

Apples to Apples

A Three Town Public Works Benchmarking Journey



**A Progress Report Prepared by
Wellesley Department of Public Works**

October 2017

For the benefit of the
Board of Public Works
Advisory Committee
Board of Selectmen

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Foreword

For at least 10 years the management of the Wellesley Department of Public Works, with strong encouragement of its changing Board members, has attempted to complete a benchmarking study that would compare our performance in the many DPW service areas to those of comparable towns. These attempts have fallen short because comparable data were difficult to capture and personnel in surrounding towns were often too busy to focus on the required data collection process and the efforts lost momentum.

In June 2015 Mike Pakstis and Dave Cohen, Director and Assistant Director of the Wellesley DPW, invited their counterparts from Needham and Natick to a working lunch in our conference room. I had the good fortune to attend and to encourage the three towns to work together to develop a definitive benchmarking study not only to learn and compare the performance metrics of each town but also to capture best practices and find ways to collaborate on shared needs in the future. We all agreed that those should be our objectives and that we needed to dedicate ourselves to completing the study. It could easily become a model for other towns.

We all recognized that it would be an enormous task and, to get it off to a good start, required the services of a few dedicated persons to develop the data collection framework and begin collecting the data. To make early progress the three towns agreed to retain the services of two recently retired Wellesley DPW managers, Judy Curby and Gordon Martin, to begin work that summer. Thereafter the three town DPW Directors and their staff worked many hours collecting and analyzing data and then met monthly to review and analyze one major service area each month. The meetings will not end with this report - they have agreed to continue meeting on a periodic basis in the future.

I think that you will find the results to be illuminating and, in some areas, surprising. The three towns are learning from each other, finding ways to collaborate, and will continue to communicate on regular basis. It is an excellent and perhaps unique example of town government entities coming together to enhance their performance and share best practices.

David A T Donohue
Chair, Board of Public Works



Apples to Apples - A Three Town Public Works Benchmarking Journey

Executive Summary

While the work of the study group is substantially complete, we are still receiving updates from both Natick and Needham as they make their final reviews and edits to the many data points collected for the study. We don't expect any new information received to materially change the results or conclusions but we will incorporate any new information received so that the study data represents the best information possible. In the meantime, this report provides the details and summaries of the comparisons that we have made so far and also includes a listing of findings and recommendations for next steps and areas for further study.

The study group has continued to meet, most likely on a quarterly basis, and we expect to continue to update this study with more current fiscal year information as it becomes available.

The information included in this report includes a Municipal Comparison Overview, a Benchmarking Summary, and division specific benchmarking sheets showing the highlights of inputs, outputs, and key statistics for each operation. The information contained on these sheets represents hundreds of data points collected, reviewed, and analyzed to achieve the most meaningful and closest 'apples to apples' comparison that the group could make. At the end of the Executive Summary we have included a section to highlight our findings & recommendations which highlights our key takeaways from the work done so far and lays out a framework for future study.

Overall, we were pleased that the study group was eagerly engaged in the process, however, realities of staffing limitations and other business cycle priorities such as budget presentations and fiscal year end activities disrupted or delayed the project at times. For example, Natick's data analyst was not on staff when the project started and Needham's chief administrative analyst was serving double duty as their facilities maintenance manager during the study period. Despite these speed-bumps, the group collectively found value in the study, was committed to completing the work and has now proposed to continue collaborating beyond the scope of the initial study.

The relationships created and strengthened during this study may prove to be the most lasting benefit of the whole process. As an example and a direct result of this benchmarking study, Needham developed a creative solution to offer vehicle preventative maintenance services to address any backlog we may have while we work to fill long vacant mechanic positions.

The attached Benchmarking Scorecard, Table 1, shows 15 benchmarks that were identified for each of 8 public works operational areas. These benchmarks provide a valuable, high level comparison, and the study group found these benchmarks to really be the start of the conversation rather than a conclusion.

Table 1 provides an 'at-a-glance' overview of the results and shows the three-year average for each benchmark. Also included is a symbol to show which town led, trailed, or was in the middle of the benchmark group.

Highest benchmark performer ✓ Lowest benchmark performer ✗ Middle benchmark performer □

Division	Benchmark	Wellesley	Natick	Needham
Snow & Ice	Cost per Mile	\$ 7,183 □	\$ 6,312 ✓	\$ 10,172 ✗
Trash & Recycling	Total Cost Per Ton	\$ 98 ✓	\$ 118 □	\$ 137 ✗
Trash & Recycling	Net Cost Per Ton	\$ 64 □	\$ 31 ✓	\$ 114 ✗
Total Highway Maintenance	Total Cost Per Mile	\$ 10,452 ✗	\$ 7,689 ✓	\$ 9,807 □
Highway	Street Resurfacing - Cost Per Mile	\$ 148,159 ✓	\$ 498,643 ✗	\$ 222,562 □
Park & Tree Maintenance	Total Cost Per Acre	\$ 7,118 ✓	\$ 10,666 □	\$ 14,509 ✗
Fleet	Cost per Unit	\$ 9,373 ✗	\$ 3,294 ✓	\$ 5,017 □
Engineering	Cost per Capita	\$ 29 ✗	\$ 14 ✓	\$ 25 □
Administration	Cost per Capita	\$ 23 ✗	\$ 7 ✓	\$ 17 □
Administration	Cost per DPW Employee	\$ 5,531 □	\$ 3,092 ✓	\$ 5,953 ✗
Water & Sewer	Water - Cost Per Mile	\$ 46,966 ✗	\$ 14,961 ✓	\$ 34,554 □
Water & Sewer	Sewer - Cost Per Mile	\$ 55,887 □	\$ 58,546 ✓	\$ 60,518 ✗
Water & Sewer	Water Rates - Residential Inside Only	\$ 446 □	\$ 335 ✓	\$ 479 ✗
Water & Sewer	Water Rates - Residential w/Outside	\$ 972 ✗	\$ 875 ✓	\$ 944 □
Water & Sewer	Sewer Rates - Average Residential	\$ 1,012 □	\$ 1,009 ✓	\$ 1,058 ✗

Table 1: Three Towns Benchmark Scorecard

Of the 15 benchmarks, Wellesley was the leader for 4, in the middle of the pack for 5, and trailed the group for 6. Natick lead the group in 11 benchmarks, was in the middle for 3, and trailed for 1. Needham was not the leader in any benchmark, was in the middle for 7 and trailed the group in 8.

Natick's performance metrics seem to dominate the scoreboard. This occurs because it has the fewest resources available and, at the same time, has the largest Town (i.e., most road miles, most water & sewer line miles, largest population). During our discussions, Natick team members expressed their frustration that they simply don't have enough resources to do much of the work that they feel should be done. In fact, they are using their results of this study to request additional staffing resources.

As the study group analyzed these results, it was obvious that these benchmarks should be viewed as a jumping-off point for more in-depth discussion. The outcome of these discussion were incorporated into the various benchmark sheets that are attached and summarized below.

Municipal Statistics Comparison

Table 2 below shows demographic data for each town and serves as a helpful reference and backdrop for the benchmark data that follows.

In general, this data show that Wellesley has fewer people, smaller land area, and fewer public roads than our peer communities. Wellesley has a larger income per capita, property value per capita and a larger average tax bill. Another interesting note is that Needham has a split tax rate for commercial properties. Table 3 below shows the DPW staffing count by division for the three towns. Note that Wellesley has the highest head count including four night watchmen.

	Wellesley	Natick	Needham
Population (2013)	29,090	35,214	29,736
Registered Voters (2012)	18,897	24,206	21,307
School Enrollment (2015)	5,098	5,546	5,443
County	Norfolk	Middlesex	Norfolk
Square Miles	10.18	15.08	12.61
Public Road Miles	129.97	155.92	138.14
Income per Capita (2013)	\$154,864	\$49,772	\$93,395
EQV per Capita (2014)	\$351,082	\$197,692	\$278,902
Avg. Tax Bill (fiscal 2016)	\$13,326	\$6,630	\$9,240
Tax rate (fiscal 2016)	\$11.56	\$13.82	\$11.29
Commercial Tax Rate (fis 2016)	None	None	\$22.43
Operating Budget (fis 2016)	\$165,160,098	\$147,026,413	\$156,155,833

Table 2: Three Towns Demographic Data

Source: Massachusetts Municipal Directory 2016-2017

DPW FY16 Budgeted Staffing

	Wellesley	Natick	Needham
Administration	9.0	4.0	8.0
Engineering	10.0	5.5	10.0
Highway	23.0	13.5	12.0
Night Watchmen	4.0	-	-
Park & Tree	20.0	8.5	16.0
Fleet Maintenance	9.0	9.0	5.0
Solid Waste	14.0	13.5	10.0
Water & Sewer	29.0	29.1	26.0
Total	118.0	83.1	87.0

Table 3: Three Towns Budgeted Staffing

Division Benchmark Narrative

The narrative below identifies the division, the specific benchmark(s), and a brief discussion of the result and findings.

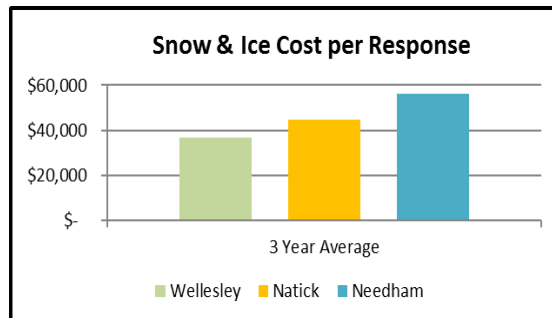
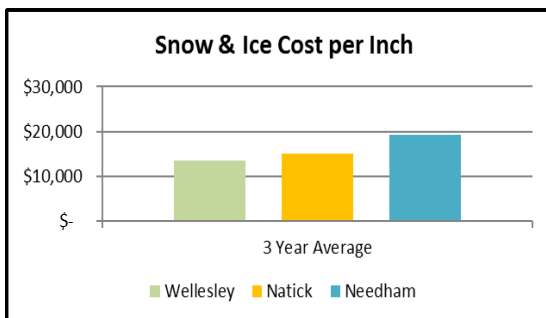
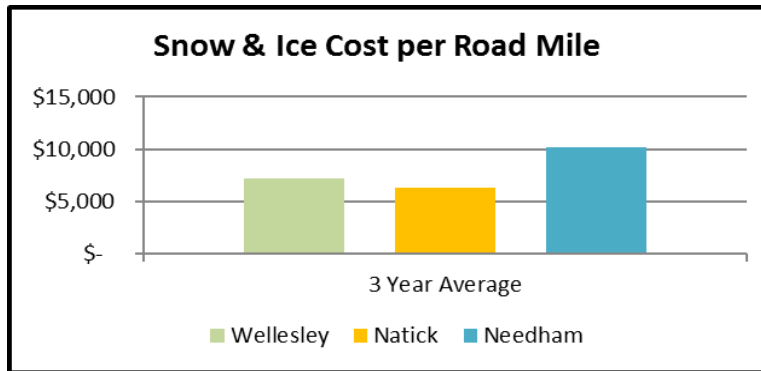
Division: Snow & Ice

Benchmarks: Cost per Mile; Cost per Inch; Cost per Response

Wellesley's three-year average cost per mile for snow and ice operations is \$7,183 compared with \$6,312 for Natick and \$10,172 for Needham. Equipment costs have been adjusted out of the total cost because each town handles these charges differently. For reference purposes, two additional benchmark ratios are shown: cost per inch of snow and cost per response. Overall, Wellesley compares favorably with the group but keep in mind that equipment costs are not included in the total.

One key driver for the 'cost per mile' is the miles of road that each town plows. Wellesley has about 20% fewer road miles than Natick and about 5% fewer miles than Needham. The effect of this is that Wellesley's cost per mile ratio will be higher. When looking at cost per inch or cost per response, Wellesley's ratio is lower, primarily because we do most plowing with in-house staff rather than contractors. On the flip side, our vehicle maintenance costs are higher because we use many more pieces of Town-owned equipment during plow operations.

Another operational difference that was discovered is that Wellesley plows and treats sidewalks in commercial districts while Natick and Needham do not provide this service.



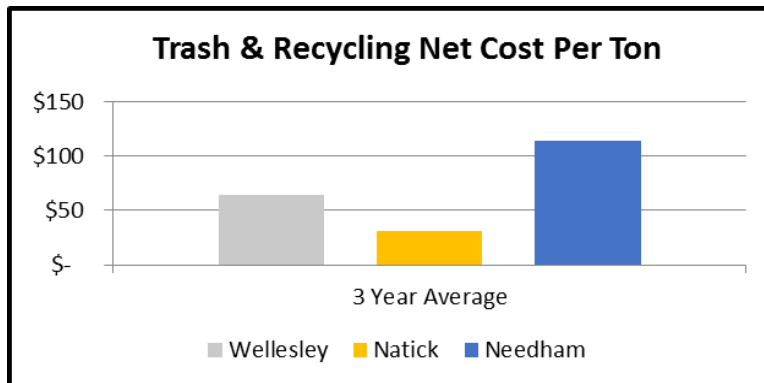
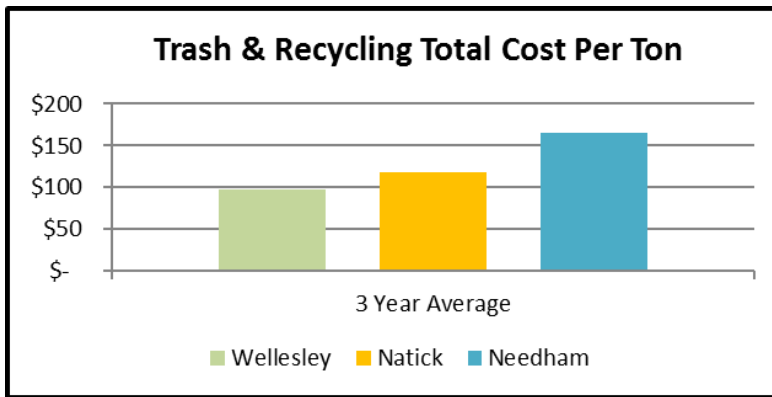
Division: Solid Waste (Trash, Recycling, Earth Products)

Benchmarks: Total Cost per Ton, Net Cost per Ton

Wellesley's three-year average cost per ton for solid waste operations is \$98 compared with \$118 for Natick and \$106 for Needham. When looking at net cost per ton, which includes revenue from operations, Wellesley is at \$64/ton compared to Natick at \$31 and Needham at \$114. Natick's net figure includes the revenue from the sale of 'pay as you throw' bags and the group discussed whether or not it was appropriate to include this revenue in the calculation since homeowners pay for the bags. In the end, we decided to include this revenue as a helpful discussion item.

The major difference in operations is that Natick has a combined Highway & Sanitation Division and provides 'pay as you throw' curbside pickup. Both Wellesley and Needham have transfer stations and provide no residential pickup. Needham has a 'pay as you throw' system as well but finds that it is difficult to enforce at their facility. Wellesley devotes more attention to recycling operations and the sale and marketing of household recyclable materials while Needham puts more focus on earth products and the marketing of compost.

Both Needham and Natick haul trash to nearby disposal sites while Wellesley's tipping fee reflects hauling by the vendor to an out-of-state facility [Note: starting in FY18, Wellesley changed vendors and trash is now hauled by the vendor to a facility in Massachusetts].

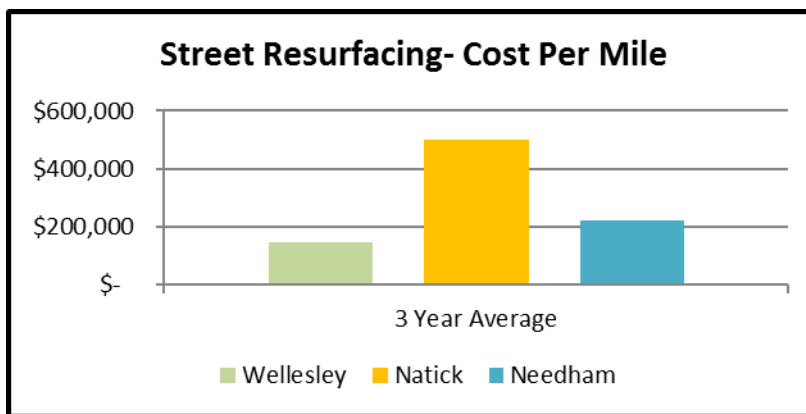
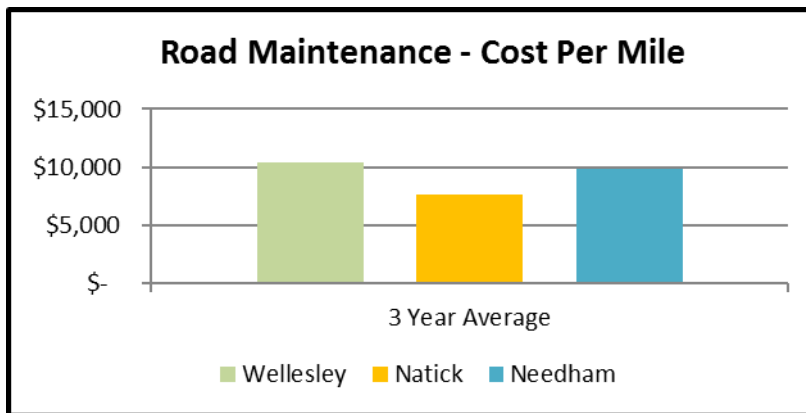


Division: Highway

Benchmarks: Roads – Cost per Mile; Street Resurfacing Cost per Mile

Wellesley's three-year average cost per mile for all Highway operations is \$10,452, compared to \$7,689 in Natick and \$9,807 in Needham. The obvious drivers of this data are that Wellesley's Highway Division has more staff than both comparison communities and both Natick and Needham have about 30 more miles of road which improves their cost per mile ratio. As we explored staffing differences, we found that Wellesley has 4 Watchman staff to provide after-hours and weekend phone coverage and security services. Also, both Wellesley and Natick's staffs include storm drain maintenance related functions while Needham provides those services through its Sewer Division. The other major finding was revealed in the next measure, Street Resurfacing Cost per Mile.

Wellesley's three-year average Street Resurfacing cost per mile is \$148,159 compared to \$498,643 for Natick and \$222,562 for Needham [Note: Needham is still calculating their cost information for FY14 and the three-year average may change]. The reason for the wide gap is that Wellesley and Needham perform much of the preparation work, such as structure raising and driveway apron clean up, with in-house staff while Natick contracts out their entire street resurfacing program.

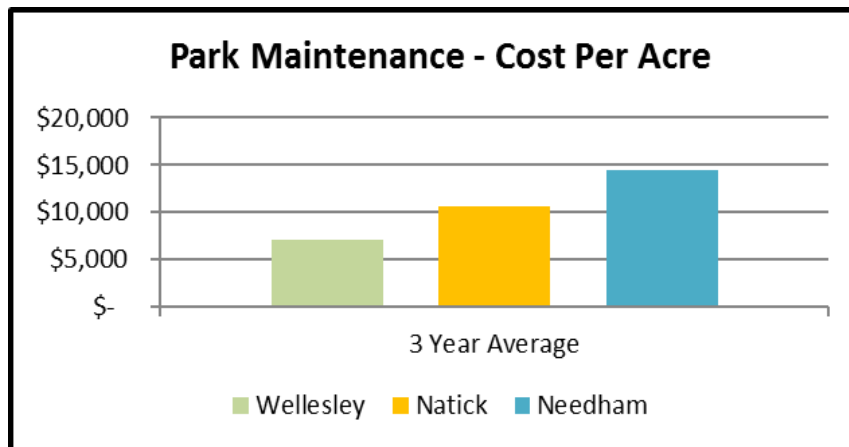


Division: Park & Tree

Benchmarks: Parks – Total Cost per Acre

Wellesley's three-year average cost per acre is \$7,118 compared to \$10,666 for Natick and \$14,509 for Needham. Natick and Needham both contract out more park maintenance work than Wellesley, while Wellesley performs some services that are not done in the other towns such as pond weed harvesting. Natick does not provide any traffic island maintenance while Needham performs this service for 19 islands and Wellesley has over 70.

The most significant driver of this benchmark is the number of acres maintained. Wellesley's maintained acres is much higher than the other two towns and has the effect of lowering the cost per acre calculation. In general, Wellesley was found to have many more facilities and areas and provides a higher level of service (frequency and scope) than both Needham and Natick, especially related to passive recreation and conservation areas.



Division: Fleet Maintenance

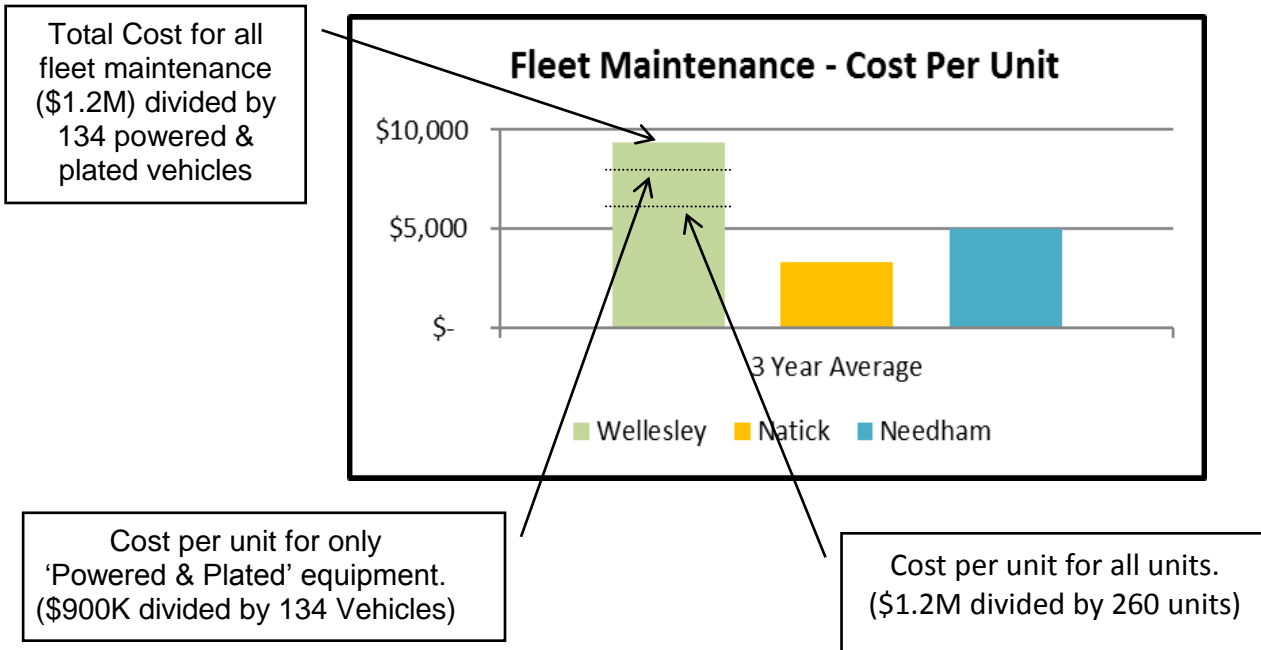
Benchmarks: Cost per Unit

Wellesley's cost per unit is \$9,373 compared to Natick at \$3,488 and Needham at \$5,017. Needham and Wellesley's Fleet operations are more similar where both towns are responsible for repairing mostly DPW Vehicles. Natick, on the other hand, has a consolidated Equipment Maintenance Operation and is responsible for procuring and repairing vehicles for all town departments. As a result, Natick's number of vehicles maintained is much higher and results in a lower cost per vehicle calculation.

Natick and Needham do not currently have any type of reliable fleet maintenance data collection system so we were not able to make any comparisons of vehicle down-time, preventative maintenance compliance, or vehicle class analysis to better understand why our costs were so much higher than our peers. One assumption is that our reliance on in-house staff for snow plowing, rather than contractors, has a significant impact on the cost-per-unit calculation since winter equipment tends to be more expensive to maintain and repair. Winter Maintenance repairs are about one-third of the total repair costs.

The other part of the large discrepancy is that for the purposes of this calculation, we decided to include only 'powered and plated' equipment for the count of vehicles. Wellesley has well over 100 other distinct repair units, such as trailers, plow blades and sidewalk tractor attachments, that impact our overall cost but are not included in our count of 'vehicles'.

Although we do not currently have other views of this data for Natick and Needham, we have run a variety of analyses using Wellesley's information to help make more sense of this data. We took a look at the subset group of *powered & plated equipment* and found that the total cost per unit for just those items was about \$6,700. And for reference, we also show the total fleet maintenance cost divided by all 260 of our vehicles and supporting units. This is an area that the group will need to study in more depth to arrive at a more meaningful benchmark measure and to better understand why Wellesley's costs are higher.

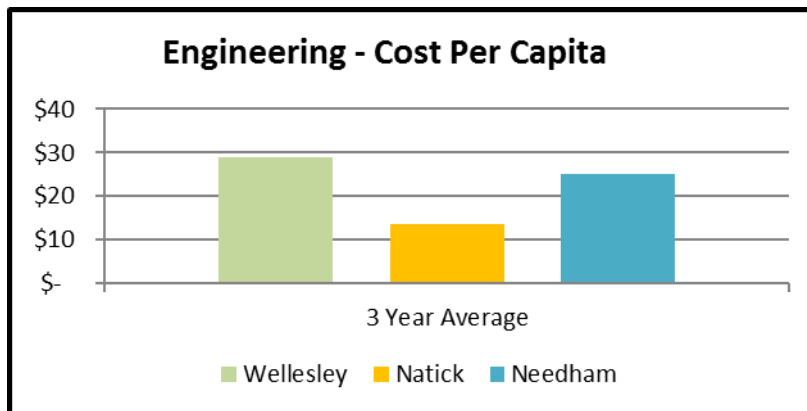


Division: Engineering

Benchmarks: Cost per Capita

Wellesley's three-year average engineering services cost per capita for Wellesley is \$29 compared to \$14 for Natick and \$25 for Needham. While this benchmark does not tie to any specific service or output, it gives a general sense of the value of the service compared with population. The nature of the work for the 3 towns is similar, though Natick expressed that they are frustrated that they are severely understaffed and are not able to meet all of their obligations.

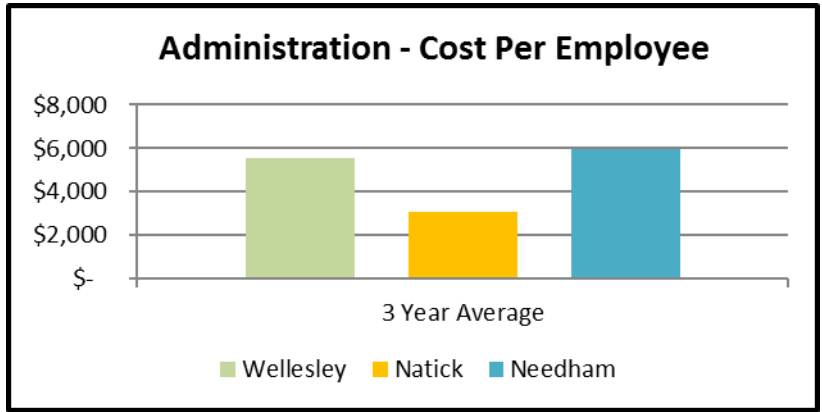
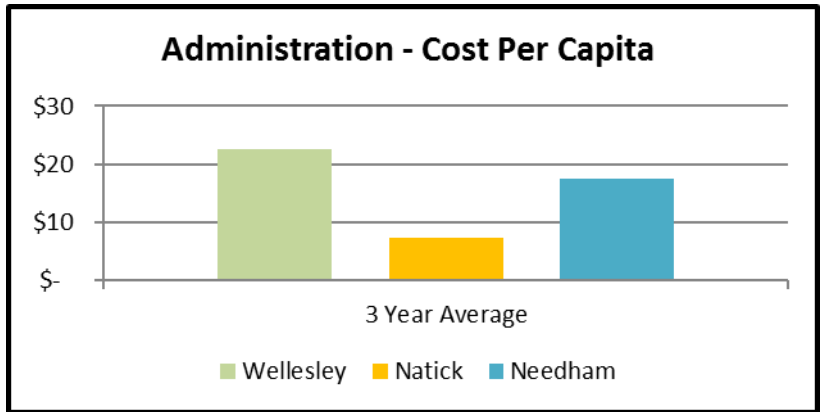
Some output indicators shown on the division sheets that follow give a sense of the workload for each town. These statistics include street occupancy permits issued, utility markouts, and other permit reviews. Needham's Engineering Division does not provide utility markouts (they are handled by the utilities) but both Needham and Natick also provide engineering review of building permit applications. Further, Natick provides little construction oversight and instead contracts out that work while Needham and Wellesley both provide extensive contract and project management.



Division: Administration

Benchmarks: Cost per Capita; Cost per DPW Employee

Wellesley's three-year average DPW Administration cost per capita is \$23, compared to Natick at \$14 and Needham at \$17 and Wellesley's three-year average cost per DPW employee is \$5,531 compared to Natick at \$3,092 and Needham at \$5,953. While many of the same functions are performed in each of the towns, some interesting differences were noted. Needham's Administration handles their own Water & Sewer Billing (quarterly) while in Wellesley that service is performed by the MLP. Wellesley and Natick handle their own enterprise fund accounting while in Needham those functions are handled by finance. Wellesley and Needham both have Assistant Directors while in Natick that role is filled by another division superintendent. Wellesley has a dedicated Safety Coordinator while Natick and Needham do not have a formal safety program. Wellesley also has a dedicated DPW Applications & Database Manager and the other Towns rely on other staff to perform those functions or they go without those types of services.



Division: Water & Sewer

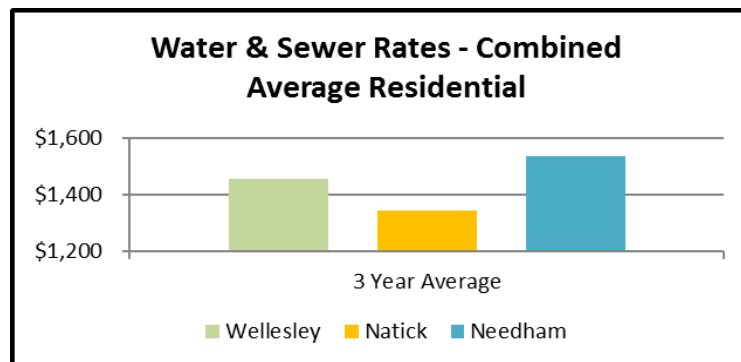
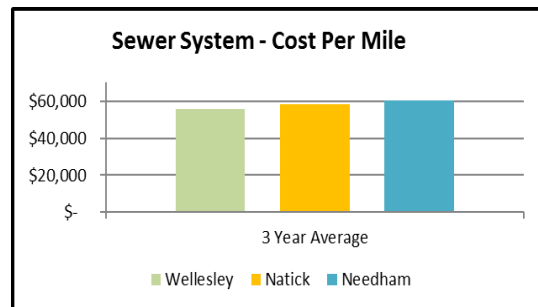
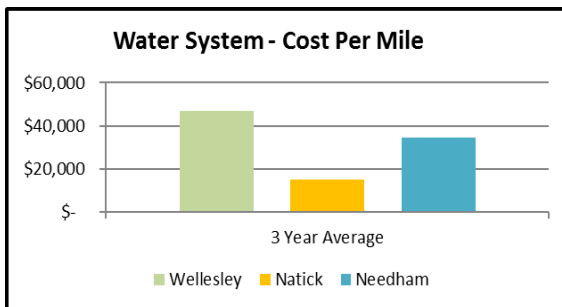
Benchmarks: Water Cost per Mile; Sewer Cost per Mile; Water Rates; Sewer Rates

Wellesley's three-year average water rates for an average household user (120 ccf per year) is \$446 compared to \$335 for Natick and \$479 for Needham. The average sewer rates in Wellesley is \$972 compared to \$875 in Natick and \$944 in Needham. We see that Natick's water rates are noticeably lower than both Wellesley and Needham and this is primarily due to Natick providing all of their own water as they are not an MWRA water community while both Needham and Wellesley rely on MWRA to supplement their own sources.

Sewer rates are much closer and for each town is mostly a reflection of the MWRA sewer charges paid by each community.

When looking at cost per mile for water infrastructure, we see that Wellesley's three-year average is \$46,966 compared to Natick at \$14,961 and Needham at \$34,554. Natick's lower amount is again due to the ability to meet demands with local water in addition to a larger pipe network.

Wellesley's three-year average for sewer system cost per mile is \$55,887 compared to \$58,546 for Natick and \$60,518 for Needham. The primary driver for these figures is MWRA sewer charges.



Benchmark Summary and Division Benchmark Sheets

Benchmarking Summary		Wellesley			Natick			Needham			
As of: 9/7/2017		FY14	FY15	FY16	FY14	FY15	FY16	FY14	FY15	FY16	
Program	Benchmark	FY14	FY15	FY16	FY14	FY15	FY16	FY14	FY15	FY16	
Snow & Ice	Cost per Road Mile	\$ 7,550	\$ 9,733	\$ 4,264	\$ 6,827	\$ 7,808	\$ 4,301	\$ 9,418	\$ 14,592	\$ 6,504	
Trash & Recycling	Total Cost Per Ton	\$ 107	\$ 89	\$ 99	\$ 128	\$ 124	\$ 103	\$ 149	\$ 156	\$ 106	
Trash & Recycling	Net Cost Per Ton	\$ 71	\$ 59	\$ 63	\$ 37	\$ 31	\$ 25	\$ 120	\$ 135	\$ 86	
Highway	Roads - Cost per Mile	\$10,477	\$10,350	\$ 10,529	\$ 7,167	\$ 7,829	\$ 8,071	\$ 9,146	\$ 10,052	\$ 10,224	
Highway	Street Resurfacing - Cost Per Mile	167,186	165,950	111,341	349,231	611,391	535,308	TBD	256,921	188,202	
Park & Tree	Parks - Total Cost Per Acre	\$ 6,889	\$ 7,194	\$ 7,272	\$10,423	\$10,690	\$ 10,886	\$ 13,608	\$ 14,791	\$ 15,127	
Fleet	Cost Per Unit	\$ 8,686	\$10,107	\$ 9,325	\$ 3,073	\$ 3,325	\$ 3,483	\$ 5,249	\$ 4,535	\$ 5,268	
Engineering	Cost per Capita	\$ 27	\$ 29	\$ 30	\$ 13	\$ 14	\$ 14	\$ 25	\$ 25	\$ 25	
Administration	Cost per Capita	\$ 21	\$ 24	\$ 23	\$ 6	\$ 7	\$ 8	\$ 17	\$ 18	\$ 18	
Administration	Cost per DPW Employee	\$ 5,080	\$ 5,791	\$ 5,721	\$ 2,738	\$ 2,933	\$ 3,604	\$ 5,796	\$ 5,973	\$ 6,090	
Water & Sewer	Water - Cost Per Mile	\$45,241	\$45,521	\$ 50,135	\$13,467	\$16,554	\$ 14,863	\$ 37,257	\$ 30,488	\$ 35,916	
Water & Sewer	Sewer - Cost Per Mile	\$54,530	\$54,851	\$ 58,280	\$61,604	\$56,288	\$ 57,745	\$ 61,343	\$ 61,343	\$ 58,868	
Water & Sewer	Water Rates - Residential Inside Only	\$ 446	\$ 446	\$ 446	\$ 326	\$ 336	\$ 342	\$ 483	\$ 483	\$ 472	
Water & Sewer	Water Rates - Residential w/Outside	\$ 955	\$ 980	\$ 980	\$ 854	\$ 872	\$ 898	TBD	\$ 935	\$ 952	
Water & Sewer	Sewer Rates - Average Residential	\$ 1,012	\$ 1,012	\$ 1,012	\$ 951	\$ 1,037	\$ 1,038	\$ 998	\$ 1,061	\$ 1,115	
				3 Year Average			3 Year Average			3 Year Average	
Snow & Ice	Cost per Mile		\$ 7,183	□			\$ 6,312	✓		\$ 10,172	X
Trash & Recycling	Total Cost Per Ton		\$ 98	✓			\$ 118	□		\$ 137	X
Trash & Recycling	Net Cost Per Ton		\$ 64	□			\$ 31	✓		\$ 114	X
Highway	Total Highway Cost Per Mile		\$ 10,452	X			\$ 7,689	✓		\$ 9,807	□
Highway	Street Resurfacing - Cost Per Mile		\$ 148,159	✓			\$ 498,643	X		\$ 222,562	□
Park & Tree	Total Cost Per Acre		\$ 7,118	✓			\$ 10,666	□		\$ 14,509	X
Fleet	Cost per Unit		\$ 9,373	X			\$ 3,294	✓		\$ 5,017	□
Engineering	Cost per Capita		\$ 29	X			\$ 14	✓		\$ 25	□
Administration	Cost per Capita		\$ 23	X			\$ 7	✓		\$ 17	□
Administration	Cost per DPW Employee		\$ 5,531	□			\$ 3,092	✓		\$ 5,953	X
Water & Sewer	Water - Cost Per Mile		\$ 46,966	X			\$ 14,961	✓		\$ 34,554	□
Water & Sewer	Sewer - Cost Per Mile		\$ 55,887	✓			\$ 58,546	□		\$ 60,518	X
Water & Sewer	Water Rates - Residential Inside Only		\$ 446	□			\$ 335	✓		\$ 479	X
Water & Sewer	Water Rates - Residential w/Outside		\$ 972	X			\$ 875	✓		\$ 944	□
Water & Sewer	Sewer Rates - Average Residential		\$ 1,012	□			\$ 1,009	✓		\$ 1,058	X

Solid Waste	Wellesley			Natick			Needham		
	FY2014	FY2015	FY2016	FY2014	FY2015	FY2016	FY2014	FY2015	FY2016
BENCHMARKS						Est.	Actual	Actual	Approp
Total Cost Per Ton	\$ 107	\$ 89	\$ 99	\$ 128	\$ 124	\$ 103	\$ 149	\$ 156	\$ 106
Net Cost Per Ton	\$ 71	\$ 59	\$ 63	\$ 37	\$ 31	\$ 25	\$ 120	\$ 135	\$ 86
OUTPUTS									
Tons of Trash	7,557	7,834	8,268	6,213	6,107	6,100	7,959	8,314	9,582
Tons of Earth Products	2,375	3,839	1,958	1,425	1,102	3,020	4,000	4,200	4,000
Tons of Recycling	5,735	8,642	9,426	4,108	4,106	4,100	3,097	3,186	3,167
Total Tons	15,667	20,315	19,652	11,746	11,315	13,220	15,056	15,700	16,749
	<i>Three year average ----></i>			<i>Three year average ----></i>			<i>Three year average ----></i>		
			18,545			12,094			15,835
INPUTS									
Total Staff	14	14	14	13.5	13.5	13.5	10	10	10
Personal Services	874,122	985,271	989,772	714,688	710,221	725,054	601,825	662,032	692,204
Expenses	1,176,131	1,197,500	1,289,066	783,970	695,590	641,462	1,821,065	1,963,981	1,197,124
Total	2,050,253	2,182,771	2,278,838	1,498,658	1,405,811	1,366,516	2,422,891	2,626,013	1,889,328
Less Facilities	156,026	124,746	101,176				63,605	30,814	28,146
Less Equipment	224,408	247,439	234,592				117,619	142,079	92,295
Adjusted Solid Waste Expenditures	\$ 1,669,819	\$ 1,810,586	\$ 1,943,070	\$ 1,498,658	\$ 1,405,811	\$ 1,366,516	\$ 2,241,666	\$ 2,453,120	\$ 1,768,887
Landfill Expenditures*							\$ 44,289	\$ 48,672	\$ 39,071
Capital*							\$ 31,504	\$ 191,093	\$ 48,000
Total Solid Waste Revenue	\$ 554,665	\$ 619,869	\$ 712,150	\$ 1,060,973	\$ 1,050,838	\$ 1,040,000	\$ 434,833	\$ 332,640	\$ 327,180
Net Solid Waste Expenditures	\$ 1,115,154	\$ 1,190,717	\$ 1,230,920	\$ 437,685	\$ 354,973	\$ 326,516	\$ 1,806,833	\$ 2,120,480	\$ 1,441,707

* Needham has reported landfill closure and capital expenditures which are not included in totals.

Highway Division	Wellesley			Natick			Needham		
	FY2014	FY2015	FY2016	FY2014	FY2015	FY2016	FY2014	FY2015	FY2016
BENCHMARK									
Cost per Mile	\$ 10,477	\$ 10,350	\$ 10,529	\$ 7,167	\$ 7,829	\$ 8,071	\$ 9,146	\$ 10,052	\$ 10,224
	Three Year Average -->>			Three Year Average -->>			Three Year Average -->>		
			\$ 10,452			\$ 7,689			\$ 9,807
Cost per Mile Resurfaced	\$ 167,186	\$ 165,950	\$ 111,341	\$ 349,231	\$ 611,391	\$ 535,308	TBD	256,921	188,202
	Three Year Average -->>			Three Year Average -->>			Three Year Average -->>		
			\$ 148,159			\$ 498,643			\$ 222,562
OUTPUTS/INVENTORY									
Miles of Road	116	116	116	154	154	154	160	160	160
Miles of Road Resurfaced	2.3	3.7	10.0	3.9	6.9	6.5	5.5	3	4.23
Miles of Sidewalk	118	118	118	130	130	130	160	160	160
Number of Parking Meters	451	451	451	178	178	178	175	175	175
Number of Catch Basins	3,662	3,662	3,664	4,200	4,200	4,200	4,225*	4,225*	4,225*
	*Needham Catch Basins Maintained by Sewer.								
INPUTS									
Personal Services	\$ 1,112,629	\$ 1,107,479	\$ 1,114,434	\$ 821,164	\$ 856,200	\$ 904,390	\$ 708,247	\$ 781,668	\$ 789,295
Expenses*	\$ 489,121	\$ 532,484	\$ 552,112	\$ 282,564	\$ 349,437	\$ 338,570	\$ 755,134	\$ 826,574	\$ 846,542
Less Equipment Maint & Fuel	\$ (292,433)	\$ (317,585)	\$ (315,746)	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Less Facilities Maintenance Exp.	\$ (94,028)	\$ (121,785)	\$ (129,404)	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Adjusted Expenses	\$ 102,660	\$ 93,114	\$ 106,962	\$ 282,564	\$ 349,437	\$ 338,570	\$ 755,134	\$ 826,574	\$ 846,542
	2								
Total Road Maintenance Expenditures	\$ 1,215,289	\$ 1,200,593	\$ 1,221,396	\$ 1,103,728	\$ 1,205,637	\$ 1,242,960	\$ 1,463,381	\$ 1,608,242	\$ 1,635,837
Street Resurfacing									
Total Cost of Resurfacing	\$ 377,841	\$ 613,019	\$ 1,114,524	\$ 1,362,000	\$ 4,218,600	\$ 3,479,500	TBD	770,763	796,096
	*Needham computation for FY14 still pending								
Highway Maintenance Staff	19	19	19	12	12	12	9	9	9
Needham Stormwater Crew in Sewer Division >>>							4	4	4
* Equipment Maintenance and Facilities Maintenance have been subtracted from Wellesley for better comparison with Natick and Needham.									

Park & Forestry	Wellesley			Natick			Needham		
	FY2014	FY2015	FY2016	FY2014	FY2015	FY2016	FY2014	FY2015	FY2016
BENCHMARK									
Total Cost Per Acre	\$ 6,889	\$ 7,194	\$ 7,272	\$ 10,423	\$ 10,690	\$ 10,886	\$ 13,608	\$ 14,791	\$ 15,127
	<i>Three year average -->></i>			<i>Three year average --></i>			<i>Three year average -->></i>		
OUTPUTS									
Acres Maintained	195	195	195	70	70	70	92	92	92
INPUTS									
Personal Services	\$ 1,235,198	\$ 1,265,243	\$ 1,290,992	\$466,303	\$494,475	\$493,685	\$ 931,238	\$1,011,771	\$ 985,974
Expenses	\$ 104,363	\$ 120,787	\$ 122,410	\$133,692	\$128,634	\$143,152	\$ 205,102	\$ 198,694	\$ 213,187
Contracted Services	\$ 3,882	\$ 16,841	\$ 4,588	\$129,639	\$125,172	\$125,194	\$ 115,603	\$ 150,296	\$ 192,501
Total Active Recreation Expenditures	\$ 1,343,443	\$ 1,402,871	\$ 1,417,989	\$729,634	\$748,281	\$762,031	\$1,251,943	\$1,360,761	\$1,391,661
Number of Maintenance Staff	16	16	16	6	6	6	14	14	14

Fleet Maintenance	Wellesley			Natick			Needham		
	FY2014	FY2015	FY2016	FY2014	FY2015	FY2016	FY2014	FY2015	FY2016
BENCHMARK									
Cost per Unit	\$ 8,686	\$ 10,107	\$ 9,325	\$ 3,073	\$ 3,325	\$ 3,483	\$ 5,249	\$ 4,535	\$ 5,268
Units Per Repair Staff	19	19	19	32	32	32	29	29	29
OUTPUTS	Three year average -->>			Three year average -->			Three year average -->>		
Vehicles Maintained (Powered & Plated)	135	135	135	252	252	252	114	114	114
Other supporting equipment	65	65	65				46	46	46
INPUTS									
Personal Services**	\$ 542,895	\$ 571,473	\$ 557,090	\$ 484,184	\$ 520,545	\$ 511,336	\$ 325,650	\$ 315,521	\$ 338,020
Expenses	\$ 85,729	\$ 105,348	\$ 81,993	\$ 4,815	\$ 525	\$ 1,751	\$ 107,215	\$ 22,790	\$ 72,634
Parts	\$ 382,817	\$ 448,373	\$ 370,745	\$ 250,686	\$ 274,256	\$ 324,486	\$ 110,527	\$ 106,505	\$ 124,914
Contracted Services	\$ 161,169	\$ 239,313	\$ 249,057	\$ 34,797	\$ 42,689	\$ 40,196	\$ 54,956	\$ 72,178	\$ 65,008
Total Fleet Expenditures	\$ 1,172,610	\$ 1,364,507	\$ 1,258,885	\$ 774,482	\$ 838,015	\$ 877,769	\$ 598,348	\$ 516,994	\$ 600,576
Number of Fleet Maintenance Staff	9	9	9	9	9	9	5	5	5
Number of Mechanics/Welders	7	7	7	8	8	8	4	4	4

Administration	Wellesley			Natick			Needham		
	FY2014	FY2015	FY2016	FY2014	FY2015	FY2016	FY2014	FY2015	FY2016
BENCHMARK									
Cost Per Capital	\$ 21	\$ 24	\$ 23	\$ 6	\$ 7	\$ 8	\$ 17	\$ 18	\$ 18
	Three year average -->>			Three year average -->			Three year average -->>		
Cost per DPW Employee	\$ 5,080	\$ 5,791	\$ 5,721	\$ 2,738	\$ 2,933	\$ 3,604	\$ 5,796	\$ 5,973	\$ 6,090
	Three year average -->>			Three year average -->			Three year average -->>		
OUTPUTS									
Population (MMA Directory)	29,090	28,748	29,090	35,214	33,760	35,214	29,736	29,366	29,736
DPW Permanent Staff	118	118	118	83	83	83	87	87	87
INPUTS (Actual Expenditures)									
Personal Services									
Operating Budget	\$ 346,742	\$ 355,645	\$ 347,538	\$193,817	\$197,068	\$244,077	\$ 471,944	\$ 484,362	\$ 497,356
Enterprise Fund Support	\$ 226,715	\$ 294,658	\$ 305,596						
Total Personal Services	\$ 573,457	\$ 650,303	\$ 653,134	\$193,817	\$197,068	\$244,077	\$ 471,944	\$ 484,362	\$ 497,356
Purchase of Services				\$ 6,816	\$ 10,827	\$ 11,446			
Technical & Professional Services				\$ 8,119	\$ 15,717	\$ 22,633			
Supplies				\$ 15,683	\$ 17,838	\$ 18,672			
Protective Clothing				\$ 2,854	\$ 2,013	\$ 2,286			
Expenses	\$ 25,929	\$ 33,004	\$ 21,998	\$ 33,471	\$ 46,394	\$ 55,037	\$ 32,292	\$ 35,332	\$ 32,446
Total Administration	\$ 599,386	\$ 683,307	\$ 675,132	\$227,288	\$243,463	\$299,114	\$ 504,236	\$ 519,694	\$ 529,802
Number of Administration Staff	9	9	9	3	3	4	8	8	8

Engineering	Wellesley			Natick			Needham		
	FY2014	FY2015	FY2016	FY2014	FY2015	FY2016	FY2014	FY2015	FY2016
BENCHMARK									
Cost per capita	\$ 27	\$ 29	\$ 30	\$ 13	\$ 14	\$ 14	\$ 25	\$ 25	\$ 25
	Three year average -->>>			Three year average -->>>			Three year average -->>>		
OUTPUTS									
Population (MMA Directory)	29,090	28,748	29,090	35,214	33,760	35,214	29,736	29,366	29,736
Street & Trench Permits Issued	795	675	785	353	309	284	585	548	527
Utility Markouts Provided	3,223	2,514	2,095	292	291	251	0	0	0
Building Permit Application Reviews				238	336	293	966	548	527
INPUTS									
Personal Services	\$ 724,603	\$ 777,811	\$ 828,684	\$ 399,534	\$ 413,933	\$ 413,370	\$ 695,353	\$ 710,443	\$ 711,782
Expenses	\$ 67,221	\$ 68,447	\$ 42,996	\$ 63,123	\$ 50,345	\$ 85,024	\$ 34,624	\$ 38,095	\$ 28,142
Total Engineering	\$ 791,824	\$ 846,258	\$ 871,680	\$ 462,657	\$ 464,278	\$ 498,394	\$ 729,977	\$ 748,538	\$ 739,924
Number of Engineering Staff	9	9	9	4	4	4	10	10	10
OTHER STATISTICS									
Street Opening Permits Issued	795	675	785	261	207	163	585	548	527
Trench Permits Issued				92	102	121			

Water & Sewer	Wellesley			Natick			Needham		
	FY2014	FY2015	FY2016	FY2014	FY2015	FY2016	FY2014	FY2015	FY2016
BENCHMARKS									
Water Rates - Residential Inside Only	\$ 446	\$ 446	\$ 446	326	336	342	483	483	472
Water Rates - Residential w/Outside	\$ 955	\$ 980	\$ 980	854	872	898	TBD	935	952
Sewer Rates - Average Residential	\$ 1,012	\$ 1,012	\$ 1,012	951	1,037	1,038	998	1,061	1,115
Wat & Sew Avg. Residential Combined	\$ 1,458	\$ 1,458	\$ 1,457	1,277	1,373	1,380	1,481	1,544	1,586
Water Cost per Mile of Water Main	\$ 45,241	\$ 45,521	\$ 50,135	13,467	16,554	14,863	37,257	30,488	35,916
Sewer Cost Per Mile of Sewer Main	\$ 54,530	\$ 54,851	\$ 58,280	61,604	56,288	57,745	61,343	61,343	58,868
OUTPUTS									
Miles of Water Line	150	150	150	197	197	197	130	130	130
Miles of Sewer Line	135	135	135	150	150	150	132	132	132
Million Gallons of Water From Wells			800			1200			890
Million Gallons of Water from MWRA			300			0			327
Total Pumped (Million Gallons)			1,100			1,200			1,217
INPUTS									
Water Fund Total	\$ 6,786,192	\$ 6,828,192	\$ 7,520,241	\$ 2,652,972	\$ 3,261,166	\$ 2,927,937	\$ 4,843,446	\$ 3,963,381	\$ 4,669,040
Sewer Fund Total	\$ 7,361,517	\$ 7,404,824	\$ 7,867,771	\$ 9,240,593	\$ 8,443,209	\$ 8,661,796	\$ 8,097,221	\$ 8,097,269	\$ 7,770,608
Total Water & Sewer Expenditures	\$ 14,147,708	\$ 14,233,016	\$ 15,388,012	\$ 11,893,565	\$ 11,704,375	\$ 11,589,733	\$ 12,940,667	\$ 12,060,650	\$ 12,439,648
Water & Sewer Staff	28	28	28	29	29	29	28	28	28
							Needham sewer includes 4 stormwater staff		

Findings and Recommendations

Staffing

1. *Finding:* Wellesley's overall staffing is significantly higher than both Needham and Natick despite having a smaller land area, smaller population, and fewer miles of roads. The most obvious differences are within the Highway Division and the fact that Wellesley has four permanent staff serve as night and weekend watchpersons. Highway's staffing level is also higher due to wider scope of services provided in-house such as raising structures during street resurfacing and other capital maintenance. Wellesley's benchmarks for these items are favorable and appear to provide balance to the staffing levels. Wellesley's Highway Division also handles storm water maintenance issues and this function is provided in Needham by a four-person crew in its Sewer Division.
2. *Finding:* As an outcome of our monthly meetings, Natick DPW has identified a severe staffing shortage and is making a pitch for ten additional positions across the department to fill voids in services that they simply cannot complete with existing staff.
3. *Recommendation:* Conduct further study specific to the Highway operation in terms of level of service provided, operating procedures, and employee productivity to determine if further efficiencies and best practices can be identified. Specific operations to review include Street Sweeping, Catch Basin Cleaning, and Pot Hole Patching.

Snow & Ice

4. *Finding:* Wellesley's use of primarily in-house staff leads to a favorable cost per mile, lower cost per response, and lower cost per inch than our peer communities. This is primarily due to our use of in-house staff from other divisions rather than the much more expensive contractors. The one obvious trade-off is that our equipment roster level is higher and that also comes with a higher level of equipment maintenance spending.
5. *Finding:* Sidewalk plowing is a particularly expensive operation because of the equipment used. Wellesley and Needham have comparable sidewalk plowing miles though Wellesley plows sidewalks in commercial areas while Needham does not. Natick has significantly fewer sidewalk miles overall to plow.
6. *Recommendation:* Evaluate the equipment fleet for dedicated winter vehicles and determine if any can be replaced with multi-purpose, year-round equipment.

Highway

7. *Finding:* Wellesley's Highway Division operating total cost per mile is the highest of the three towns while our cost per mile for resurfacing is the lowest. The lower cost is due to our use of in-house staff for structure raising rather than contracting out this service. Natick contracts out the entire resurfacing operation and their per-mile cost is dramatically higher. Needham performs most of the same work as Wellesley but contracts out their structure raising. The result is that their cost is about 50% higher than Wellesley.
8. *Recommendation:* Work with peer towns to further develop Highway maintenance asset inventories and work outputs to provide a more detailed comparison. Miles of road is a good starting point for the discussion but it does not capture the full scope of services provided such as drainage, sign maintenance, guardrail, curbing, pavement marking, snow plow damage repair, and materials management. We have heard anecdotally that Wellesley provides a broader and higher level of service but we need more data to test this assumption.
9. *Recommendation:* Obtain pavement condition ratings and other asset inventory condition ratings from each town to include on benchmark sheets. These 'quality' ratings will help provide some context to the benchmarks.

Park & Forestry

10. *Finding:* Wellesley has higher staffing levels and higher service level requirements. Overall cost per acre is favorable due to significantly greater areas to maintain in Wellesley. Some examples of services provided in Wellesley that are not performed or not performed to the same level in Needham and Natick are pond weed harvesting, traffic island maintenance, and parking lot maintenance.
11. *Recommendation:* Investigate use of remote controlled irrigation systems to better monitor and control field watering.

Solid Waste

12. *Finding:* Wellesley's Total Cost Per Ton is most favorable among the three towns while Natick's Net Cost Per Ton is leading benchmark. This is because Natick's revenue includes the sale of 'pay as you throw' bags.
13. *Finding:* Natick provides curbside pickup, while Needham and Wellesley only provide drop off for trash and recycling.
14. *Finding:* Needham focuses on their processing of earth products such as leaves and grass, while Wellesley puts more attention to the collection and

processing of residential recycling which leads to higher levels of revenue to the town.

15. *Finding:* Needham and Natick both have 'pay as you throw' models, though Needham has difficulty enforcing their program.

Fleet Maintenance

16. *Finding:* The selected benchmark of cost per unit is imperfect and of limited utility since not all equipment is included in the divisor.
17. *Finding:* Wellesley's budgeted staffing level is higher, but because of significant turnover and the difficulty in hiring qualified mechanics, Wellesley's Fleet Maintenance currently has five vacant positions and has been outsourcing most repairs and maintenance over the past year. We sense that these conditions are beginning to change.
18. *Finding:* Needham and Natick had no readily available repair history information so more detailed comparisons could not be made. Both communities are working on new systems to better capture fleet maintenance repair work.
19. *Finding:* As a result of this benchmarking study, Needham offered to provide repair services to Wellesley to help address staff shortages. Pilot test was conducted in August paving the way for future resource sharing.
20. *Finding:* Natick has developed an Equipment Procurement revolving fund to offset vehicle replacement capital costs. Funds are received from the proceeds from the sale of surplus equipment. Wellesley's Finance Director has indicated support for such a fund.
21. *Recommendation:* To help create a better benchmark, we should refine the list of vehicles to include more units. Consider using Vehicle Equivalent method versus including only 'Powered & Plated' so that benchmark will be more meaningful.
22. *Recommendation:* Update and perform annually a fleet utilization review to identify low use vehicles, identify functions that could be combined into a multipurpose vehicle, and potential vehicles to be phased out of the fleet.
23. *Recommendation:* Complete further study on fleet operations to identify levels of service, cost drivers, vehicle downtime, and vehicle replacement policies.
24. *Recommendation:* Create a surplus equipment revolving fund to maximize the benefit from the sale of surplus equipment and offset the recurring capital cost of equipment replacement.

Water & Sewer

25. *Finding:* Average residential water & sewer rates are comparable among the three towns.

Other

26. *Finding:* One key finding from the study was that meeting on a regular basis, with a defined scope was a very helpful to each community. Partners were thoroughly engaged in the process and found benefit in continued meetings and operations review.
27. *Recommendation:* Continue benchmarking study, update with FY17 information, and look for additional communities to join in.
28. *Finding:* Quality of Service is difficult to measure and very few measure exist that can be used to compare each town. The group discussed this topic and decided to leave the discussion of 'quality' for future review
29. *Recommendation:* Develop quality measures or reasonable proxies such as a pavement condition index or other condition assessments and add them to the appropriate benchmarking sheets.