanings in other contexts.

<b>Active Employees:</b>	Individuals employed at the end of the reporting or measurement period, as applicable.
<b>Actual Contributions:</b>	Cash contributions recognized as additions to a pension Plan Fiduciary Net Position.
<b>Actuarial Present Value of Projected Benefit Payments:</b>	Projected benefit payments discounted to reflect the expected effects of the time value (present value) of money and the probabilities of payment.
<b>Actuarial Valuation:</b>	The determination, as of a point in time (the actuarial valuation date), of the service cost, Total Pension Liability, and related actuarial present value of projected benefit payments for pensions performed in conformity with Actuarial Standards of Practice unless otherwise specified by the GASB.
<b>Actuarial Valuation Date:</b>	The date as of which an actuarial valuation is performed.
<b>Actuarially Determined Contribution:</b>	A target or recommended contribution to a defined benefit pension plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted.
<b>Ad Hoc Cost-of-Living Adjustments (Ad Hoc COLAs):</b>	Cost-of-living adjustments that require a decision to grant by the authority responsible for making such decisions.
<b>Ad Hoc Postemployment Benefit Changes:</b>	Postemployment benefit changes that require a decision to grant by the authority responsible for making such decisions.
<b>Agent Employer:</b>	An employer whose employees are provided with pensions through an agent multiple-employer defined benefit pension plan.
<b>Agent Multiple-Employer Defined Benefit Pension Plan (Agent Pension Plan):</b>	A multiple-employer defined benefit pension plan in which pension plan assets are pooled for investment purposes but separate accounts are maintained for each individual employer so that each employer's share of the pooled assets is legally available to pay the benefits of only its employees.
<b>Allocated Insurance Contract:</b>	A contract with an insurance company under which related payments to the insurance company are currently used to purchase immediate or deferred annuities for individual employees. Also may be referred to as an annuity contract.
<b>Automatic Cost-of-Living Adjustments (Automatic COLAs):</b>	Cost-of-living adjustments that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).

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<b>Automatic Postemployment Benefit Changes:</b>	Postemployment benefit changes that occur without a requirement for a decision to grant by a responsible authority, including those for which the amounts are determined by reference to a specified experience factor (such as the earnings experience of the pension plan) or to another variable (such as an increase in the consumer price index).
<b>Closed Period:</b>	A specific number of years that is counted from one date and declines to zero with the passage of time. For example, if the recognition period initially is five years on a closed basis, four years remain after the first year, three years after the second year, and so forth.
<b>Collective Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions:</b>	Deferred outflows of resources and deferred inflows of resources related to pensions arising from certain changes in the collective Net Pension Liability.
<b>Collective Net Pension Liability:</b>	The Net Pension Liability for benefits provided through (1) a cost-sharing pension plan or (2) a single-employer or agent pension plan in circumstances in which there is a special funding situation.
<b>Collective Pension Expense:</b>	Pension expense arising from certain changes in the collective Net Pension Liability.
<b>Contributions:</b>	Additions to a pension Plan Fiduciary Net Position for amounts from employers, non-employer contributing entities (for example, state government contributions to a local government pension plan), or employees. Contributions can result from cash receipts by the pension plan or from recognition by the pension plan of a receivable from one of these sources.
<b>Cost-of-Living Adjustments:</b>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<b>Cost-Sharing Employer:</b>	An employer whose employees are provided with pensions through a cost-sharing multiple-employer defined benefit pension plan.
<b>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (Cost-Sharing Pension Plan):</b>	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
<b>Covered-Employee Payroll:</b>	The payroll of employees that are provided with pensions through the pension plan.
<b>Deferred Retirement Option Program (DROP):</b>	A program that permits an employee to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The employee continues to provide service to the employer and is paid for that service by the employer after the DROP entry date; however, the pensions that would have been paid to the employee (if the employee had retired and not entered the DROP) are credited to an individual employee account within the defined benefit pension plan until the end of the DROP period.
<b>Defined Benefit Pension Plans:</b>	Pension plans that are used to provide defined benefit pensions.

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<b>Defined Benefit Pensions:</b>	Pensions for which the income or other benefits that the employee will receive at or after separation from employment are defined by the benefit terms. The pensions may be stated as a specified dollar amount or as an amount that is calculated based on one or more factors such as age, years of service, and compensation. (A pension that does not meet the criteria of a defined contribution pension is classified as a defined benefit pension for purposes of Statement 68.)
<b>Defined Contribution Pension Plans:</b>	Pension plans that are used to provide defined contribution pensions.
<b>Defined Contribution Pensions:</b>	Pensions having terms that (1) provide an individual account for each employee; (2) define the contributions that an employer is required to make (or the credits that it is required to provide) to an active employee's account for periods in which that employee renders service; and (3) provide that the pensions an employee will receive will depend only on the contributions (or credits) to the employee's account, actual earnings on investments of those contributions (or credits), and the effects of forfeitures of contributions (or credits) made for other employees, as well as pension plan administrative costs, that are allocated to the employee's account.
<b>Discount Rate:</b>	<p>The single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the following:</p> <ol style="list-style-type: none"><li>1. The actuarial present value of benefit payments projected to be made in future periods in which (a) the amount of the pension Plan Fiduciary Net Position is projected (under the requirements of Statement 68) to be greater than the benefit payments that are projected to be made in that period and (b) pension plan assets up to that point are expected to be invested using a strategy to achieve the long-term expected rate of return, calculated using the long-term expected rate of return on pension plan investments.</li><li>2. The actuarial present value of projected benefit payments not included in (1), calculated using the municipal bond rate.</li></ol>
<b>Entry Age Actuarial Cost Method:</b>	A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this actuarial present value allocated to a valuation year is called the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is called the actuarial accrued liability.
<b>Inactive Employees:</b>	Terminated individuals that have accumulated benefits but are not yet receiving them, and retirees or their beneficiaries currently receiving benefits.
<b>Measurement Period:</b>	The period between the prior and the current measurement dates.
<b>Multiple-Employer Defined Benefit Pension Plan:</b>	A defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
<b>Net Pension Liability (NPL):</b>	The liability of employers and non-employer contributing entities to employees for benefits provided through a defined benefit pension plan.

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<b>Non-Employer Contributing Entities:</b>	Entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of Statement 68, employees are not considered non-employer contributing entities.
<b>Other Postemployment Benefits:</b>	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits, regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
<b>Pension Plans:</b>	Arrangements through which pensions are determined, assets dedicated for pensions are accumulated and managed and benefits are paid as they come due.
<b>Pensions:</b>	Retirement income and, if provided through a pension plan, postemployment benefits other than retirement income (such as death benefits, life insurance, and disability benefits). Pensions do not include postemployment healthcare benefits and termination benefits.
<b>Plan Members:</b>	Individuals that are covered under the terms of a pension plan. Plan members generally include (1) employees in active service (active plan members) and (2) terminated employees who have accumulated benefits but are not yet receiving them and retirees or their beneficiaries currently receiving benefits (inactive plan members).
<b>Postemployment</b>	The period after employment.
<b>Postemployment Benefit Changes:</b>	Adjustments to the pension of an inactive employee.
<b>Postemployment Healthcare Benefits:</b>	Medical, dental, vision, and other health-related benefits paid subsequent to the termination of employment.
<b>Projected Benefit Payments:</b>	All benefits estimated to be payable through the pension plan to current active and inactive employees as a result of their past service and their expected future service.
<b>Public Employee Retirement System:</b>	A special-purpose government that administers one or more pension plans; also may administer other types of employee benefit plans, including postemployment healthcare plans and deferred compensation plans.
<b>Real Rate of Return:</b>	The rate of return on an investment after adjustment to eliminate inflation.
<b>Service Costs:</b>	The portions of the actuarial present value of projected benefit payments that are attributed to valuation years.
<b>Single Employer:</b>	An employer whose employees are provided with pensions through a single-employer defined benefit pension plan.
<b>Single-Employer Defined Benefit Pension Plan (Single-Employer Pension Plan)</b>	A defined benefit pension plan that is used to provide pensions to employees of only one employer.

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### **Special Funding Situations:**

Circumstances in which a non-employer entity is legally responsible for making contributions directly to a pension plan that is used to provide pensions to the employees of another entity or entities and either of the following conditions exists:

1. The amount of contributions for which the non-employer entity legally is responsible is not dependent upon one or more events or circumstances unrelated to the pensions.
2. The non-employer entity is the only entity with a legal obligation to make contributions directly to a pension plan.

### **Termination Benefits:**

Inducements offered by employers to active employees to hasten the termination of services, or payments made in consequence of the early termination of services. Termination benefits include early-retirement incentives, severance benefits, and other termination-related benefits.

### **Total Pension Liability (TPL):**

The portion of the actuarial present value of projected benefit payments that is attributed to past periods of employee service in conformity with the requirements of Statement 68.