Public Notice
Town of Boxborough

Boxborough Sustainability Committee Meeting
Wednesday, April 15, 2020
7:00 pm
PLACE: Virtual Meeting - - this meeting is being conducted via Remote Participation, pursuant to the Current Executive Order. Remote participation instructions are provided below.

Join Zoom Meeting
https://zoom.us/j/950847893?pwd=bDg4ZHhwNXNaUmRVVEJSNDBsaUl6Zz09
Meeting ID: 950 847 893
Password: 915401
One tap mobile
+19292056099,,950847893# US (New York)
+13126266799,,950847893# US (Chicago)
Dial by your location
+1 929 205 6099 US (New York)
+1 312 626 6799 US (Chicago)
+1 669 900 6833 US (San Jose)
+1 253 215 8782 US
+1 301 715 8592 US
+1 346 248 7799 US (Houston)
Meeting ID: 950 847 893
Find your local number: https://zoom.us/u/acP2zXPrZX

(Alternate conference call: 617-315-0704; Guest: 24712968)

Agenda

1. Accept March minutes as written.
2. Article for Devens HHW removed from Warrant: next steps.
3. Bay State Textiles: plan and public education.
4. Education program: media.
5. HeatSmart Alliance: next steps.
6. Lighting Bylaw updated: response requested by Planning Board.
7. Planet-For-Schools Committee: “permission to add your organization name to our list of groups that are supportive of the Plant-Forward Schools Initiative. “
8. Other topics.
9. Next meeting: May 13, 2020

Household Hazardous Waste Collection Program

Overview for Town of Boxborough

Town of Boxborough Sustainability Committee

DevensHHW

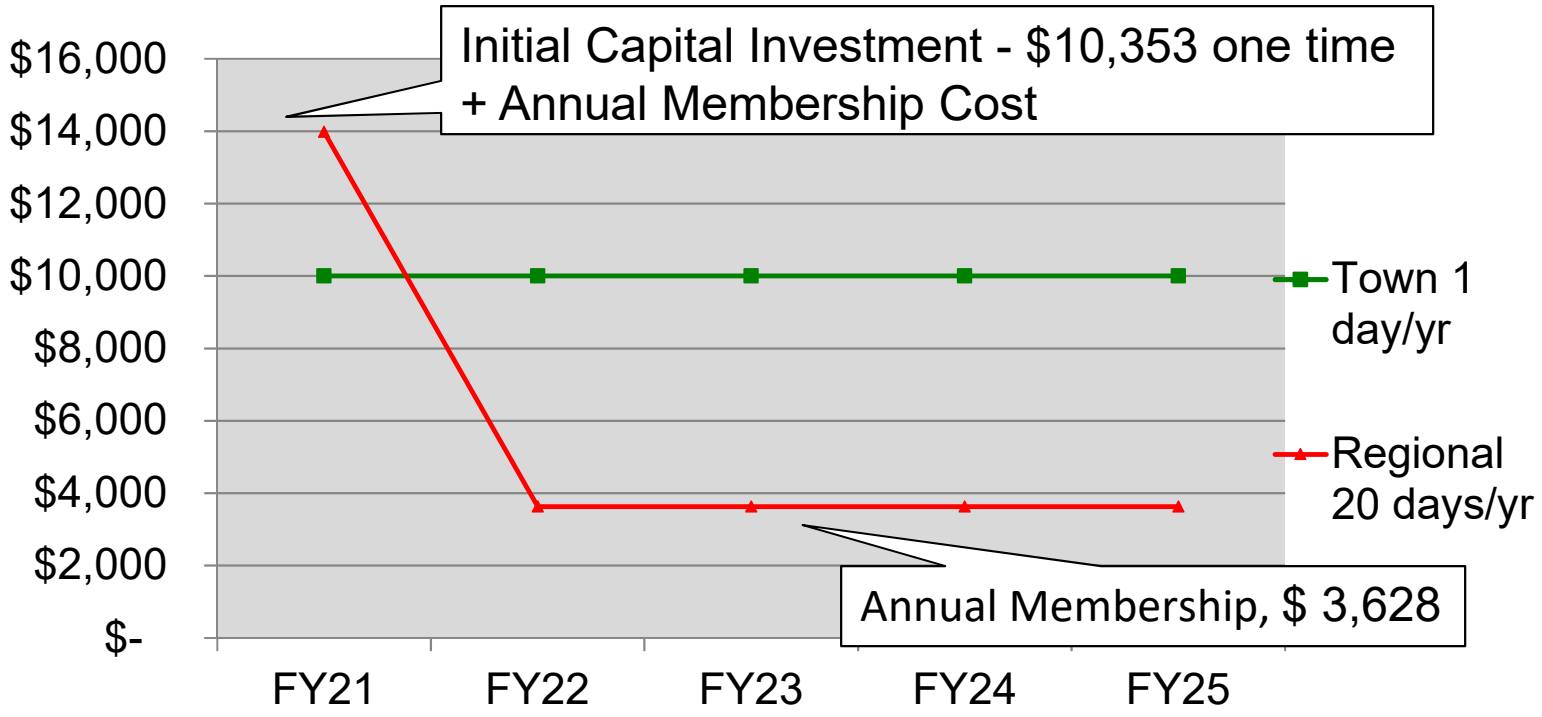
- Open 20 times a year
  - 1st Wednesday/Saturday, 9am-1pm
  - March through December
- Member town residents, staff, & small businesses only

Easy Breezy
-Ayer resident
So much better than waiting.
-John, Lunenburg
Way better than what (we) used to have. Quota (reached) & that was it.
-MC, Littleton
You're so cheerful! - Bolton
Good that you do this!
-Bolton resident
Faster than an ATM
Ayer resident

Benefits Town of Boxborough

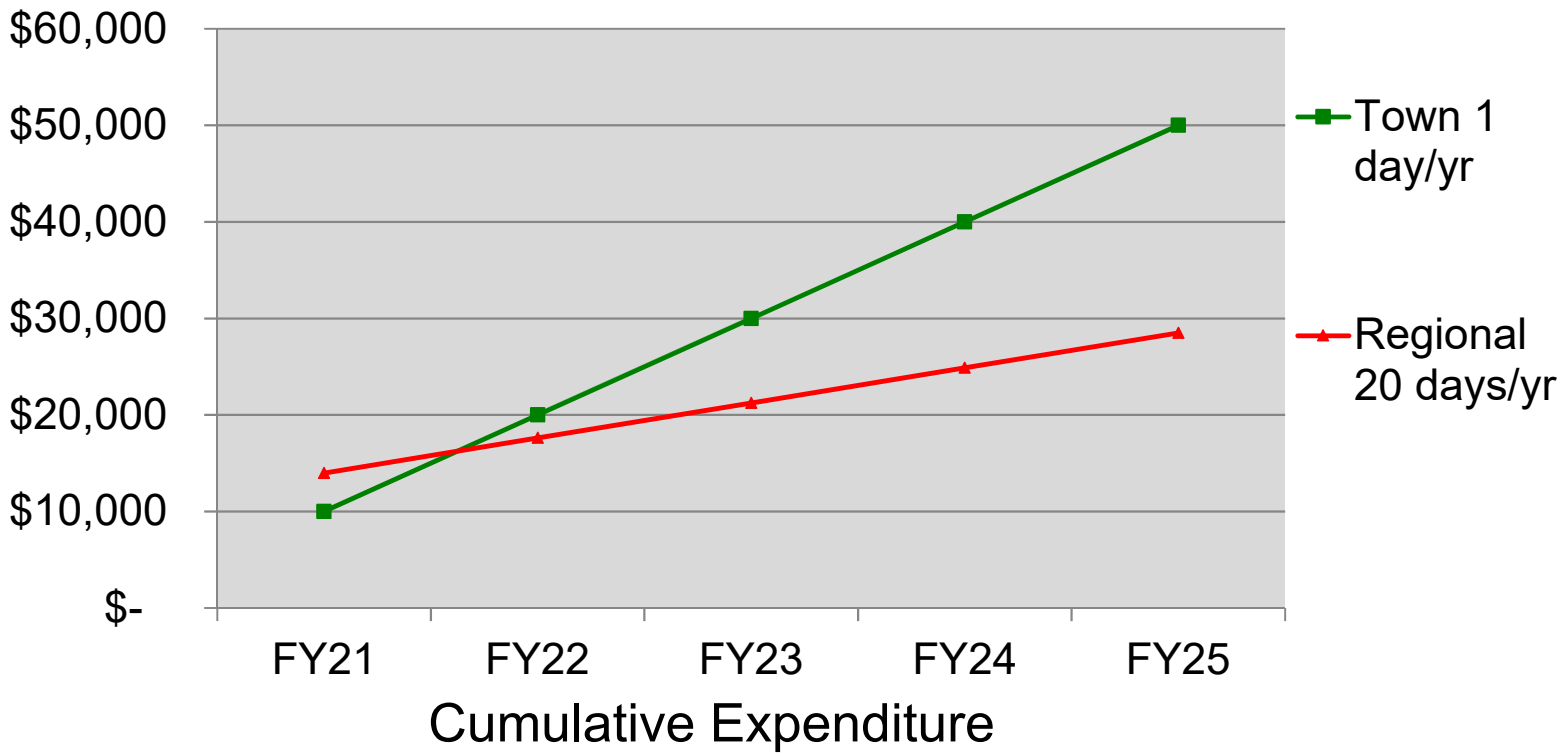
- Regionalization = economic and operational efficiencies
- Routine service reduces calls & demand on town staff
- DPWs, schools can manage waste quickly and cost effectively

Financial Benefits for Boxborough



Savings on investment

Financial Benefits for Boxborough



Less than 2 year pay back

Program Features

- Trained Staff
- Contact for resident questions
- Website and local signage
- Secure site, DEP permit, Video surveillance
- Fire Chief & DEP inspect
- Documented Procedures
- Environmental/pollution and general liability insurance
- Comprehensive Emergency Management Plan site

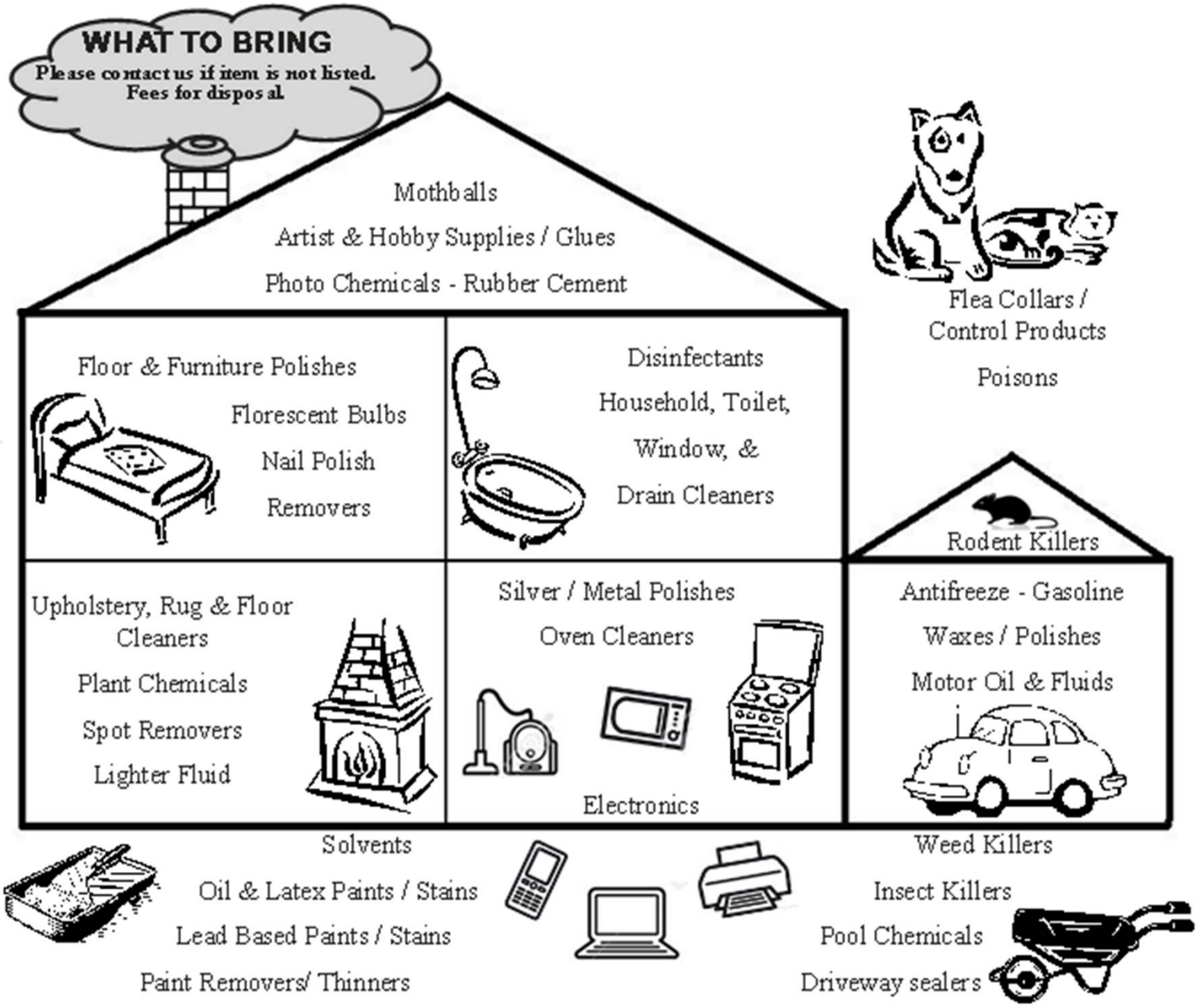
Benefits – Residents

- Easier to properly dispose HHW
- 20 collections versus 1
- Weekday & Saturday
- Easy access for moving, cleaning out
- Supports “greening” the community
- Avoid health risks with improper disposal
- Cost-saving for small businesses

Out from under the Sink, Garage, Art Room…

<u>Improper disposal risks</u>

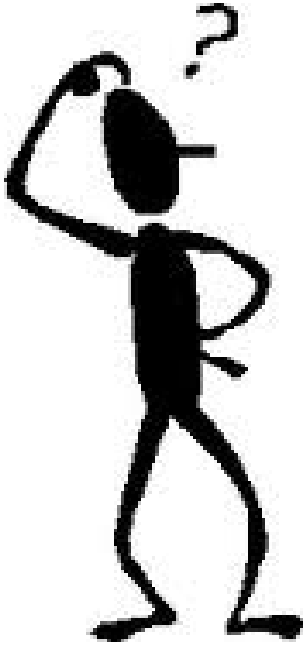
- Ground and air pollution
- Drinking water contamination
- Cleanups costs
- Fire


WHAT TO BRING
Please contact us if item is not listed.
Fees for disposal
Mothballs
Artist & Hobby Supplies / Glues
Photo Chemicals - Rubber Cement
Flea Collars /
Control Products
Poisons
Floor & Furniture Polishes
Florescent Bulbs
Nail Polish
Removers
Disinfectants
Household, Toilet,
Window, &
Drain Cleaners
Rodent Killers
Upholstery, Rug & Floor
Cleaners
Plant Chemicals
Spot Removers
Lighter Fluid
Silver / Metal Polishes
Oven Cleaners
Electronics
Antifreeze - Gasoline
Waxes / Polishes
Motor Oil & Fluids
Solvents
Oil & Latex Paints / Stains
Lead Based Paints / Stains
Paint Removers/ Thinners
Weed Killers
Insect Killers
Pool Chemicals
Driveway sealers

Alternatives?

Devens HHW

- 9 mile drive
- No or short wait
- Open 20 days/ year
- $ 3,628 annual cost



Town Collection

- 5 minute drive
- Long wait in line
- Once a year, maybe
- $ 10,000 cost per event

Inter-Municipal Agreement

Two year participation commitment

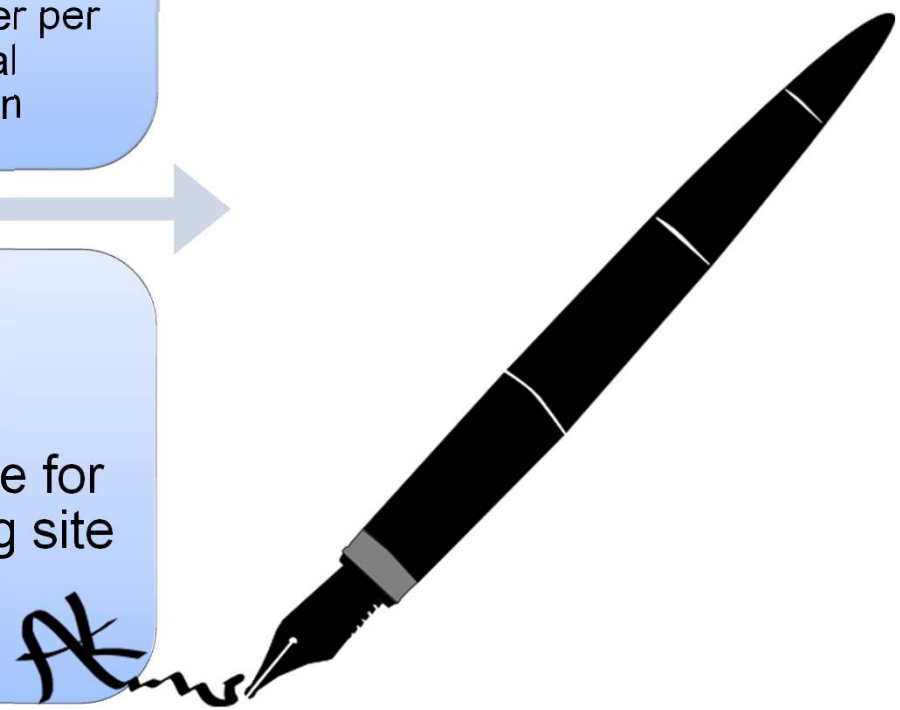
Decisions made by Oversight Committee

- One member per town, annual chair rotation

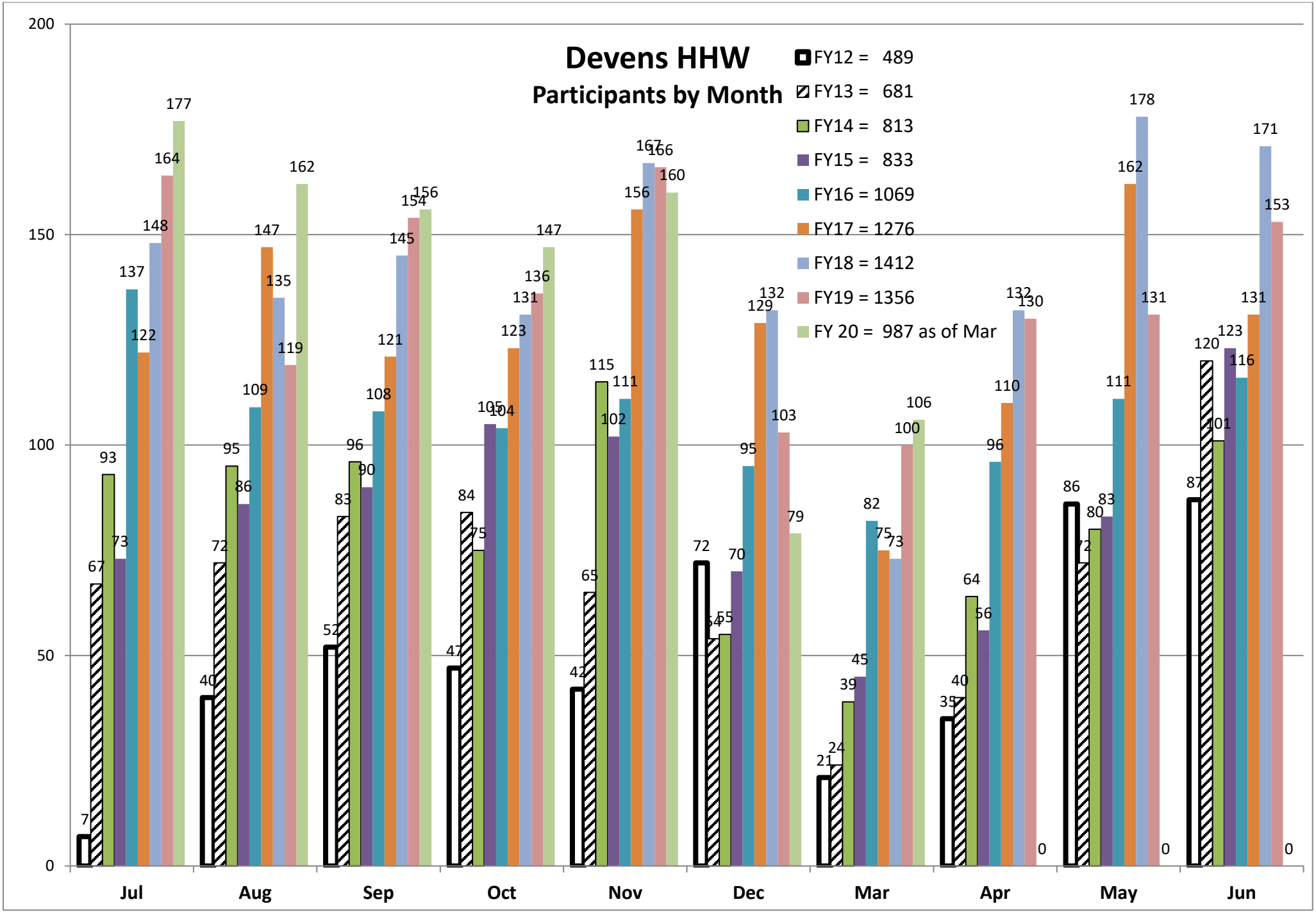
Towns invoiced each July

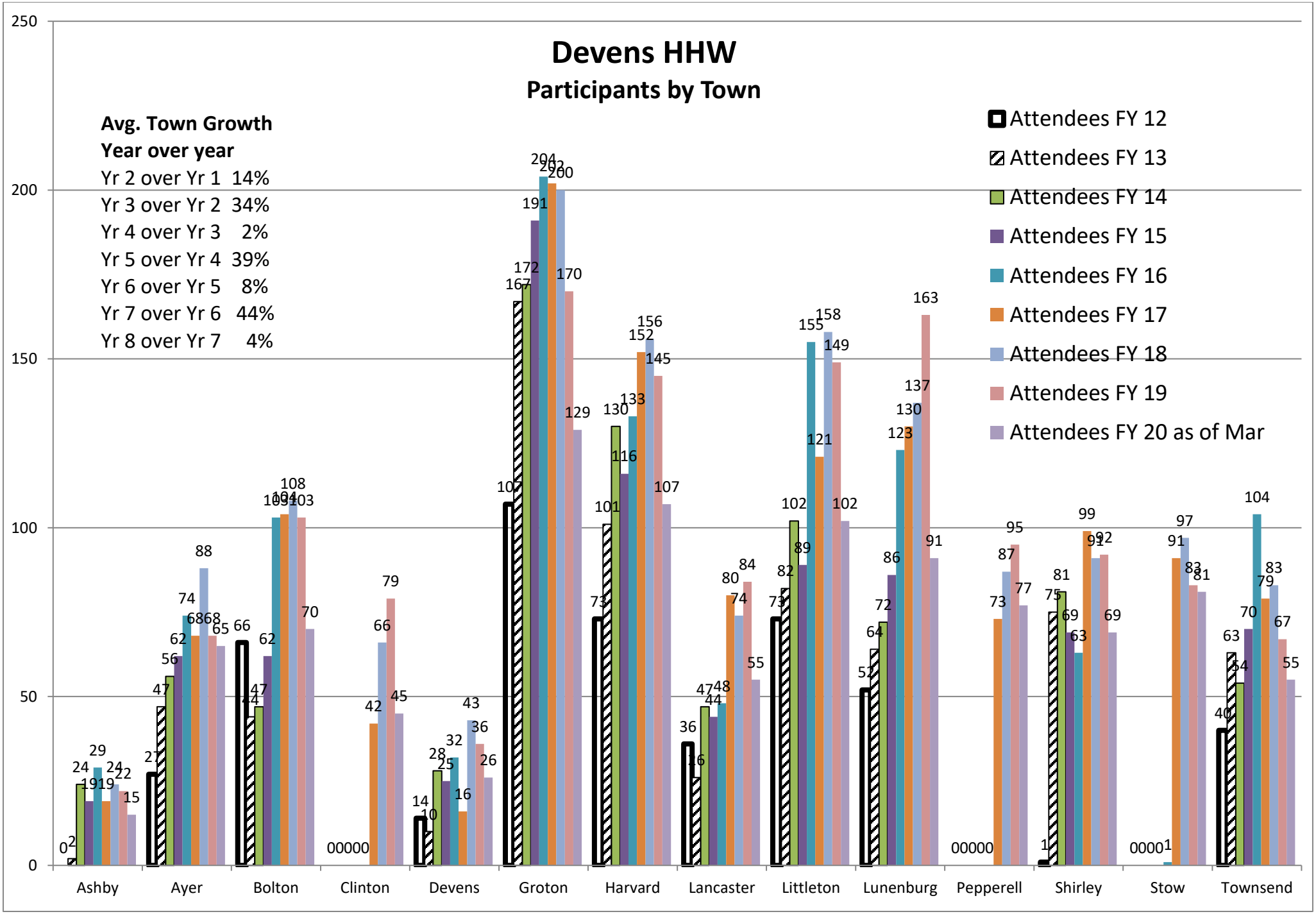
- Allocations based on population and property values

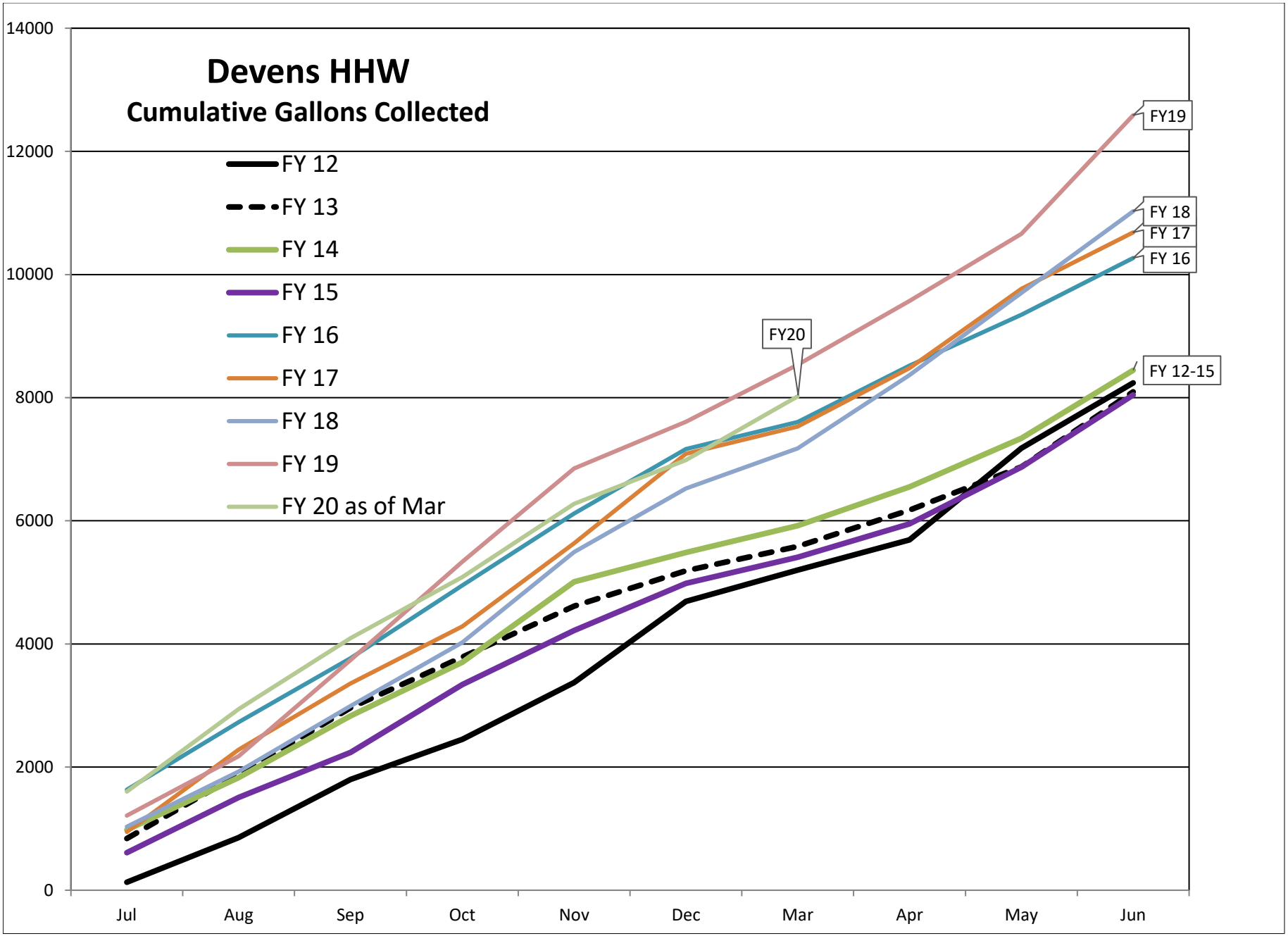
Host responsible for maintaining site

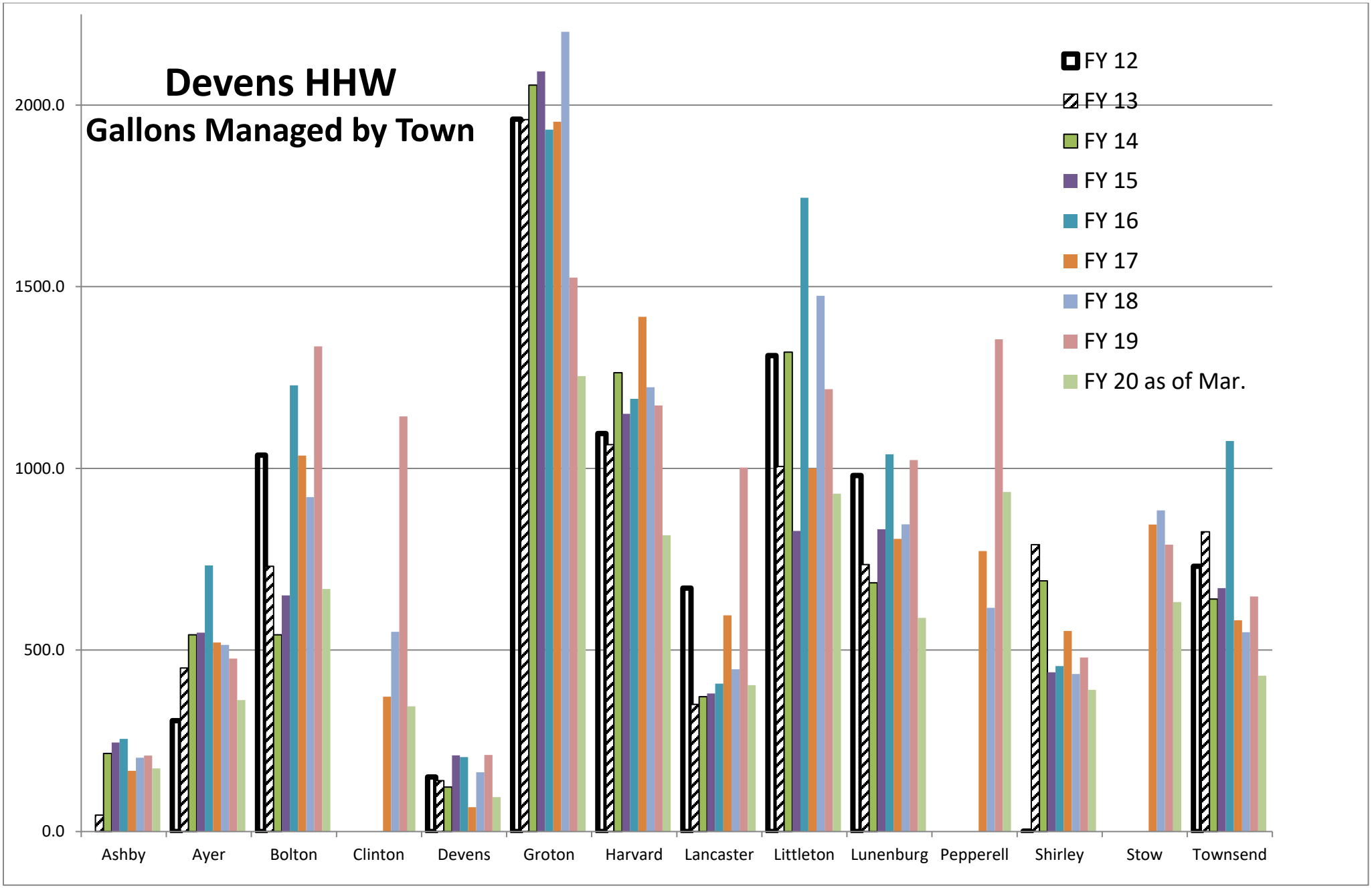


Questions? Comments?


Devens HHW
Participants by Month
FY12 = 489
FY13 = 681
FY14 = 813
FY15 = 833
FY16 = 1069
FY17 = 1276
FY18 = 1412
FY19 = 1356
FY 20 = 987 as of Mar
200
150
100
50
0
Jul
Aug
Sep
Oct
Nov
Dec
Mar
Apr
May
Jun


Devens HHW
Participants by Town
Avg. Town Growth
Year over year
Yr 2 over Yr 1 14%
Yr 3 over Yr 2 34%
Yr 4 over Yr 3 2%
Yr 5 over Yr 4 39%
Yr 6 over Yr 5 8%
Yr 7 over Yr 6 44%
Yr 8 over Yr 7 4%
Attendees FY 12
Attendees FY 13
Attendees FY 14
Attendees FY 15
Attendees FY 16
Attendees FY 17
Attendees FY 18
Attendees FY 19
Attendees FY 20 as of Mar
250
200
150
100
50
0
Ashby
Ayer
Bolton
Clinton
Devens
Groton
Harvard
Lancaster
Littleton
Lunenburg
Pepperell
Shirley
Stow
Townsend


Devens HHW
Cumulative Gallons Collected
FY 12
FY 13
FY 14
FY 15
FY 16
FY 17
FY 18
FY 19
FY 20 as of Mar
FY19
FY 18
FY 17
FY 16
FY20
FY 12-15
14000
12000
10000
8000
6000
4000
2000
0
Jul
Aug
Sep
Oct
Nov
Dec
Mar
Apr
May
Jun


Devens HHW
Gallons Managed by Town
2000.0
1500.0
1000.0
500.0
0.0
Ashby
Ayer
Bolton
Clinton
Devens
Groton
Harvard
Lancaster
Littleton
Lunenburg
Pepperell
Shirley
Stow
Townsend
FY 12
FY 13
FY 14
FY 15
FY 16
FY 17
FY 18
FY 19
FY 20 as of Mar.

ARTICLE 175-4 ZONING BYLAW AMENDMENT: AMEND ZONING BYLAWS 6204 AND 6300
(Two-thirds vote required)

To see if the Town will vote to amend Boxborough Zoning Bylaw Section 6204 Lighting and Section 6300 Signs, and by adding the following language in bold italics and deleting the language indicated by strikethroughs and further that non-substantive changes to the numbering of the Zoning Bylaw be permitted in order that it be in compliance with the numbering format of the Zoning Bylaw; or to take an action relative thereto.

6204 ***Outdoor*** Lighting
Outdoor lighting from any source, including sign illumination, ***shall be dark sky compliant with a*** ~~shall be~~ continuous white light installed in such manner or shielded so as to cast no direct beam on a public way, pedestrian way, or on adjacent property or cause a glare or reflection that may constitute a traffic hazard or a nuisance. Uplighting of landscaping, the operation of search lights for advertising purposes, and the use of building floodlighting (except for floodlighting used on public safety buildings) are prohibited.

1. To prevent unnecessary sky glow and other glare, particularly ***but not limited to*** that interfering with astronomical research, all outdoor lighting fixtures shall be shielded from above so ~~that~~ ***as to prevent direct glare from the light source from interfering with the vision of motorists or pedestrians passing in the street or streets abutting the premises and as to prevent direct glare from the light source from lighting neighboring properties, particularly residences, and so that,***
    a. all illumination is restricted to an area 15 degrees below the horizontal, and
    b. except for streetlights, direct rays from the light source are confined to the property boundaries.
2. High pressure sodium lamps shall not be used.
3. Customary holiday lighting and lamps of low luminosity and low intensity serving primarily as markers or as low-level illumination for entrances and exits or similar use need not be shielded. Requirements for shielding, filtering and type of light need not be met for emergency lighting required by a public agency in the performance of its duties.
4. Outdoor lighting shall be of substantially minimum intensity needed at the particular time; parking area lighting, in particular, shall be reduced or eliminated outside business hours. Materials, such as blacktop, which reflect a relatively small fraction of incident light, shall be the surface preferred for lighted areas.
5. The mounting height of lighting fixtures shall not exceed 30 feet above the ground plane.
6. ***All artificial lights used to illuminate tennis or paddle tennis courts, swimming and wading pools and other non-residential privately-owned facilities or public recreation areas shall be extinguished not later than 11:00 p.m.***

6205 Exemption
Any lighting fixture in existence prior to June 8, 1976, shall be exempt from these conditions.

6206 Outdoor Lighting Regulations for Special Permit – Developments and redevelopments requiring a Special Permit or an amendment thereof, shall comply with the standards for outdoor lighting unless otherwise permitted by the Special Permit Granting Authority.

6207 Lighting Table and Figures

TABLE 1.- LIGHTING DEFINITIONS (See Figures 1 through 5)

Term /Abbreviation	*Definition*
Candela	*The base unit of luminous intensity in the International System of Units (SI); that is, luminous power per unit solid angle emitted by a point light source in a particular direction. A common wax candle emits light with a luminous intensity of roughly one candela.*
Canopy	*An opaque ceiling over installed lighting*
Cutoff (CO)	*A luminary light distribution, specified by the IESNA, where the intensity in candela per 1000 lamp lumens does not numerically exceed 25 (2.5%) at a vertical angle of 90 degrees above nadir, and 100 (10%) at a vertical angle of 80 degrees above nadir. Nadir is the point directly vertically below the luminaire. A full cutoff (FCO) luminaire is also a cutoff luminaire.*
Dark Sky	*As defined by the International Dark Sky Association (IDA) shall mean certified outdoor lighting fixtures that minimize glare while reducing light trespass and skyglow. IDA approved fixtures are required to be fully shielded and to minimize the amount of blue light in the nighttime environment.*
Direct Light	*Light emitted directly from the lamp, from the reflector or reflector diffuser, or through the refractor or diffuser lens of a luminaire.*
Foot Candle (FC)	*Unit of illuminance; One lumen per square foot.*
Full Cutoff (FCO)	*A luminaire light distribution, specified by the IESNA, where zero candela intensity occurs at an angle of 90 degrees above nadir, and at all greater angles from nadir. Additionally, the candela per 1000 lamp lumens does not numerically exceed 100 (10%) at a vertical angle of 80 degrees above nadir. Nadir is the point directly vertically below the luminaire. A FCO luminaire is fully shielded.*
Fully Shielded	*Constructed in such a manner that no light emitted by the fixture, either directly from the lamp or a diffusing element, or indirectly by reflection or refraction from any part of the luminaire, is projected above a horizontal plane passing through the lowest direct-light-emitting part of the luminaire (Figure 1). Building canopies, overhangs, roof eaves and similar types of construction shall not be considered as the means for providing the fully shielded light cut-off characteristic. This shall be achieved by the luminaire itself (Figure 5).*
Glare	*The sensation of visual discomfort or loss in visual performance and visibility produced by luminance within the visual field that is sufficiently greater than the luminance to which the eyes are adapted.*
IDA	*International Dark Sky Association*
IESNA / IES	*Illuminating Engineering Society of North America. A professional association of lighting engineers and lighting manufacturers generally recognized as the definitive source for illumination recommendations in the United States. An IES photometric file is defined by IESNA standards.*
Indirect Light	*Direct light that has been reflected off the surface of any permanently constructed object other than the source luminaire.*
Illuminance	*The luminous flux incident per unit area, expressed in foot candle (one lumen per square foot). Horizontal or vertical illuminance is that measured with a photometer cell mounted horizontally or vertically.*
Lamp	*The light source component of a luminaire that produces the actual light.*
Light-Emitting Diode (LED)	*Any luminaire composed on an array of LEDs, typically a bank of 30, 60 or 90, used as a light source.*
Light Trespass	*Direct or indirect light produced by an artificial light source and which shines outside the boundaries of the lot containing the luminaire.*
Luminaire	*A complete outdoor lighting unit or fixture including a lamp or lamps, together with the parts designed to distribute the light, to position and protect the lamps, and to connect the lamps to the power supply, but not including a pole on which the luminaire may be mounted.*

Luminous Flux	***Energy per unit time that is radiated from a source over visible wavelengths. More specifically, it is energy radiated over wavelengths sensitive to the human eye, from about 330 nanometers to 780 nanometers. Luminous flux is a weighted average of the Radiant Flux in the visible spectrum. Luminous flux or luminous power is the measure of the perceived power of light. It differs from radiant flux, the measure of the total power of electromagnetic radiation, in that luminous flux is adjusted to reflect the varying sensitivity of the human eye to different wavelengths of light.***
Nadir	***The point directly vertically below the luminaire.***
Outdoor Lighting	***The night-time illumination of an outside area or object by a luminaire located outdoors. Luminaires under a canopy are considered outdoor lights and are regulated by this Bylaw.***
Outdoor Sales Area	***A static display of goods for sale at night, such as automobile sales lots, landscaping and nursery businesses, outdoor construction materials sales lots, and outdoor activity areas such as miniature golf, family fun centers, and permanent swap meets. An outdoor sales area location is not covered by canopies or other structures.***
Radiant Flux	***The measure of the total power of electromagnetic radiation.***
Shielded	***Luminaire employing a shield to prevent glare. The luminaire shall have a generally downward distribution of light and must have a top shield to minimize upward light.***
Street Lights	***Luminaires installed within a street and intended primarily for the illumination of the street.***
Up-lighting	***Direct light illumination distributed above a 90-degree horizontal plane through the lowest direct light emitting part of the luminaire.***

FIGURES

FIGURE 1A

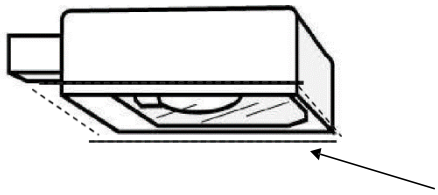
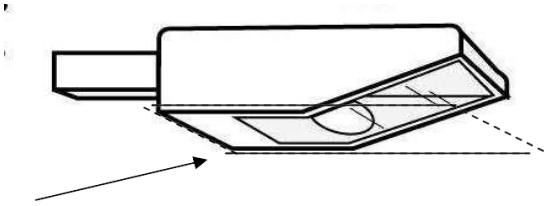


FIGURE 1B

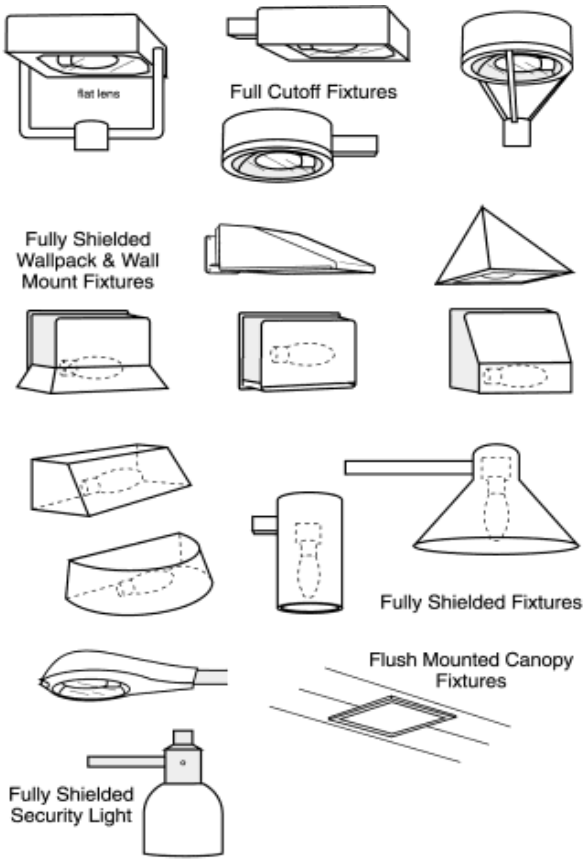


Horizontal plane

Figure 1A. Fully Shielded. No light emitted above a horizontal plane through the lowest direct-light-emitting part of luminaire.

Figure 1B. Not Fully Shielded. Light is emitted above a horizontal plane through the lowest direct-light-emitting part of luminaire.

Examples of FULLY SHIELDED LUMINAIRES



Examples of LUMINAIRES that are NOT FULLY SHIELDED

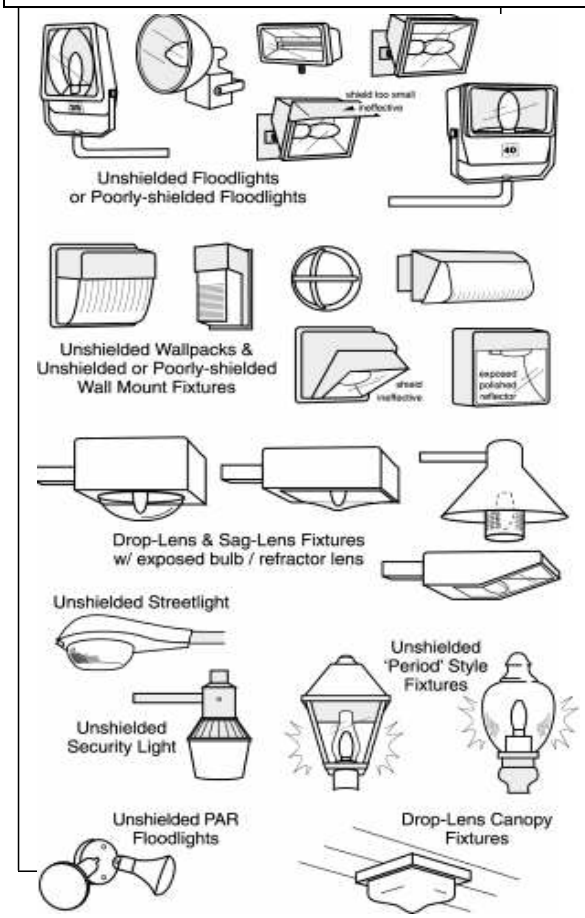


FIGURE 2

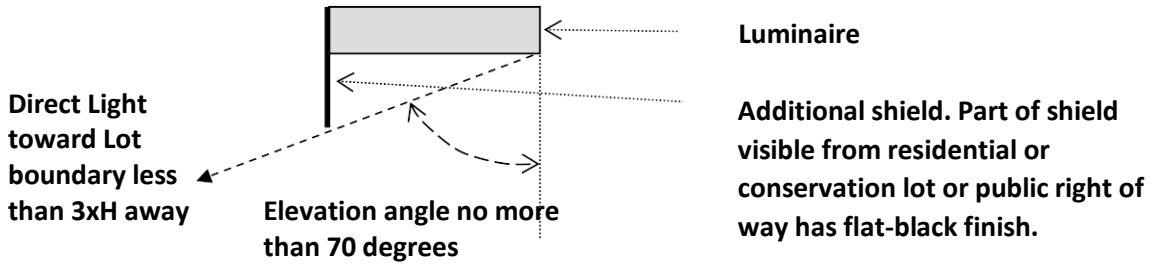


Figure 2. Any outdoor luminaire whose distance from the lot boundary is less than three times its height shall be shielded so that all direct light cast in the direction of residential or conservation lots and public rights-of-way is cut-off at an angle no more than 70 degrees measured from a vertical line directly below the luminaire.

FIGURE 3

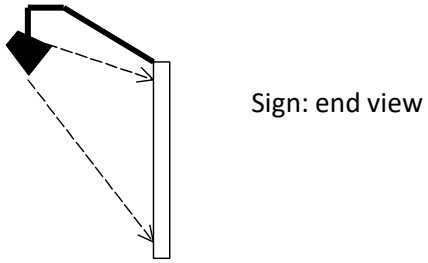


Figure 3: Lighting for externally illuminated signs shall be projected downward from above. The luminaire shall be shielded.

FIGURE 4

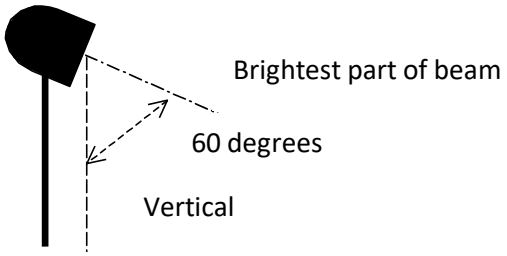


Figure 4: Illumination for outdoor recreational facilities shall be shielded luminaires and shall be mounted at sufficient height and aimed so that the brightest part of the beam is elevated no more than 60 degrees above a point directly vertically below the luminaire

FIGURE 5

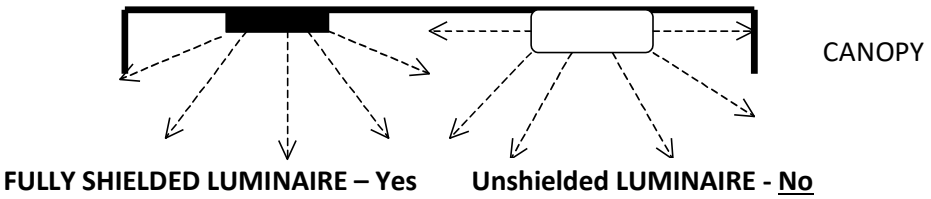


Figure 5: Building canopies, overhangs, roof eaves and similar types of construction shall not be considered as the means for providing the light cutoff. The cutoff characteristics shall be achieved by the luminaire itself.

Table 2. Luminaires whose lamp wattage exceeds the values in Column A of this table shall be shielded. Luminaires whose lamp wattage exceeds the values in Column B of this table shall be fully shielded.

Lamp type	A – SHIELDED	B – FULLY SHIELDED
Incandescent, Halogen	60 watts	120 watts
High Pressure Sodium, Metal Halide, Mercury Vapor, other High Intensity Discharge (HID)	35 watts	35 watts
Fluorescent, Low Pressure Sodium	13 watts	20 watts
LED30 (<3000K)	-	70 watts
LED60 (<3000K)	-	135 watts
LED90 (<3000K)	-	205 watts

6300 Signs

6303 General Requirements

(1) All signs shall be maintained by the owner in a clean, safe, and sanitary condition. The Inspector of Buildings may order removal of any signs that are not maintained or erected in accordance with the provisions of this section.

(2) Any sign which shall have been abandoned for a period of sixty (60) days, or which advertises a product or identifies a business or activity which has not been sold or conducted on the premises for sixty (60) days shall be removed within thirty (30) days of notification to take such action from the Inspector of Buildings.

(3) Sign Illumination. Any illuminated sign shall employ only white light of constant intensity and shall conform with Section 6200 of this Bylaw. No sign shall be illuminated for more than 30 minutes ***before opening or*** after the closing of any store or business. Internally lit signs are discouraged in Industrial-Commercial, Business, ***Buisiness-1*** and Office Park Districts and are prohibited in the Agricultural-Residential, ***Residential-1*** and the Town Center District.

(4) Except as otherwise provided herein, illumination for any SIGN shall be provided through a stationary external light source, with the light projected downward from above. In no case shall the illumination of a sign cause blinding or otherwise obstruct the safe vision of any traffic participant anywhere. Sign illumination through an external source shall always be white or off-white.

(5) Should an internally lit sign be deemed permissible in the Industrial-Commercial, Business, Buisiness-1 and Office Park Districts, the following types of signs with internal or quasi-internal illumination, shall comply with all applicable standards of the previous section as well as the following lighting controls. The word "opaque" as used in the following Sub-Sections shall mean that the opaque object shall appear black when the sign is lit at night.

a. Such internally lit signage shall not be illuminated longer than 30 minutes before opening of after closing of the store or business.

b. Opaque individual letter signs or symbols, backlit with a white and concealed light source, thereby creating an effect by which the letters or symbols are silhouetted against a wall illuminated by said light source.

c. Signs featuring individual letters or symbols which are cut out from an opaque facing and back-lit with a white and concealed light source, thereby creating an effect by which the facing, from which the letters or symbols are cut out, is silhouetted against a wall illuminated by said light source.

d. Back-lit awing signs with the light source internal or concealed from public view.

e. individual letter signs with translucent letter faces, internally illuminated with a soft-glow light source; or signs with an opaque sign face with cutout translucent letter surfaces which are internally illuminated with a soft-glow light source.

f. The display area of an illuminated sign shall not exceed an average illuminance of 50 foot-candles measured directly on the surface of the sign.

g. Where possible, the light fixtures used for sign illumination should be classified as "energy efficient", as defined by the power utility company serving the LOT.

6304 Prohibited Signs

(1) No sign shall be erected that creates a traffic hazard or obstructs sight lines or distracts from signs regulating traffic.
(2) No sign shall contain ***or be lighted by,*** any moving, flashing or animated lights, or visible moving parts excepting portions of signs that may indicate the time of day, or the outdoor temperature for information of the general public.
(3) Trailer type signs, roof signs, off-premises signs, and billboards are strictly prohibited.
(4) Any sign not specifically covered in Section 6300.

Summary:

These changes to the zoning bylaw would bring context and clarity by adding lighting definitions, figures, and tables to both support specific references in the Boxborough Zoning Bylaw and Design Review Board Guidelines and correspond with revised outdoor lighting regulations. The outdoor lighting regulations have been revised to address sky glow, glare, and artificial lighting in greater detail in order to minimize unnecessary light pollution. Developments and redevelopments requiring a Special Permit or an amendment thereof would need to comply with the revised outdoor lighting regulations, unless otherwise permitted by the Special Permit Granting Authority. These changes also provide regulations for internally lit signs in the Industrial-Commercial, Business, Business-1, and Office Park Zoning Districts. Internally lit signs are prohibited in the Agricultural-Residential, Residential-1 and Town Center Zoning District.

Plant-Forward Schools Initiative
Endorsement Request

Dear Friend,

I am reaching out to ask for permission to include you and/or your organizations' name on a list of supporters of an initiative to reduce greenhouse gas emissions, improve children's health outcomes, and promote food justice. To be clear, I am not asking for any resource help. Our committee just wants to be able to present policymakers with a list individuals and organizations that 1) understand the urgent need for an honest conversation about the impacts of the Standard American Diet and, 2) approve of the three changes proposed below.

The global food system is estimated to be responsible for as much as 24% of greenhouse gas emissions generated by humans annually. The vast majority of these emissions are attributable to the high animal-protein (particularly red meat) diets of wealthy countries. Recent research has made it clear that we will not meet Paris Agreement climate goals, or be able to provide a healthy diet to nearly 10 billion people in 2050, without a 50% reduction in meat consumption (particularly red meat). In addition to the climate impacts, epidemiological studies suggest that red and processed meats are bad for human health. Red meat is correlated with higher risks of chronic diseases such as heart disease, stroke, diabetes, and some cancers. Processed meat has the additional distinction of being classified by the World Health Organization as "carcinogenic to humans." Yet, processed meats remain on school cafeteria menus and red meat is often a daily option on menus.

Nationally, school lunch programs are effectively the largest restaurant chain in the U.S., serving more than 5 billion meals annually. Over 121 million of these meals are served in Massachusetts. For low-income children, this is where they often receive the bulk of their daily nutrition. This means we have an incredible responsibility and opportunity to have a significant impact on our planet and all of our children. Small changes to the Massachusetts school nutritional guidelines are arguably the lowest cost and most immediately implementable mitigation action the State could take right now. For this reason, and for the health and food justice benefits change will bring, I hope you support the following three regulatory changes our committee plans to propose to the Massachusetts Department of Elementary and Secondary Schools (DESE) and the Department of Public Health (DPH):

1. Implementation of statewide Meatless Mondays - Meat can still be served on MM, but a plant-based option must also be available, and **highlighted** on the menu,
2. Removal of processed meats from school menus – Meat consumption must be reduced by 50% for the environmental. Removing the most-unhealthy meat products is a good starting place. (WHO defines processed meat as "**... meat** that has been transformed through salting, curing, fermentation, smoking, or other processes to enhance flavour or improve preservation."),
3. Reduction in the amount of red meat served per week/school year- Cattle is most damaging to the environment and Americans eat unhealthy amounts. Therefore, cutting down on red meat is another good place to start this effort.

As someone who has been advocating on behalf of climate science and food justice for almost two decades, I am well acquainted with uphill battles. I also understand that there is something especially daunting about advocating for dietary change. Food is personal. It represents family traditions, with strong cultural roots that are not easily dismissed. That said, the threat of climate change and the health of our children is also personal, and daunting. The future is riding on our willingness to advocate for actions that may not be easy or comfortable, but are necessary.

Feel free to call or email me with questions. If you already know you're onboard, please email back stating so and include endorsers name(s) as you would like them to be shown on the list

Thank you for your consideration.

Sincerely,

Deb Schmill
Plant-Forward Schools Committee
Email: mannschmill@rcn.com
Cell: 781-724-5653

WHO WE ARE:
The Plant Forward Schools Initiative was started by a committee of Needham climate activists. Last year we collaborated with Representative Denise Garlick to host, "Food, Planet, Health: Connecting the Dots for Massachusetts." This gathering brought together stakeholders in the fields of public health, agriculture, foodservices, sustainable development, entrepreneurship, and policymaking, to discuss the impact of the American diet on our planet and health.

The meeting included a presentation by Dr. Walter Willett, Professor of Epidemiology and Nutrition at Harvard T.H. Chan School of Public Health, Professor of Medicine at Harvard Medical School, and **lead author of the "Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems."** The Plant-Forward Schools Initiative was started to advocate for feasible changes to school food programs that align with the recommendations of the EAT-Lancet Commission and the 2019 IPCC Special Report, "Climate Change and Land."

WHAT WE MEAN BY PLANT-FORWARD:
Planet-Forward eating prioritizes healthy, low greenhouse gas emission producing foods, - "more plants, less meat" - but does NOT entirely exclude meat, dairy, and eggs.

NEXT STEPS:
We are pursuing change through: 1) Meetings with MA Senators and Representatives to build awareness, 2) Meetings with the Dept. of Elementary and Secondary Education (DESE) and the Department of Public Health to discuss regulatory change to the nutritional guidelines. We believe regulatory change is the quickest and preferred way to accomplish our goals, but we need to show broad support when we go to these meetings.

Your permission to add your name to our list of endorsers would be a huge help to us and greatly appreciated.