

COMPARISON REOFFERING YIELDS (Massachusetts) - PAGE 1

February 2020

MUNICIPALITY:	Worcester (Series A)		Worcester (Series B)		Pittsfield		Sharon	
BANK QUALIFIED:	No		No		No		No	
RATING:	Aa3 / AA- / AA		Aa3 / AA- / AA		AA		AA	
AMOUNT:	\$17,695,000		\$68,345,000		\$7,240,000		\$86,440,000	
SALE DATE:	2/3/2020		2/3/2020		2/4/2020		2/4/2020	
TERM:	25		28		20		20	
TIC:	2.5271%		2.0455%		1.6775%		1.8822%	
INSURANCE:	No		No		No		No	
TERM BONDS:	No		Yes		No		No	
TAXABLE:	No		No		No		No	
BID:	102.5151		108.2614		115.6737		113.2414	
\$ PREMIUM:	\$	445,047	\$	5,646,254	\$	1,134,776	\$	11,445,866
		Reoffering		Reoffering		Reoffering		Reoffering
	<u>Coupon</u>	<u>Yield</u>	<u>Coupon</u>	<u>Yield</u>	<u>Coupon</u>	<u>Yield</u>	<u>Coupon</u>	<u>Yield</u>
2020					5.000%	0.840%		
2021	4.000%	0.850%			5.000%	0.850%	5.000%	0.820%
2022	4.000%	0.860%			5.000%	0.860%	5.000%	0.830%
2023	4.000%	0.860%	5.000%	0.870%	5.000%	0.860%	5.000%	0.840%
2024	4.000%	0.870%	5.000%	0.890%	5.000%	0.870%	5.000%	0.850%
2025	4.000%	0.870%	5.000%	0.900%	5.000%	0.900%	5.000%	0.850%
2026	4.000%	0.920%	5.000%	0.950%	5.000%	0.950%	5.000%	0.890%
2027	4.000%	0.980%	5.000%	1.020%	5.000%	1.010%	5.000%	0.950%
2028	4.000%	1.060%	5.000%	1.100%	5.000%	1.100%	5.000%	1.020%
2029	4.000%	1.130%	4.000%	1.280%	5.000%	1.150%	5.000%	1.090%
2030	3.000%	1.450%	4.000%	1.380%	5.000%	1.240%	4.000%	1.250%
2031	3.000%	1.570%	4.000%	1.490%	3.000%	1.600%	4.000%	1.370%
2032	3.000%	1.640%	2.000%	2.000%	3.000%	1.700%	3.000%	1.620%
2033	3.000%	1.710%	2.000%	2.088%	3.000%	1.750%	3.000%	1.710%
2034	2.000%	2.000%	2.000%	2.167%	2.125%	2.200%	2.125%	2.200%
2035	2.000%	2.060%	2.000%	2.217%	2.125%	2.250%	2.250%	2.280%
2036	2.000%	2.120%	2.125%	2.275%	2.250%	2.300%	2.250%	2.350%
2037	2.125%	2.180%	2.250%	2.322%	2.250%	2.350%	2.375%	2.410%
2038	2.125%	2.240%	2.250%	2.370%	2.375%	2.400%	2.375%	2.460%
2039	2.250%	2.310%	2.250%	2.415%	2.375%	2.450%	2.500%	2.510%
2040	2.250%	2.360%	2.250%	2.441%			2.500%	2.540%
2041	2.375%	2.420%	3.000%	2.290%				
2042	3.000%	2.320%	3.000%	2.320%				
2043	3.000%	2.350%	3.000%	2.350%				
2044	3.000%	2.380%	3.000%	2.380%				
2045	3.000%	2.400%	3.000%	2.400%				
2046								
2047			2.500%	2.630%				
2048								
2049								
2050			2.500%	2.646%				
	Callable Feb 1, 2028		Callable Feb 1, 2028		Callable Dec 1, 2028		Callable Feb 15, 2029	

COMPARISON REOFFERING YIELDS (Massachusetts) - PAGE 2

February 2020

MUNICIPALITY:	Wayland		Barnstable		Groton		Lexington	
BANK QUALIFIED:	No		No		Yes		No	
RATING:	Aaa		AAA		AAA		Aaa	
AMOUNT:	\$16,215,000		\$10,855,000		\$5,835,000		\$8,315,000	
SALE DATE:	2/4/2020		2/5/2020		2/5/2020		2/5/2020	
TERM:	20		20		20		10	
TIC:	1.4789%		1.6693%		1.8319%		0.9363%	
INSURANCE:	No		No		No		No	
TERM BONDS:	No		No		No		No	
TAXABLE:	No		No		No		No	
BID:	115.4038		112.804		108.0271		115.8420	
\$ PREMIUM:	\$ 2,497,726		\$ 1,389,874		\$ 468,381		\$ 1,317,262	
		Reoffering		Reoffering		Reoffering		Reoffering
	<u>Coupon</u>	<u>Yield</u>	<u>Coupon</u>	<u>Yield</u>	<u>Coupon</u>	<u>Yield</u>	<u>Coupon</u>	<u>Yield</u>
2020	5.000%	0.720%						
2021	5.000%	0.730%	5.000%	0.800%	4.000%	0.800%	5.000%	0.750%
2022	5.000%	0.740%	5.000%	0.800%	4.000%	0.810%	5.000%	0.760%
2023	5.000%	0.740%	5.000%	0.820%	4.000%	0.820%	5.000%	0.770%
2024	5.000%	0.750%	5.000%	0.830%	2.000%	0.830%	5.000%	0.780%
2025	5.000%	0.790%	5.000%	0.830%	2.000%	0.840%	5.000%	0.790%
2026	5.000%	0.840%	5.000%	0.870%	5.000%	0.870%	5.000%	0.840%
2027	5.000%	0.910%	5.000%	0.940%	5.000%	0.950%	5.000%	0.930%
2028	5.000%	1.000%	5.000%	1.010%	5.000%	1.000%	5.000%	1.010%
2029	4.000%	1.150%	5.000%	1.080%	5.000%	1.050%	4.000%	1.080%
2030	3.000%	1.320%	4.000%	1.150%	5.000%	1.100%	4.000%	1.150%
2031	3.000%	1.390%	3.000%	1.500%	2.000%	1.600%		
2032	3.000%	1.450%	3.000%	1.550%	2.000%	1.800%		
2033	2.000%	1.900%	3.000%	1.650%	2.000%	1.900%		
2034	2.000%	2.000%	2.000%	2.000%	2.000%	2.000%		
2035	2.000%	2.050%	2.000%	2.078%	2.000%	2.050%		
2036	2.000%	2.090%	2.000%	2.111%	2.000%	2.100%		
2037	2.000%	2.140%	2.125%	2.196%	2.000%	2.100%		
2038	2.125%	2.180%	2.125%	2.261%	2.125%	2.125%		
2039	2.125%	2.220%	2.250%	2.315%	2.150%	2.150%		
2040			2.250%	2.344%	2.200%	2.200%		
	Callable Dec 15, 2028		Callable Feb 15, 2029		Callable Feb 15, 2028		Non-callable	

COMPARISON REOFFERING YIELDS (Massachusetts) - PAGE 3

February 2020

MUNICIPALITY:	Templeton		Woods Hole, Martha's Vineyard & Nantucket Steamship Authority		Holliston		Newton	
BANK QUALIFIED:	No		No		Yes		No	
RATING:	Aa3		Aa1		AA+		Aaa	
AMOUNT:	\$8,655,000		\$20,630,000		\$2,415,000		\$34,905,000	
SALE DATE:	2/6/2020		2/12/2020		2/19/2020		2/19/2020	
TERM:	25		11		9		30	
TIC:	2.3297%		1.2532%		1.0038%		2.0326%	
INSURANCE:	No		No		No		No	
TERM BONDS:	No		No		No		Yes	
TAXABLE:	No		No		No		No	
BID:	104.6558		124.5505		117.7127		110.5423	
\$ PREMIUM:	\$ 402,959		\$ 5,064,768		\$ 427,762		\$ 3,679,790	
		Reoffering		Reoffering		Reoffering		Reoffering
	<u>Coupon</u>	<u>Yield</u>	<u>Coupon</u>	<u>Yield</u>	<u>Coupon</u>	<u>Yield</u>	<u>Coupon</u>	<u>Yield</u>
2020								
2021	5.000%	0.880%	5.000%	0.770%	5.000%	0.790%	5.000%	0.790%
2022	5.000%	0.900%	5.000%	0.780%	5.000%	0.800%	5.000%	0.800%
2023	5.000%	0.900%	5.000%	0.790%	5.000%	0.810%	5.000%	0.800%
2024	2.000%	0.950%	5.000%	0.800%	5.000%	0.820%	5.000%	0.800%
2025	2.000%	0.950%	5.000%	0.810%	5.000%	0.830%	5.000%	0.810%
2026	5.000%	1.000%	5.000%	0.850%	5.000%	0.860%	5.000%	0.840%
2027	5.000%	1.100%	5.000%	0.910%	5.000%	0.950%	5.000%	0.900%
2028	5.000%	1.170%	5.000%	1.000%	4.000%	1.050%	5.000%	0.980%
2029	5.000%	1.250%	5.000%	1.070%	4.000%	1.100%	5.000%	1.050%
2030	3.000%	1.350%	4.000%	1.150%			4.000%	1.160%
2031	3.000%	1.500%	4.000%	1.250%			4.000%	1.260%
2032	3.000%	1.750%					4.000%	1.330%
2033	2.000%	2.000%					3.000%	1.660%
2034	2.500%	2.100%					3.000%	1.760%
2035	2.500%	2.200%					2.000%	2.068%
2036	2.500%	2.300%					2.000%	2.102%
2037	2.500%	2.350%					2.000%	2.159%
2038	2.500%	2.400%					2.000%	2.203%
2039	2.375%	2.450%					2.125%	2.247%
2040	2.500%	2.500%					2.125%	2.282%
2041	2.500%	2.520%					2.125%	2.329%
2042	2.500%	2.540%					2.250%	2.367%
2043	2.500%	2.560%						
2044	2.500%	2.580%						
2045	2.500%	2.600%					2.375%	2.469%
2046								
2047								
2048								
2049								
2050							2.375%	2.518%
	Callable Feb 15, 2029		Callable Mar 1, 2029		Callable May 15, 2028		Callable Feb 15, 2029	

COMPARISON REOFFERING YIELDS (Massachusetts) - PAGE 4

February 2020

MUNICIPALITY:	Auburn Water District		Mattapoisett		Swampscott		Woburn	
BANK QUALIFIED:	Yes		No		Yes		No	
RATING:	AA		AAA		AA+		AAA	
AMOUNT:	\$3,120,000		\$10,740,000		\$5,230,000		\$4,190,000	
SALE DATE:	2/20/2020		2/20/2020		2/26/2020		2/26/2020	
TERM:	20		20		29		10	
TIC:	1.8800%		1.7540%		1.8624%		0.8188%	
INSURANCE:	No		No		No		No	
TERM BONDS:	No		No		Yes		No	
TAXABLE:	No		No		No		No	
BID:	106.9714		110.0268		105.3705		119.6135	
\$ PREMIUM:	\$ 217,508		\$ 1,076,878		\$ 280,877		\$ 821,806	
	<u>Coupon</u>	<u>Reoffering Yield</u>	<u>Coupon</u>	<u>Reoffering Yield</u>	<u>Coupon</u>	<u>Reoffering Yield</u>	<u>Coupon</u>	<u>Reoffering Yield</u>
2020	5.000%	0.800%	5.000%	0.760%	5.000%	0.720%	5.000%	0.720%
2021	5.000%	0.800%	5.000%	0.770%	5.000%	0.730%	5.000%	0.720%
2022	5.000%	0.800%	5.000%	0.780%	5.000%	0.730%	5.000%	0.720%
2023	5.000%	0.800%	5.000%	0.780%	5.000%	0.730%	5.000%	0.720%
2024	5.000%	0.800%	5.000%	0.780%	5.000%	0.730%	5.000%	0.720%
2025	5.000%	0.840%	5.000%	0.820%	5.000%	0.740%	5.000%	0.740%
2026	5.000%	0.870%	5.000%	0.860%	2.000%	0.760%	5.000%	0.770%
2027	5.000%	0.940%	5.000%	0.920%	2.000%	0.790%	5.000%	0.800%
2028	4.000%	1.000%	4.000%	1.040%	4.000%	0.850%	5.000%	0.860%
2029	3.000%	1.100%	4.000%	1.120%	2.000%	1.150%	5.000%	0.910%
2030	3.000%	1.200%	3.000%	1.360%	2.000%	1.250%		
2031	2.000%	1.750%	2.000%	1.750%				
2032	2.000%	1.800%	2.000%	1.800%	2.000%	1.450%		
2033	2.000%	1.850%	2.000%	1.900%				
2034	2.000%	1.900%	2.000%	2.000%	2.000%	1.650%		
2035	2.000%	1.950%	2.000%	2.050%				
2036	2.000%	2.000%	2.000%	2.100%	2.000%	1.850%		
2037	2.000%	2.050%	2.000%	2.140%				
2038	2.000%	2.100%	2.125%	2.190%	2.000%	2.000%		
2039	2.125%	2.150%	2.125%	2.230%				
2040					2.000%	2.050%		
2041								
2042					2.000%	2.100%		
2043								
2044								
2045					2.125%	2.150%		
2046								
2047								
2048								
2049					2.125%	2.200%		
	Callable Nov 1, 2027		Callable Nov 15, 2027		Callable Feb 15, 2027		Non-callable	

COMPARISON REOFFERING YIELDS (Connecticut & Maine) - PAGE 5

February 2020

MUNICIPALITY:	South Windsor, CT		Manchester, CT		Glastonbury, CT	
BANK QUALIFIED:	No		No		No	
RATING:	AA+		AA+		AAA / Aaa	
AMOUNT:	\$13,500,000		\$15,000,000		\$8,105,000	
SALE DATE:	2/4/2020		2/11/2020		2/12/2020	
TERM:	20		20		5	
TIC:	1.9725%		1.8680%		0.8427%	
INSURANCE:	No		No		No	
TERM BONDS:	No		No		No	
TAXABLE:	No		No		No	
BID:	104.2535		109.9398		112.3468	
\$ PREMIUM:	\$	574,223	\$	1,490,970	\$	1,000,708
	<u>Coupon</u>	<u>Reoffering Yield</u>	<u>Coupon</u>	<u>Reoffering Yield</u>	<u>Coupon</u>	<u>Reoffering Yield</u>
2020						
2021	5.000%	0.850%	5.000%	0.760%	5.000%	0.800%
2022	5.000%	0.820%	5.000%	0.770%	5.000%	0.810%
2023	5.000%	0.830%	5.000%	0.780%	5.000%	0.810%
2024	5.000%	0.830%	5.000%	0.800%	5.000%	0.820%
2025	5.000%	0.830%	5.000%	0.830%	5.000%	0.830%
2026	5.000%	0.850%	5.000%	0.880%		
2027	2.000%	1.100%	4.000%	0.950%		
2028	2.000%	1.200%	4.000%	1.030%		
2029	2.000%	1.350%	4.000%	1.120%		
2030	3.000%	1.350%	4.000%	1.180%		
2031	2.000%	1.950%	4.000%	1.300%		
2032	2.000%	2.000%	4.000%	1.390%		
2033	2.000%	2.050%	2.000%	1.880%		
2034	2.000%	2.100%	2.000%	1.960%		
2035	2.000%	2.150%	2.000%	2.030%		
2036	2.125%	2.200%	2.000%	2.090%		
2037	2.125%	2.240%	2.125%	2.150%		
2038	2.125%	2.280%	2.125%	2.210%		
2039	2.125%	2.320%	2.250%	2.260%		
2040	2.250%	2.350%	2.250%	2.290%		
	Callable Feb 1, 2026		Callable Feb 1, 2028		Non-callable	