

# **A Report on Fuel Consumption FY 20**

## **Section 1 - Introduction**

### **Purpose**

This report will review and analyze Town of Belmont diesel and unleaded fuel consumption data in order to determine if there is an alternative way to store and supply fuel to Town departments.

### **Source Material**

The Department of Public Works (DPW) provided a detailed fuel consumption report for FY 20 (July 1, 2019 to June 30, 2020) which contained information on every department in the Town of Belmont; their fuel consumption amounts and dates and times of each fueling event. The report also identified individual vehicles within departments along with detailed consumption information for each.

The DPW report was printed in .pdf format and was converted to an excel spreadsheet format. Unfortunately the conversion was not entirely thorough. Many hours were required to create an accurate dataset that would allow for a detailed evaluation of the information. Much of the data had to be hand entered due to the limitations of the conversion. In these cases, some secondary information was not entered, primarily User ID and Mileage information. The most important information was hand entered when required. This included, Department, vehicle identification, product type (unleaded or diesel), amount, and price per gallon.

A small amount of fuel, 125.10 gallons of unleaded fuel and 74.80 gallons of diesel fuel, was not attributed to any department and these amounts have been excluded from the information that follows.

### **General Consumption Information**

There are two underground fuel storage tanks at the DPW yard at 37 C Street. A 6000 gallon unleaded fuel tank and a 6000 gallon diesel fuel tank.

Twelve Town departments utilize the fueling station in the DPW yard (Parks and Recreation have been combined for this study). All twelve departments use unleaded gasoline, eight of the twelve use diesel fuel. For the period FY 20 Town departments pumped 54,667.49 gallons of unleaded gasoline (Table 1) and 24,754.80 gallons of diesel fuel (Table 2).

Note: Fueling records for the Police Department began in August 2019 when the department relocated to accommodate the renovation of the Police Station. Prior to August of 2019 fueling

was done at the Police Station site. The ability to fuel at the station was not available during the construction project and is no longer available with the completion of that project.

**TABLE 1**  
**FY 20 Department Unleaded Fuel Usage**

<u>Quantity (gal)</u>	<u>Total (\$)</u>	<u>Department</u>	<u>%</u>
1,679.20	\$3,428.70	Belmont Facilities	3.1%
4,026.90	\$7,840.22	Belmont Light	7.4%
1,760.50	\$3,658.17	Cemetery Division	3.2%
2,089.50	\$4,288.34	Council On Aging	3.8%
2,494.20	\$5,105.92	Fire Department	4.6%
378.50	\$772.14	Health Department	0.7%
10,820.58	\$22,236.34	Highway Division	19.8%
1,321.80	\$2,698.33	Housing	2.4%
2,073.40	\$4,245.27	Parks / Rec	3.8%
24,504.22	\$49,988.61	Police Department	44.8%
964.00	\$1,980.66	School Department	1.8%
2,554.70	\$5,229.77	Water Division	4.7%
<b>54,667.49</b>	<b>\$111,472.45</b>		<b>100.0%</b>

**TABLE 2**  
**FY 20 Department Diesel Fuel Usage**

<u>Quantity (gal)</u>	<u>Total (\$)</u>	<u>Department</u>	<u>%</u>
3,443.70	\$8,441.64	Belmont Light	13.9%
980.60	\$2,371.36	Cemetery Division	4.0%
6,602.40	\$16,192.92	Fire Department	26.7%
11,382.30	\$27,637.63	Highway Division	46.0%
10.00	\$24.50	Housing	0.0%
584.80	\$1,435.70	Parks / Rec	2.4%
13.30	\$32.59	School Department	0.1%
1,737.70	\$4,287.66	Water Division	7.0%
<b>24,754.80</b>	<b>\$60,424.00</b>		<b>100.0%</b>

## **Section 2 - Diesel Fuel**

The Highway Division of DPW was the largest consumer of diesel fuel pumping 11,382.30 gallons and accounting for 46.0% of the total consumption. The Belmont Fire Department was the second highest consumer pumping 6,602.40 gallons, accounting for 26.7% of the total consumption. The Belmont Light Department is the other significant consumer of diesel fuel pumping 3,443.70 gallons, accounting for 13.9% of the total consumption.

## Monthly Analysis

The total monthly consumption of diesel fuel ranged from a high of 3,827.70 gallons in December 2019 to a low of 1,358.30 gallons in June 2020. The average monthly consumption of diesel fuel was 2,062.90 gallons (Table 3).

In eleven months the Highway Division of DPW was the largest consumer of diesel fuel. In June 2020 the Belmont Fire Department was the largest consumer.

**TABLE 3**  
**FY 20 Department Monthly Diesel Fuel Usage**

<u>Department</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>	
Belmont Light	431.80	342.30	458.10	453.20	263.40	228.30	
Cemetery Division	54.10	12.70	89.90	72.00	94.60	90.80	
Fire Department	652.80	647.00	529.80	563.10	599.00	601.70	
Highway Division	880.50	725.50	634.10	815.00	846.00	2,649.60	
Housing	0.00	0.00	0.00	0.00	0.00	10.00	
Parks / Rec	37.50	87.30	92.00	110.50	25.20	49.80	
School Department	0.00	0.00	0.00	0.00	0.00	0.00	
Water Division	217.90	164.30	207.10	118.80	136.00	197.50	
	<b>2,274.60</b>	<b>1,979.10</b>	<b>2,011.00</b>	<b>2,132.60</b>	<b>1,964.20</b>	<b>3,827.70</b>	
	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>Total</u>
Belmont Light	296.20	253.40	216.80	183.50	146.10	170.60	<b>3,443.70</b>
Cemetery Division	92.20	77.90	57.00	183.20	89.10	67.10	<b>980.60</b>
Fire Department	527.60	531.00	464.30	411.70	545.60	528.80	<b>6,602.40</b>
Highway Division	1,338.40	985.20	600.80	706.20	699.00	502.00	<b>11,382.30</b>
Housing	0.00	0.00	0.00	0.00	0.00	0.00	<b>10.00</b>
Parks / Rec	33.60	13.30	12.40	45.70	59.10	18.40	<b>584.80</b>
School Department	13.30	0.00	0.00	0.00	0.00	0.00	<b>13.30</b>
Water Division	143.50	137.20	82.40	43.70	217.90	71.40	<b>1,737.70</b>
	<b>2,444.80</b>	<b>1,998.00</b>	<b>1,433.70</b>	<b>1,574.00</b>	<b>1,756.80</b>	<b>1,358.30</b>	<b>24,754.80</b>

## Section 3 - Unleaded Gasoline

The Belmont Police Department was the largest consumer of unleaded gasoline pumping 24,504.22 gallons, accounting for 44.8% of the total consumption. The Highway Division of DPW was the second highest consumer pumping 10,820.58 gallons, accounting for 19.8% of the total consumption (Table 4).

## Monthly Analysis

The total monthly consumption of unleaded gasoline ranged from a high of 5,261.22 gallons in July 2019 to a low of 3,903.10 gallons in May 2020. The average monthly consumption of unleaded gasoline was 4,555.62 gallons.

The Belmont Police Department is month over month the largest consumer of unleaded gasoline.

**TABLE 4**  
**FY 20 Department Monthly Unleaded Fuel Usage**

<b>Department</b>	<b>July</b>	<b>August</b>	<b>September</b>	<b>October</b>	<b>November</b>	<b>December</b>	
Belmont Facilities	179.40	134.00	186.10	159.00	122.30	166.90	
Belmont Light	361.20	332.00	355.60	324.10	312.30	391.40	
Cemetery Division	187.20	181.70	185.30	162.50	110.80	85.90	
Council On Aging	257.30	198.60	191.00	190.60	190.80	228.00	
Fire Department	263.60	251.60	242.30	292.90	230.80	216.60	
Health Department	30.90	59.70	54.20	29.70	28.70	59.90	
Highway Division	1,154.30	1,129.28	836.60	1,067.80	781.00	1,178.10	
Housing	65.50	159.40	106.50	98.40	53.00	166.50	
Parks / Rec	283.60	231.50	99.20	218.10	148.00	172.30	
Police Department	2,042.02	1,795.20	2,059.80	2,183.50	1,948.40	2,115.50	
School Department	141.70	55.30	108.50	96.60	110.20	107.10	
Water Division	294.50	279.00	252.00	264.40	230.40	231.50	
	<b>5,261.22</b>	<b>4,807.28</b>	<b>4,677.10</b>	<b>5,087.60</b>	<b>4,266.70</b>	<b>5,119.70</b>	
	<b>January</b>	<b>February</b>	<b>March</b>	<b>April</b>	<b>May</b>	<b>June</b>	<b>Total</b>
Belmont Facilities	150.90	158.00	112.80	77.50	101.60	130.70	<b>1,679.20</b>
Belmont Light	485.60	437.20	260.90	244.60	207.40	314.60	<b>4,026.90</b>
Cemetery Division	55.50	63.50	187.70	101.00	209.30	230.10	<b>1,760.50</b>
Council On Aging	205.40	177.00	135.70	102.70	102.60	109.80	<b>2,089.50</b>
Fire Department	226.20	237.10	177.80	80.70	119.00	155.60	<b>2,494.20</b>
Health Department	46.40	39.60	0.00	0.00	14.30	15.10	<b>378.50</b>
Highway Division	925.00	804.00	539.80	709.10	824.60	871.00	<b>10,820.58</b>
Housing	129.10	125.20	100.60	122.50	116.10	79.00	<b>1,321.80</b>
Parks / Rec	209.70	106.00	88.80	99.00	195.80	221.40	<b>2,073.40</b>
Police Department	2,112.30	2,066.60	2,014.90	2,211.50	1,766.40	2,188.10	<b>24,504.22</b>
School Department	96.30	43.40	75.80	23.90	78.10	27.10	<b>964.00</b>
Water Division	166.20	167.60	131.70	143.20	167.90	226.30	<b>2,554.70</b>
	<b>4,808.60</b>	<b>4,425.20</b>	<b>3,826.50</b>	<b>3,915.70</b>	<b>3,903.10</b>	<b>4,568.80</b>	<b>54,667.49</b>

#### **Off Site Fueling - Private Gas Station Option**

Note: For the purpose of analyzing the logistics of Town vehicles purchasing unleaded fuel at a private gas station, Off Hours are considered to be between 10:00 PM and 6:00 AM.

There are nine private gas stations available to provide unleaded gasoline. Eight stations are in Belmont, and one is located immediately adjacent to Belmont (on Belmont Street in Watertown). Three of the nine stations are open at 6:00 AM Monday thru Friday, four stations are open until at least 10:00 PM seven days a week. Cushing Square Auto, 90 Trapelo Road, is open 6:00 AM to 10:00 PM Monday thru Sunday (Table 5)

**TABLE 5**  
**Private Gas Stations – Belmont MA**

<b>Name</b>	<b>Address</b>	<b>Hours</b>
P&M Service	90 Concord Avenue	Mon - Fri: 7am - 9pm; Sat 7am - 5pm
Pleasant Street Shell	337 Pleasant Street	Mon - Fri: 6am - 11pm; Sat: 7am - 10pm; Sun: 8am - 10pm
BP Gas Station	563 Trapelo Road	Mon - Sun: 7am - 10pm
Belmont Citgo	500 Common Street	Mon: 7am - 8 pm; Tue - Sat: 7 am to 7 pm; Sun 8am - 6 pm
Star K Gas	368 Pleasant Street	TBD
Mobil	365 Concord Avenue	Mon - Fri: 6am - 10pm; Sat: 7am - 10pm; Sun: 8am - 10pm
Cushing Square Auto	90 Trapelo Road	Mon - Sun: 6am - 10pm
Belmont Auto Clinic	180 Belmont Street	Mon - Fri: 8am - 6pm; Sat: 8am - 4pm
Belmont Car Care	27 Lexington Street	Mon - Fri: 8am - 5pm; Sat: 8am - 10pm

As stated previously, for the period FY 20 (July 1, 2019 to June 30, 2020) Town departments pumped 54,667.49 gallons of unleaded gasoline. Between the hours of 6:00 AM and 10:00 PM, the hours with private gas station availability, 47,040.97 gallons of unleaded fuel were pumped by Town departments. The balance of 7,626.53 gallons were pumped Off Hours. The Belmont Police Department accounted for 7,045.53 gallons of this total Off Hours amount.

Unlike the Town's diesel powered vehicles and equipment, the fleet of unleaded gasoline powered vehicles are standard in design and can easily be accommodated at a private gas station.

The total monthly consumption of unleaded gasoline between the typical gas station business hours of 6:00 AM and 10:00 PM ranged from a high of 4,647.10 gallons in July 2019 to a low of 3,205.40 gallons in March 2020. The average monthly consumption of unleaded gasoline between the hours of 6:00 AM and 10:00 PM was 3,920.08 gallons (Table 6).

The total monthly consumption of unleaded gasoline, Off Hours, between the hours of 10:00 PM and 6:00 AM ranged from a high of 1,022.90 gallons in December 2019 to a low of 444.20 gallons in August 2019. The average monthly consumption of unleaded, Off Hours, between the hours of 10:00 PM and 6:00 AM was 635.54 gallons (Table 7).

Given the amount of Off Hours activity by the Police department, a source of unleaded fuel must be available at the DPW Yard.

**TABLE 6**  
**FY 20 Department Monthly Business Hours Unleaded Fuel Usage**  
**6:00 AM to 10:00 PM**

<u>Department</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>	
Belmont Facilities	179.40	134.00	186.10	159.00	122.30	166.90	
Belmont Light	361.20	332.00	355.60	324.10	312.30	391.40	
Cemetery Division	187.20	181.70	185.30	162.50	110.80	85.90	
Council On Aging	257.30	198.60	191.00	190.60	190.80	228.00	
Fire Department	263.60	251.60	242.30	285.50	230.80	205.40	
Health Department	30.90	59.70	54.20	29.70	28.70	59.90	
Highway Division	1,127.30	1,119.28	836.60	1,045.80	769.00	963.60	
Housing	65.50	159.40	106.50	98.40	53.00	136.50	
Parks / Rec	283.60	231.50	99.20	218.10	148.00	150.90	
Police Department	1,454.89	1,361.00	1,543.50	1,503.00	1,349.80	1,382.80	
School Department	141.70	55.30	108.50	96.60	110.20	107.10	
Water Division	294.50	279.00	252.00	264.40	230.40	218.40	
	<b>4,647.09</b>	<b>4,363.08</b>	<b>4,160.80</b>	<b>4,377.70</b>	<b>3,656.10</b>	<b>4,096.80</b>	
	<b>January</b>	<b>February</b>	<b>March</b>	<b>April</b>	<b>May</b>	<b>June</b>	<b>Total</b>
Belmont Facilities	150.90	158.00	84.70	77.50	101.60	130.70	<b>1,651.10</b>
Belmont Light	485.60	437.20	260.90	244.60	207.40	314.60	<b>4,026.90</b>
Cemetery Division	55.50	63.50	187.70	101.00	209.30	230.10	<b>1,760.50</b>
Council On Aging	205.40	177.00	124.50	102.70	102.60	109.80	<b>2,078.30</b>
Fire Department	226.20	223.40	164.40	80.70	119.00	155.60	<b>2,448.50</b>
Health Department	46.40	39.60	0.00	0.00	14.30	15.10	<b>378.50</b>
Highway Division	869.50	772.40	507.50	709.10	824.60	853.70	<b>10,398.38</b>
Housing	129.10	125.20	100.60	122.50	116.10	79.00	<b>1,291.80</b>
Parks / Rec	209.70	106.00	88.80	99.00	195.80	221.40	<b>2,052.00</b>
Police Department	1,479.30	1,378.70	1,478.80	1,632.90	1,247.50	1,646.50	<b>17,458.69</b>
School Department	96.30	43.40	75.80	23.90	78.10	27.10	<b>964.00</b>
Water Division	156.90	167.60	131.70	143.20	167.90	226.30	<b>2,532.30</b>
	<b>4,110.80</b>	<b>3,692.00</b>	<b>3,205.40</b>	<b>3,337.10</b>	<b>3,384.20</b>	<b>4,009.90</b>	<b>47,040.97</b>

**TABLE 7**  
**FY 20 Department Monthly Off Hours Unleaded Fuel Usage**  
**10:00 PM to 6:00 AM**

<u>Department</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>	
Belmont Facilities	0.00	0.00	0.00	0.00	0.00	0.00	
Belmont Light	0.00	0.00	0.00	0.00	0.00	0.00	
Cemetery Division	0.00	0.00	0.00	0.00	0.00	0.00	
Council On Aging	0.00	0.00	0.00	0.00	0.00	0.00	
Fire Department	0.00	0.00	0.00	7.40	0.00	11.20	
Health Department	0.00	0.00	0.00	0.00	0.00	0.00	
Highway Division	27.00	10.00	0.00	22.00	12.00	214.50	
Housing	0.00	0.00	0.00	0.00	0.00	30.00	
Parks / Rec	0.00	0.00	0.00	0.00	0.00	21.40	
Police Department	587.13	434.20	516.30	680.50	598.60	732.70	
School Department	0.00	0.00	0.00	0.00	0.00	0.00	
Water Division	0.00	0.00	0.00	0.00	0.00	13.10	
	<b>614.13</b>	<b>444.20</b>	<b>516.30</b>	<b>709.90</b>	<b>610.60</b>	<b>1,022.90</b>	
	<u>January</u>	<u>February</u>	<u>March</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>Total</u>
Belmont Facilities	0.00	0.00	28.10	0.00	0.00	0.00	<b>28.10</b>
Belmont Light	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
Cemetery Division	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
Council On Aging	0.00	0.00	11.20	0.00	0.00	0.00	<b>11.20</b>
Fire Department	0.00	13.70	13.40	0.00	0.00	0.00	<b>45.70</b>
Health Department	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
Highway Division	55.50	31.60	32.30	0.00	0.00	17.30	<b>422.20</b>
Housing	0.00	0.00	0.00	0.00	0.00	0.00	<b>30.00</b>
Parks / Rec	0.00	0.00	0.00	0.00	0.00	0.00	<b>21.40</b>
Police Department	633.00	687.90	536.10	578.60	518.90	541.60	<b>7,045.53</b>
School Department	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
Water Division	9.30	0.00	0.00	0.00	0.00	0.00	<b>22.40</b>
	<b>697.80</b>	<b>733.20</b>	<b>621.10</b>	<b>578.60</b>	<b>518.90</b>	<b>558.90</b>	<b>7,626.53</b>

### **Off Site Fueling – Lost Productivity**

A study of an offsite fueling alternative must include an evaluation of potential lost productivity. The following analysis is focused on unleaded fuel.

Of the twelve Town departments that utilize the fueling station in the DPW yard three departments store their vehicles and equipment at the yard; the Highway Division, Water Division, and Belmont Light Department.

To evaluate the potential lost productivity that would result from a vehicle bypassing the fueling station in the Town yard and driving to an offsite private gas station, data showing fueling that occurred at the start of each work day was analyzed to determine how often a vehicle gets fuel at the start of a work day. Fueling operations that occurred after the start of

the workday are assumed to be productivity neutral since the vehicle would be away from the yard and it is possible a private gas station would be more convenient to visit than a return trip to the yard.

For this analysis the period of 6:00 AM to 8:30 AM is assumed to be the start of the work day.

- **Highway Division**

The Highway Division had a total of 183 fueling events in FY 20 for the study time period. Sixty-nine of these events were related to the filling of 5 gallon gas cans which are utilized to fill equipment. Thirteen different vehicles received fuel during the study period. Of the thirteen vehicles only one pumped fuel more often than once per month. This vehicle pumped fuel an average of 1.3 days per month during the period of 6:00 AM to 8:30 AM.

The total number of times a Highway Division vehicle gets fuel at the start of the workday is insignificant over the course of a year and therefore is not expected to have a negative impact on productivity. The number of times a gas can is filled (on average, 5.8 times per month) suggests this small amount of fuel can be provided on site even under a scenario where the DPW yard tanks are replaced with a smaller capacity.

- **Belmont Light Department**

The Belmont Light Department had a total of 75 fueling events in FY 20 for the study time period. Eleven different vehicles received fuel during the study period. Of the eleven vehicles only one pumped fuel during the study period greater than once per month. This vehicle pumped fuel an average of 1.3 days per month during the period of 6:00 AM to 8:30 AM.

The total number of times a Belmont Light Department vehicle gets fuel at the start of the workday is insignificant over the course of a year and therefore has no negative impact on productivity.

- **Water Division**

The Water Division had a total of 75 fueling events in FY 20 for the study time period. Five different vehicles received fuel during the study time period. Of the five vehicles only two pumped fuel more often than once per month. One vehicle pumped fuel an average on 1.0 times per month while the other pumped fuel an average of 1.3 days per month.

The total number of times a Water Division vehicle gets fuel at the start of the workday is insignificant over the course of a year and therefore has no negative impact on productivity.

## **- Police Department**

Since the Belmont Police department is the largest consumer of unleaded gasoline it is helpful to evaluate that department's logistics.

The distance from the Police Station to the DPW Yard is 1.2 miles. There are four private gas stations that open at 6:00 AM. All four are essentially no farther away than the DPW Yard:

0.8 miles to 337 Pleasant Street – Pleasant Street Shell

0.4 miles to 365 Concord Avenue – Mobil

1.3 miles to 90 Trapelo Road - Cushing Square Auto

1.2 miles to 350 Trapelo Road - Power Plus Gas

For the Belmont Police Department there is no expected loss of productivity fueling at an offsite location versus the DPW Yard. The other departments that store vehicles away from the Town yard are expected to have a similar experience.

## **- Remaining Departments**

The other nine departments that utilize the fueling station in the DPW yard store their vehicles away from the yard and therefore lost productivity is assumed to be neutral since the vehicle would be away from the yard and it is possible a private gas station would be just as convenient to visit versus the Town yard.

For all departments, lost productivity due to potential gas station queuing and time lost waiting for a pump to become available will need to be further evaluated. This is discussed further in Section 5 –Recommendations.

## **Off Site Fueling – Financial Impact**

See Appendix 1.

The Town of Belmont purchases fuel through a consortium of communities headed by the Town of Brookline. DPW was able to provide bid prices for unleaded gasoline going back to FY 06. The consortium bid price does not include state taxes but does include federal taxes.

In FY 20, a total of 54,667.49 gallons of unleaded fuel was pumped by Town departments. Of this total amount, 47,040.97 gallons was pumped between the hours of 6:00 AM and 10:00 PM. The following financial analysis assumes FY 20 consumption totals for each year studied from FY 06 to FY 21.

Recently the Town has begun exploring the possibility of utilizing a third party vendor that would provide the Town the ability to purchase fuel at private gas stations. This service includes

state taxes but does not include federal taxes. In addition, this service offers a 1.5% rebate on all purchase.

Using an annual amount of 47,040.97 gallons of unleaded fuel an analysis for FY 06 to FY 21 shows that when the consortium price is compared to the market rate of unleaded gasoline, and factoring in the 1.5% rebate, the Town would have lost on average \$4,598 per year. When looking at individual years the annual difference ranges from a loss of \$37,026 (FY 08) to a savings of \$87,696 (FY 09). Note: for the sixteen year study period average annual gasoline prices were determined using internet research.

#### **Section 4 - Storm Events and Fuel Usage**

There are currently two underground fuel storage tanks at the DPW yard at 37 C Street. A 6000 gallon unleaded fuel tank and a 6000 gallon diesel fuel tank. A proposal to modify the size of replacement tanks must consider the requirement of available fuel for emergency events.

On December 1-3, 2019, 11.5 inches of snow fell in Belmont. Consumption data was analyzed for this three day period (Table 8). During this time period, 815.70 gallons of unleaded fuel was pumped. Of the 815.70 gallons, 528.00 gallons were pumped during the hours of 6:00 AM and 10:00 PM. This leaves a total of 287.70 gallons pumped off hours. During this same time period, a total of 1,073.10 gallons of diesel fuel was pumped.

**TABLE 8**  
**December 1 -3, 2019 Snow Event Unleaded Fuel Usage**

<u>Date</u>	<u>Quantity (gal)</u>	<u>Department</u>	<u>%</u>
<b>All Hours</b>			
12/1 - 12/3 2019	35.30	Belmont Facilities	4.3%
12/1 - 12/3 2019	115.40	Belmont Light	14.1%
12/1 - 12/3 2019	23.80	Council On Aging	2.9%
12/1 - 12/3 2019	12.80	Fire Department	1.6%
12/1 - 12/3 2019	15.10	Health Department	1.9%
12/1 - 12/3 2019	244.60	Highway Division	30.0%
12/1 - 12/3 2019	50.70	Housing	6.2%
12/1 - 12/3 2019	40.70	Parks	5.0%
12/1 - 12/3 2019	221.30	Police Department	27.1%
12/1 - 12/3 2019	35.10	School Department	4.3%
12/1 - 12/3 2019	20.90	Water Division	2.6%
<b>12/1 - 12/3 2019</b>	<b>815.70</b>		<b>100.0%</b>

As a way to more thoroughly study snow events, data from a December 16-18, 2020 storm event that dropped 14 inches of snow was also evaluated (Table 9). During this three day time period, 731.80 gallons of unleaded fuel was pumped. Of the 731.80 gallons, 635.30 gallons were pumped during the hours of 6:00 AM and 10:00 PM. This leaves a total of 96.50 gallons

pumped off hours. During this same time period, a total of 906.80 gallons of diesel fuel was pumped.

**TABLE 9**  
**December 16 -18, 2020 Snow Event Unleaded Fuel Usage**

<u>Date</u>	<u>Quantity (gal)</u>	<u>Department</u>	<u>%</u>
<b>All Hours</b>			
12/16 - 12/18 2020	49.80	Belmont Light	6.8%
12/16 - 12/18 2020	14.30	Council On Aging	2.0%
12/16 - 12/18 2020	16.60	Fire Department	2.3%
12/16 - 12/18 2020	334.90	Highway Division	45.8%
12/16 - 12/18 2020	46.20	Housing	6.3%
12/16 - 12/18 2020	26.40	Parks/Rec	3.6%
12/16 - 12/18 2020	168.90	Belmont Police	23.1%
12/16 - 12/18 2020	21.60	School Department	3.0%
12/16 - 12/18 2020	32.90	Water Division	4.5%
12/16 - 12/18 2020	20.20	Cemetery Division	2.8%
<b>12/16 - 12/18 2020</b>	<b>731.80</b>		<b>100.0%</b>

The data suggests off site fueling for unleaded gasoline, during the hours of 6:00 AM and 10:00 PM, in combination with a well-managed fuel supply at the DPW yard can result in an adequate supply for Town vehicles even through a significant snow event. Further, if one were to assume 24 hour unleaded fueling occurring at the DPW yard during a three day storm event, a well-managed fuel supply can also properly support Town vehicles.

Final recommended tank sizes will be determined upon further review of departmental operations. Future integration of electric vehicles and fuel supply security will also be evaluated when considering final recommended tank sizes.

## **Section 5 - Recommendations**

### **Diesel Fuel Recommendation**

Of the eleven private gas stations available to the Belmont fleet just three provide diesel fuel. The site constraints make it prohibitive to fuel Town vehicles. Larger Town vehicles such as Belmont Fire Department engines would struggle to maneuver on and off these sites, if it was even possible to do it at all. For this reason it makes sense to keep all diesel fuel operations at the Town Yard.

### **Unleaded Fuel Recommendation**

With the information learned regarding lost productivity, potential financial impacts, and fueling during snow events, it is recommended that a trial period of three months be

implemented for departments to use off site private gas stations for unleaded fueling between the hours of 6:00 AM and 10:00 PM. It is critical to understand the experience of using off site private gas stations before a final recommendation can be made. A third party vendor will be utilized and they will provide gas cards and administrative reports.

A questionnaire has been developed so comments and feedback can be captured from Town personnel. See Attachment 2.



**APPENDIX 2**  
**Questionnaire**



**TOWN OF BELMONT**  
OFFICE OF THE TOWN ADMINISTRATOR  
455 CONCORD AVENUE  
BELMONT, MASSACHUSETTS 02478

*The information contained in this document is a public record under MGL Chapter 66, and is therein considered a public record.*

**PILOT**

1. What, if any, are your concerns with fueling at an off-site Belmont gas station from the hours of 6am – 10pm?

**MONTH    1    2    3 (Please circle)**

1. What, if any, are your challenges thus far fueling at an off-site Belmont gas station from the hours of 6am-10pm?

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2. Please rate the ease of pumping gas at an offsite Belmont gas station: 5 being the greatest of ease and 1 being the hardest.

1	2	3	4	5
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3. What is your average wait time for fueling?

0-5 Minutes	5-10 Minutes	10-15 Minutes
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4. Please rate the loss of productivity you have felt fueling at an off-site Belmont gas station: 5 being the most lost time and 1 being the least lost time.

1	2	3	4	5
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5. Additional comments:

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