TOWN OF WESTON
RECYCLING AND SOLID WASTE COMMITTEE
Report to the Board of Selectmen
March 31, 2015

The RSWC has been meeting regularly for almost a year, and submits the following report to the Selectmen. There are sections concerning:

- Improved Signage
- Textile Recycling
- Electronics Recycling
- Food Waste Collection
- Swap Shop
- Enforcement
- A voluntary pilot PAYT/SMART program

The committee feels that the recommendations on the first six topics can be taken forward at any time by the Selectmen and the Department of Public Works. The final topic, the voluntary pilot PAYT/SMART program, will need Selectmen’s approval soon so that the committee can begin the secondary stage of the planning: recruitment of volunteers and implementation of logistics. A cover letter regarding the proposed vpPAYT/SMART program is on the following page.

Finally, there was much discussion regarding Education Missions, as alluded to in our presentation in December. This is a topic which has not been further explored but can be taken up again in the future.

David Harmon
Mary Ann Pappanikou
William Rousseau
Donald Stewart
Tom Szekely
Ann Wiedie
Mary Wong
The Recycling Committee has voted unanimously for a voluntary pilot program for PAYT. There are three possible outcomes from this study.

The town may decide to keep the present system. That would happen if there is no significant reduction in tonnage as a result of changing from present methods to colored bags in the pilot program. The financial incentive of $1.25 per PAYT bag would be unimportant in Weston. It would not result in changing garbage disposal tonnage from the hoppers to recycling. It would be an indication that Weston dump users are doing a good job of recycling and waste stream control or are unwilling to change habits.

Alternatively, the PAYT program produces a significant reduction in combined tonnage of bagged and bulky waste, similar to other towns. Tonnage starts to go down as residents get used to the program. Recycling goes up somewhat. There is an apparent change in waste stream practices including tonnage into the house, out of the house, and into the dump. Those processes are explained in this report. Enthusiasm grows in Weston as it has in other towns and the Selectmen decide to use PAYT on a total basis.

Or we might end up with a modified PAYT. We may find that Bulky Waste (BW) is the bulk of the waste stream for both PAYT and regular dump users. We may be able to reduce the sticker fees for all users, maintain the present recycling program, and increase the cost of dumping bulky waste. The present assumption is that baggable waste accounts for a significant amount of total waste tonnage. If we find that BW is a high percentage, then that is the problem to be solved. That might account for the 400 pounds per household in Weston over the state average. Our excellent state consultant has given us important data on BW and prospective charging schedules in the addendum. The voluntary pilot program separates bag and bulk waste and the three employees at the dump are trying to visually get more data on BW from regular dump users.
TOWN OF WESTON
RECYCLING AND SOLID WASTE COMMITTEE
Recommendation to the Board of Selectmen for
Improved Signage

The following is a list of suggested signage following discussions within the committee and with input from Bill O’Neil. The changes were an attempt to clarify information and give incentive to residents to find appropriate locations for their solid waste and recyclables, while minimizing the total signage. Consideration was given to minimize cost to the town for these changes, but with added cost a more comprehensive new signage program could be proposed.

Note that in all locations there could be small handouts indicating finer instructions, such as with plastics where Styrofoam should not be placed, but plastic toys should be.

- Take the comprehensive sign which is on the hill on the left as you drive in and place it instead on the right side of the drive as you enter, just past the gate. This way it will be readable at the distance from which it is viewed.

- The top sign between the hoppers could be relocated to the street where its new finish, green color, and open days and times would be attractive and useful.

- The bottom sign between the hoppers could be removed to minimize superfluous signage.

- Take the two large white signs at the hoppers (the one to the left of the left hopper, and the one between the hoppers which is usually blocked) and consolidate them into one sign, with clearer information, hung in a place more visible, such as higher up between the two hoppers. Currently, the signs list items which cannot be disposed of in any location at the transfer station (e.g. pavement, gypsum, tires, etc.) along with, but in no particular order, those which can be left at the transfer station but in appropriate areas (e.g. leaves and yard waste, scrap metal, recyclable paper, etc.). A proposed new sign could have two columns, one for each of the types of items.

- Put a RECYCLE YOUR TEXTILES HERE! sign on the donation alley, and also better signage inside the Goodwill trailer. Note that we now know that Goodwill, and some other charitable organizations, will take all textiles (including drapery, sheets and towels, rags, unwearable clothing, etc.) as they can be sold to the recyclable textile industry if they are not fit for sale in a local thrift shop.

- More appropriate containers for CFLs are suggested, with clear signage above. Also, create better signage indicating which types of batteries can be left for recycling.
- A sign should be hung above the pedestrian door to the hallway down which people should go to recycle their Newspapers and Magazines to encourage them to go to this location.

- Move mercury and no-idling signs to between hopper doors.

- Remove mercury sign at recyclables.

- At the chute currently labeled Cardboard // Mixed Paper, instead put a single sign reading “CLEAN CARDBOARD and PAPER other than Newspapers and Magazines”

- At the chute currently labeled Plastic Containers, instead a sign for CLEAN PLASTICS.

- At the chutes for metals, take away the magnet, add new sign: HOUSEHOLD ALUMINUM AND METAL CANS.

- A new sign above the glass dumpster: CLEAN GLASS BOTTLES AND JARS.

- New signage for the Swap Shop would depend on whether the shed is enlarged in the near future. Either way, we recommend a sign: ALL ELECTRONICS GO TO THE SHED BEHIND THE MAIN BUILDING – Please See Attendant, with a smaller note below indicating the long list of recyclable electronics (computers, keyboards, cords, mice, printers, modems, etc.)
TOWN OF WESTON
RECYCLING AND SOLID WASTE COMMITTEE
Recommendation to the Board of Selectmen for
Textile Recycling

Textile recycling industries claim that 95% of all unwanted textiles can be recycled: 45% as usable clothing, 20% fiber conversion (pillow stuffing, household insulation, car seat stuffing, for examples), 30% wiping cloth grade.

Several charitable organizations which have bins at the Transfer Station (Goodwill, for example) will also accept ALL clothing and footwear (usable or not), rags, linens, curtains, and other textiles. If residents were aware of this via improved signage and revised town literature, then the weight of textiles brought to the Transfer Station could be removed at no cost compared to over $100 per ton when it is included with solid waste.

An option to consider further would be the placement of such bins at locations in town other than at the Transfer Station. Some for-profit companies offer rebates on tonnage of textiles collected. The visibility of such drop boxes can be good advertising for recycling in general, and bins not at our transfer station are accessible to residents without stickers, and to all residents outside of Transfer Station operating hours.
The RSWC has been advocating improving our options for electronics recycling – both from lower fees than we are currently charged and from removing electronics from the Solid Waste.

We have been in touch since last November with a company in Waltham. They would take CRT televisions and monitors with a charge of $14 per TV and $5 per monitor. All other electronics and electric appliances would be picked up and recycled without any charge. The items would be taken to a company in Leominster which would actually do the material recovery.

Since Weston already has a company which has been taking our CRT’s for a fee, Bill O’Neil intends to give them the opportunity to match the current proposal.

We recommend that the Town move forward soon with electronics recycling.

We also recommend that signs, our town website, and mailers be updated to re-educate residents that all electronics can be recycled.

Summary of electronic recycling:

**Fee items:**
- CRT Televisions $14
- CRT Monitors $5

**No charge electronic items:**
- Flat screen TV’s and monitors
- Computers, including cables
- Printers
- Cell phones
- Microwaves
- Stereo equipment, including cables
- Telephone equipment, including cables
- Keyboards
- Mice
- Telephones
Radios
PDAs
Servers
Copiers
Fax machines
VCRs
DVD players
Small appliances
Projectors
Electronic service parts and components for personal computers
Computer peripherals
etc.
TOWN OF WESTON
RECYCLING AND SOLID WASTE COMMITTEE
Recommendation to the Board of Selectmen for
Food Waste Collection

Food waste is estimated to account for up to 25% of all non-recyclable solid waste, and in October of 2014 the state began requiring businesses and schools which produce more than one ton per week of food waste to divert it from the solid waste stream. Other towns in MA currently offer food waste areas for residents at their Transfer Stations. Sherborn began a program this summer, and other towns include Amherst, Cambridge, Chatham, Eastham, Egremont, Greenfield, Hamilton, Ipswich, Medfield, New Salem, Newburyport, Northampton, Northfield, Orange, Southampton, Townsend, Wenham, and Whately.

If food waste were to be removed from our solid waste stream we would save money through a reduction in tonnage brought to Wheelabrator for incinerating. Furthermore, by reducing wet, low BTU-rated items in our solid waste, we would be reducing the environmental impact of our refuse. Residents can compost at home, and others may deal with some food waste via garbage disposals in their sink, but we recommend that the town provide transfer station users with an on-site food waste collection option to achieve the goals described above. Research by RSWC members has identified a suitable hauler of food waste, E.O. M. S. of Brockton, MA. The program would work in the following way:

- Four 64-gallon totes would be installed at the TS; a spot along the guardrail to the right of the entrance (before the charitable donation bins) is one suggestion, another is just beyond the glass container.

- Compostable plastic bags can line the bins so that employees do not have to rinse the totes after each empty.

- Lids to totes can be bungee corded down at night to prevent animals from opening them.

- Costs for the service are $172 per month to have the totes emptied weekly, and $93 for a case of 60 tote liners. This implies a maximum cost of $2400 per year.

- If residents never use the totes, of course the cost for a year-long trial would be $2400. E.O.M. S. does require an initial annual contract.

- If totes are filled to capacity they can each hold more than 300 lb of food waste. If 1200 lb per week, i.e. 31.2 tons per year, are removed for $2400, this implies a $77/ton disposal rate, compared with current solid waste removal fees of $107/ton.

- Estimates are that households discard 6-10 pounds of food waste per week. At those rates, it would take approximately 160 households in Weston (of the 1750 who use the transfer station) to fill the four totes each week. And, if participation grew to half of our transfer station users, we could collect up to 176 tons of food waste, having it hauled away to be composted at a cost of approximately $8500, instead of a cost of $19,000 were it to be hauled away and incinerated as solid waste.

- Additional totes (beyond four), or a larger container, can be arranged should our collection efforts grow beyond the initial arrangements.
Introduction of a food waste collection program at the Weston Transfer Station would be accompanied by heavy advertisement at the Transfer Station, and through the town website, the Town Crier, and the town-wide mailing of TS permit applications in September. Advertisements would include discussions on how to consider storage of food waste at home prior to drop off at the Transfer Station.

Note that acceptable items as defined by this hauler are:

- Fruits
- Egg shells
- Vegetables
- Food Waste
- Meat
- Poultry
- Fish
- Dairy Products
- Bakery Items
- Dough
- Coffee Grounds
- Coffee Filters
TOWN OF WESTON
RECYCLING AND SOLID WASTE COMMITTEE
Recommendation to the Board of Selectmen for
Swap Shop

Our Swap Shop a fun place for residents and plays an important role in keeping material out of our solid waste stream. However, the space is too small, too short, unlit, and could benefit from more organizational attention, as has been successful in other towns. A larger space (a bit more than doubling) is possible at the current site, a lit building is proposed (even if just by translucent roof panels or an inexpensive solar-powered light), and a program of staffing the space with volunteers some number of hours a week would help to keep the area tidy, thus decreasing the need for the area to be emptied into the solid waste as frequently. Appropriately sized carts should be provided so that when the shed is periodically emptied recyclable items can be more easily moved to places where recycling opportunities exist, i.e. books. Signage should be hung indicating what is acceptable and where unacceptable items should go, i.e. electronics. All electronics should go to the shed behind the main building, and this can be indicated by a Please See Attendant sign and a list of recyclable electronics (computers, keyboards, printers, cables, modems, mice, etc.)
To ensure that current operations, or any proposed changes to those operations, of the Transfer Station have minimal cost and abide by state regulations, the committee feels that the issue of enforcement has to be revisited by the Selectmen.

As explained elsewhere in this report, waste bans have been in effect since 1990 banning the disposal of recyclable items and hazardous waste. In the last two years, MassDEP has increased its enforcement of waste bans through the addition of four dedicated enforcement staff and with increased requirements for sampling and third party inspections at disposal locations. In the last year there were 200 enforcement actions initiated. Municipalities are generally doing a good job but are not exempt from enforcement actions. Any municipality that receives a “Notice of Non-compliance” is then required to submit a plan within 30 days for resolving the problem, which can lead to fines if the problem persists. This can be avoided by proactively and continually enhancing recycling options and enforcing local compliance.
TOWN OF WESTON
RECYCLING AND SOLID WASTE COMMITTEE
Recommendation to the Board of Selectmen for
Voluntary Pilot SMART/PAYT Program

EXECUTIVE SUMMARY

Proposal: The Weston Recycling and Solid Waste Committee (RSWC) unanimously recommends that the Board of Selectmen (BOS) authorize the RSWC to conduct a voluntary pilot program to test the efficacy of a “Save Money and Reduce Trash” or “Pay As You Throw” (SMART/PAYT)\(^1\) Program at the Weston Transfer Station (TS).

Goals:

- Test the efficacy of SMART/PAYT on Weston residents (i.e., will Weston residents reduce the amount of their solid waste\(^2\) in response to a SMART/PAYT program?);
- Gather data to understand what portion of the solid waste is being reduced (i.e., is the reduction in bag waste, bulky items, or both?);
- Increase familiarity among Weston residents with a SMART/PAYT program; and
- Give the BOS data for deciding whether to implement SMART/PAYT on a permanent basis.

Implementation Overview:

- The RSWC will establish an outreach program to recruit volunteers to participate in the pilot program and seek to ensure that the range of household size among the volunteer households is similar to the range of household size in Weston as a whole, to the extent possible.
- The RSWC will coordinate with the TS staff and Director of the Department of Public Works, Tom Cullen, to determine logistics that will allow for separate weighing of bulky waste and bagged trash.
- The RSWC will evaluate the results at the end of the period of time (to be determined) and determine if the results warrant recommending to the BOS implementation of SMART/PAYT for all users on a permanent basis, establishing new fees for bulky waste, changing enforcement policies, and/or other recommendations.
- The cost of the pilot is projected to be no more than $10,000 for a 6-month period and probably less.

Input Requested from BOS:

- The RSWC requests the approval from the BOS to proceed to advertise and recruit participants for a pilot program, while still developing some of the final logistical details.

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\(^1\)SMART/PAYT is a program which creates a financial incentive for households to reduce their solid waste because all regular solid waste must go into special bags, priced to reflect the cost of disposal and transportation of that solid waste. Recycling remains free, creating an incentive for residents to recycle as much as possible.

\(^2\)“Solid waste” refers to all material that is deposited in the hopper at the TS and taken by Harvey Trucking to the Waste-to-Energy Facility in Millbury for processing. Solid waste is distinct from “recyclables,” meaning materials that are recycled. In this proposal, the terms solid waste and waste are used interchangeably.
This report has the following sections:

1. Comparing Weston to Other MA Municipalities
2. Overview of Weston Transfer Station
3. Relevant Financial Data on Solid Waste
4. General Advantages of SMART/PAYT
5. Expected Results from SMART/PAYT programs
6. Proposed Logistics for Pilot Testing of SMART/PAYT
7. Selection of Volunteers to Participate in the SMART/PAYT Pilot
8. Cost of Pilot Program

1. Comparing Weston to Other MA Municipalities

Over the past 20 years, the State of Massachusetts (MA) and the Department of Environmental Protection (MassDEP) have sought to increase recycling and waste diversion with the goal of reducing the amount of solid waste left to be managed in landfills and waste-to-energy facilities. Waste Bans have been in effect since 1990 banning the disposal of recyclable items and hazardous wastes. Technical assistance, grants and incentive programs are available to help municipalities move towards waste reduction. In the last two years, MassDEP has increased its enforcement of the waste bans through the addition of four dedicated enforcement staff and with increased requirements for sampling and third party inspections at disposal locations. In the last year, there were 200 enforcement actions initiated. Municipalities are generally doing a good job but are not exempt from enforcement actions. Any municipality that receives a “Notice of Non-compliance” is then required to submit a plan within 30 days for resolving the problem. (A sample notice is included at the end of this document.) This can be avoided by proactively and continually enhancing recycling options.

The focus on reducing the residual solid waste has changed the way MassDEP measures and compares municipalities. The focus is no longer on recycling rate but on the residual tons of solid waste per household served by the municipal program. As recently as ten years ago, it was not uncommon for municipalities in the Greater Boston area to generate more than 2000 pounds of solid waste per household served. In the past ten years, however, many of those municipalities that exceeded 2000 pounds per household have adopted new trash limits or program changes and thereby reduced their solid waste tonnage. As other municipalities reduce their solid waste generation, those that have not changed their programs have “risen to the top” in terms of waste generation. In the last two years, Weston has been shown “in the red zone” (see the map in Figure 1) and listed as being among the “top 10%” in the State based on solid waste generation per household served.

The RSWC studied Weston’s tonnage and compared it to that of other communities in Massachusetts using data available from MassDEP. MassDEP has 3 years of such data showing the weight of waste on a per-household-served basis. The data shows that Weston throws out more waste on a per-household basis than most communities in the state and generates 20-50% more waste than many of them. The data also shows that, in 2013, the average waste generation in SMART/PAYT municipalities was 1106 pounds per household compared

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to 1754 pounds per household in other municipalities without SMART/PAYT programs. In 2013, Weston had an average of 2205 pounds per household served (1930 tons of solid waste from 1750 transfer station users). There is potentially 400-1100 pounds per household that could be reduced with some program changes. The goal of the proposed pilot program is to better understand whether SMART/PAYT will drive a reduction in solid waste tonnage.

2. Overview of Weston Transfer Station

Across the globe, processing solid waste and recycled materials is a huge business, far exceeding $100 billion. For Weston, the cost is approximately $237,000 exclusive of overhead such as buildings. This cost is mostly transportation charges and tipping fees, the fees charged to unload a container at the receiving facility.

The tonnage can be broken down into three broad categories: waste, recyclables, and other. As described on the Town website:

The Transfer Station accommodates all residential trash disposal needs. You may recycle the following: glass containers, newspaper, mixed paper, cardboard, all metals, tin cans, deposit containers, plastic, brush, leaves, grass and other yard trimmings. We also provide a collection area for televisions, computer monitors, and components as well as fluorescent light bulbs per DEP mandate. Donated clothing and household goods for Pine Street Inn and Goodwill Industries are accepted at the Transfer Station as well. Removing these items from the waste stream will result in a continued reduction of expenditures on Solid Waste and Recycling Operations as well as aiding us in our goal for a cleaner and healthier environment.

After studying the present transfer station operation and making our best effort to understand the overall waste market, the committee concluded that reducing the tonnage of solid waste is our largest opportunity for reducing costs. The cost of disposing solid waste is roughly 4 times that of disposing recyclables. Many other communities have come to the same conclusion. If Weston reduced waste by 20% or more, that could reduce costs to residents by at least $39,000 a year.

The task of this report is to provide criteria for evaluating the efficacy SMART/PAYT as a way to reduce tonnage. With that partially or fully resolved, we will address the other recycling issues at the TS and provide a report with specific recommendations.

3. Relevant Financial Data on Solid Waste

Weston DPW figures:

- FY 2013 Cost per ton to town to transport and dispose of solid waste: $102.47
- FY 2013 Cost per ton to dispose of recycled materials: $26.14
- Cost per ton to dispose of material never processed at the TS: $0.00
- FY15 Flat annual fee to residents for disposal of solid waste: $230.00;
- FY15 Flat annual fee to seniors for disposal of solid waste: $140.00;
- FY 2013 Tons of solid waste disposed: 1930
- FY 2013 Total number of TS sticker households (senior and others): 1750
- FY 2013 Average pounds of solid waste per household: 2205 (or 1.1 tons) per year

4. General Advantages of SMART/PAYT

MassDEP has found that the most effective tool available for reducing waste is SMART/PAYT because it uses a price signal to communicate the cost of solid waste disposal and to create an incentive for households to reduce, reuse, recycle, compost, donate, share, buy less, give away more in order to reduce their own cost of disposing of solid waste. There are 144 PAYT/SMART communities (out of 351) throughout MA and additional communities using variations such as trash limits where residents have to purchase overflow bags. At the same time, fewer municipalities are subsidizing the cost of disposal for their residents so SMART/PAYT programs are an equitable way for municipalities to transfer control over cost of solid waste disposal to the household. One significant goal of the pilot program is to determine if a SMART/PAYT program would be effective in Weston. SMART/PAYT should be considered for its advantages over the current flat-fee system:

A. Direct Incentive to Reduce Solid Waste and thereby Reduce Environmental Footprint

By charging users based on the amount of waste that is thrown out, SMART/PAYT makes the cost of waste disposal more transparent. In so doing, it creates a direct economic incentive to throw out less and incidentally recycle more. By reducing the amount of tonnage that goes into the solid waste stream, we also reduce the environmental footprint.

B. Fairness and Equity

We consider a method fair if it provides services or products to any entity in reasonable proportion to the services or products offered in exchange. Under a flat-rate program users are charged the same rate regardless of how much they throw out. Diligent recyclers who dispose of less solid waste are asked to pay the same amount as profligate users who do not recycle at all. No matter how diligent a user is in generating trash, or conversely, recycling, he is charged the same fee. In contrast, under SMART/PAYT, the cost of processing waste is treated as a utility, similar to water, gas and electricity, and users are charged only for the amount used.

C. Greater Control over Costs by Users

Having a variable rate assessed by the number of filled bags, users can exercise greater control over their waste disposal costs. Knowing how much each bag costs for disposal at the TS will likely encourage reduction of waste disposal.

In summary, SMART/PAYT in Weston can provide the following over the current flat-fee program:

- Economic incentive to reduce solid waste and thereby reduce environmental impact.
- Greater fairness and equity in terms of cost allocation among users.
- Greater control over waste disposal costs by users.

5. Expected Results from SMART/PAYT programs

The primary goal of this pilot program is to determine the change in tons of solid waste that result from SMART/PAYT. The RSWC would recommend moving forward with a town-wide SMART/PAYT program for all users if the pilot program meets its minimum waste tonnage reduction target of 20%. If this target is not reached, then RSWC will consider other options at the request of the Selectmen.

The RSWC recommends using the average rate of waste generation for the four years of FY 2010 to 2013 as the baseline, or 2,060 pounds per household per year using the TS. This number includes waste from the library and town offices. Because the Town will not be participating in the voluntary pilot SMART/PAYT program, RSWC will adjust the above baseline figure to reflect this contribution so that pilot program data can be
evaluated on a comparable basis. The exact amount of Town waste included in the TS total solid waste tonnage is not known at this time. However, as Town waste is currently being separately weighed, we will obtain greater clarity on this over the next several months and will adjust the above baseline number accordingly. RSWC will determine an adjusted baseline figure at a later date (but before the commencement of the pilot program) and will use that adjusted figure as a baseline against which to evaluate pilot data.

The RSWC also will weigh and evaluate the tonnage of bulky waste brought to the TS by the pilot program participants. This information will be compared to statewide data from other communities. It will be helpful in determining if there is excessive bulky waste entering the Weston TS. The RSWC may consider recommending options such as changing enforcement or establishing fees for bulky waste.

Based on information from 144 communities in Massachusetts and thousands across the US that have implemented SMART/PAYT, there are some consistent patterns in the results. The most significant pattern is that the tonnage of solid waste decreases significantly and permanently. Another pattern is that recycling tonnage increases but only by a portion (25-50%) of the amount that the solid waste decreases; it is not a 1:1 relationship. That leads to the question “what causes the rest of the decrease in solid waste?” There are a number of reasons to account for this:

- Some residents change buying habits such that households bring in fewer items that need disposal;
- Some residents change disposal habits by making donations to charities instead of taking them to the TS;
- Some residents change disposal habits by using internet-based exchanges (Freecycle, eBay, Craig’s list, buynothing.org, curb alert, etc.)
- Some residents do more recycling at commercial locations such as clothing drop boxes, scrap metal buyers, redemption centers, electronics retailers (e.g., Staples or Best Buy);
- Some residents take advantage of store offers to remove old furniture or mattresses when they deliver new items;
- Some TS users that were bringing solid waste to the transfer station in large amounts change to using a private hauler or dumpster service;
- Some residents may find it worthwhile to bring solid waste to the transfer station wherever they spend the weekend or vacation weeks instead of bringing it home;
- Some residents may start or increase their composting of food waste and yard waste;
- There may be less imported waste from friends, family, or other non-residents.

The main consistent pattern is that the cost per bag creates an effective incentive such that residents reduce their solid waste tonnage and there is some increase in recycling. The TS will not be able to separately weigh the recyclables from pilot participants but the RSWC feels this is not a critical data point for the evaluation of SMART/PAYT.

A related concern might be that the solid waste will end up in the parks, woods and dead end roads but that has not been the case in communities that have implemented SMART/PAYT programs. DPW Directors in the communities with SMART/PAYT all have said that they had some illegal dumping before starting SMART/PAYT and it did not change noticeably afterwards.

6. Proposed Logistics for Pilot Testing of SMART/PAYT

The town of Weston made a previous effort in 2010 to switch the funding of the TS to a SMART/PAYT program but many residents resisted the change at that time. This time, the Board of Selectmen has asked the RSWC to make a recommendation. There are some users of the TS that feel that Weston residents are already
doing a good job of recycling and therefore SMART/PAYT will not have the desired result. Others feel that because SMART/PAYT has had the positive effect of reducing solid waste by 20-50% and simultaneously increased recycling in more than 140 communities across that state, it should be considered. The RSWC therefore proposes a short-term pilot program to accomplish four goals:

- Test the efficacy of SMART/PAYT on Weston residents (i.e., will Weston residents reduce the amount of their solid waste in response to a SMART/PAYT program?);
- Gather data to understand what portion of the solid waste is being reduced (i.e., is the reduction in bag waste, bulky items, or both?);
- Increase familiarity among Weston residents with a SMART/PAYT program;
- Give the BOS data for deciding whether to implement SMART/PAYT on a permanent basis

A. Duration and Scope of Program

Number of months: In the interest of decreasing the effects of seasonality, the RSWC recommends a minimum of 6 months and a maximum of 12 months. The RSWC recommends that the pilot program start on October 1, 2015 to coincide with the start of the new sticker program.

Number of Participants: RSWC recommends that the pilot program be run on 10-15% of the number of transfer station users.

B. Operation

We propose a short-term pilot program in which volunteers use specially designed SMART/PAYT bags in exchange for a rebate on or reduced Transfer Station sticker fee. SMART/PAYT pilot program participants will also have special stickers for their cars to identify them.

The other residents will see no change in their use patterns.

The daily routine at the transfer station would closely match the existing operating hours and work schedule at the transfer station. In this way, the routine will feel familiar to residents and town officials.

For solid waste, the SMART/PAYT participants will have a designated drop-off area nearby but separate from the solid waste hopper. Except for bulky items, all waste from SMART/PAYT participants must be in the special bags. SMART/PAYT participants will unload their bagged trash onto the deck of a nearby truck. All waste that cannot fit into bags is considered bulky waste and will go separately into another vehicle or container (to be determined).

The DPW will provide a truck/trucks and/or containers for collection of waste for the SMART/PAYT pilot program.

C. Fee Structure and Bags

As background, the typical rate structure for a SMART/PAYT program usually consists of two components: 1) a fixed rate or a flat annual fee; and 2) a variable rate in the form of the cost of bags. According to the listing on the MassDEP website, the prices range from $1.50 to $4.00 per large (30- to 33-gallon size) bag, $0.75 to $2.00 per tall kitchen (13- or 14-gallon size) bags of solid waste, and a flat annual fee of $25.00 to $100.00. Municipalities with variable rates typically do not charge for processing recycled materials but they commonly do charge for large items like sofas and refrigerators. The price to dispose of these bulky items at a town’s transfer station ranges from $5.00 to $30.00 per item.

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6 (http://www.mass.gov/eea/docs/dep/recycle/reduce/m-thru-x/paytdb.pdf),
For the purposes of this pilot program, RSWC recommends the use of only one size bag: the 13- or 14-gallon bags. Based on historic costs and in consultation with Weston DPW, RSWC recommends that a fee schedule be as follows:

- **Flat fee:** $75.00 for 12-months
- **14-gallon bags:** $1.25

Weston currently has no fee schedule for bulky items for its users, so no fee will be charged for SMART/PAYT users disposing of such items.

The pilot program assumes the participants would use specially made bags with a distinctive color. These bags are available from several vendors on state contract and can be manufactured within 6-8 weeks of an order. In general, when running a town-wide SMART/PAYT program, the Town would contract with one of several bag vendors that can handle all of the inventory, tracking, billing, and accounting for the town, if the Town does not wish to do those tasks. In those programs, the town pays the wholesale cost to produce the bag. Then, the bag vendor sells the bags to a retailer at the retail cost set by the Town and the retailer sells to the public without markup or sales tax. In a pilot program, the Town will likely want to identify one retailer who would be willing to sell the bags to pilot program participants.

**D. Management, Data Collection and Oversight**

In order to calculate the weight of solid waste and bulky waste generated by the pilot program participants, both types of waste will be weighed separately before being combined with the other waste in the hoppers. On a daily basis, the SMART/PAYT bags and bulky items will be weighed using Weston’s truck scales at the end of each day of operation (four days per week) by TS employees. The material on the truck is then deposited in the waste hopper at the end of each day. Every Friday, Harvey Trucking hauls the waste to Millbury, Mass, where it is weighed, which will give us the total weight of waste from all users.

Town officials want all waste containers covered overnight for sanitary reasons and protection of wildlife. We estimate that 10% to 30% of the time, the number of SMART/PAYT bags and bulky items will exceed truck capacity, in which case the truck contents would be weighed and deposited in the hopper more than once per day. In this case, the day’s reported weight is the sum of the separate weights for that day. This routine would continue for the duration of the trial. If the pilot program continues during the winter months, there will need to be some provision for minimizing the impact of snow on the weighing.

**E. Analysis of Pilot Data**

RSWC will be responsible for the analysis of data. It is charged with comparing the average solid waste tonnage per household of SMART/PAYT participants with the historic TS data of flat-fee users.

RSWC will adhere to certain principles in the collection and analysis of data:

a. **Data handling must be rigorous and hygienic.**

For an accurate and credible result from the trial, measured weights and their times of measurement (time stamp) must be handled in a rigorous and data hygienic way. Data is collected only by machine, starting with automatic weight measurement and time stamp, then data transport, and continuing to storage in an appropriate database. No data is handled manually, and there is no manual key entry. All data is traceable, meaning that an identified individual is responsible for each step, from measurement to storage. Appropriate backups are required for equipment handling data.

The only exception to this hygiene standard is data originating from Harvey Trucking. We need to understand how they handle data for Weston waste, but we should not disturb their established data collection methods.

b. **Truck weighing scales should be certified.**

Accuracy and repeatability of the town’s truck scale should be documented. The scale will be serviced and then certified by the Weston Inspector of Weights and Measurements for accuracy.
c. Testing method should minimize the Hawthorne effect.

The Hawthorne effect, first recognized in the 1930s, occurs when the subjects of a study recognize that outsiders are taking an interest in the work accomplished by the subjects. The subjects respond by making their best efforts at their tasks, and thereby distort the data in a way that the subjects perceive as positive. In our case, the distortion might be more diligence in sorting recyclables than usual diligence. Our judgment is that a pilot lasting at least 4 months would minimize this effect on the testing.

d. Data presentation shall be transparent.

RSWC will strive to present all data in a transparent fashion, making data available as appropriate to the public and presenting it in meaningful ways.

7. Selection of Volunteers to Participate in the SMART/PAYT Pilot

Our preferred number of volunteers is 10-15% of the number of transfer station users, which are approximately 1750.

Residents who volunteer cannot be on the Recycling and Solid Waste Committee.

In an ideal world, a randomly selected group of individuals would be picked to participate in this pilot program. In this way, selection bias would be minimized. However, in the absence of the ability to randomly select households to participate in this pilot, RSWC recommends that volunteers be solicited to participate in this program.

In constituting this group of volunteers, RSWC will strive to have a group of volunteers as broad and diverse as possible, cutting across user waste habits. Volunteers will be solicited in the following ways: email, public announcements and information on the town website plus direct solicitation at the TS. Assuming RSWC is successful in obtaining a sufficient number of respondents, it will do the following to minimize selection bias:

- Use data from Town to determine approximate demographic, household size and geographic profile of current TS users;
- Match or align the demographic, household size, and geographic profile of volunteers with that of current Weston TS users; and
- Take measures to make appropriate adjustments should respondent group not reflect profile of current TS users.

A common concern with SMART/PAYT programs is that larger families will have to pay more. On the other hand, it is possible that large families could recycle more and not have a significantly different amount of trash than smaller households. In order to evaluate that in Weston, the RSWC will strive to include households of all sizes and in proportions that are representative of Weston.

If there are problems with the selection process, then RSWC will come back to the BOS for review. All volunteers must follow operational procedures and agree to participate for the full duration of the pilot.

8. Cost of Pilot Program

There are two types of costs for this pilot program. There are one-time costs associated with running a pilot program and there are changes to the funding structure that would be parallel to any changes recommended for a permanent SMART/PAYT program. The net cost to the Town would range from $0-10,000 for a 6 month pilot program and likely much less (and roughly twice as much for a 12-month pilot program).
One-time pilot program expenses (based on a 6 month pilot) could include the purchase of special SMART/PAYT bags, new stickers for pilot participants, overtime for staff on Saturdays, and rental of an extra truck. The DPW is working to reduce these projected costs but they are listed for the sake of completeness. The key variables are the truck and overtime and the total costs could run as much as $14,350 for six months. Without the truck or overtime, the costs are minimal.

The changes to the funding structure for the Transfer Station are related to SMART/PAYT program and would reflect the plan for a permanent SMART/PAYT program as described above. The pricing is designed to allow the cost of the bags to cover at least the cost of transporting and disposing of the solid waste. If the pilot runs during the current sticker year, RSWC recommends reducing the sticker fee to $75 for a full year or something between $75 and the full sticker price if the pilot only runs for part of the year. In addition, residents would buy SMART/PAYT bags at the price set, which is recommended to be $1.25 for a 13-15 gallon “tall kitchen” bag. The total revenue from the sale of bags will depend on the number of bags used per household. With the proposed pricing, a household would break even by using no more than 132 bags per year. The net financial effect will depend also on the avoided disposal cost associated with the reduction in solid waste resulting from residents diverting more of their solid waste to other alternatives (composting of food waste, donations of textiles and household items, recycling of electronics through retail stores and/or the Transfer Station, etc.) than the SMART/PAYT bags. The consultant from MassDEP has projected these variables using data from other communities, Weston’s actual tonnage of solid waste and recycling and respective costs per ton, for a range of possible outcomes. The net effect of these variables ranges from $0 to a net gain of $4000.

In a permanent program, the revenue from the sale of bags would cover the cost of solid waste disposal and transportation plus some of the other costs at the transfer station. The benefit of this type of SMART/PAYT model compared to an annual fee model is that the revenues vary with the tonnage such that there is less uncertainty about having adequate funds to cover the total annual total cost of disposal. As a general rule, if residents reduce their solid waste, there are lower revenues from the sale of bags but there are offsetting savings in the disposal fees. If residents do not reduce their solid waste significantly, then they will be buying more bags revenues from which will offset the higher cost of solid waste disposal.

In summary, the next cost of a 6 month pilot program could range from $0 to a maximum of $10,000.

<table>
<thead>
<tr>
<th>Purchase of SMART/PAYT bags</th>
<th>estimated at $3600 (a small order will have higher unit costs than an ongoing program would)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New stickers for pilot participants</td>
<td>estimated at $1/sticker or a maximum of $350</td>
</tr>
<tr>
<td>Overtime for staff on Saturdays</td>
<td>estimated at $300/day for 26 days of the pilot period for a total of $7800, may not be needed</td>
</tr>
<tr>
<td>Possible need for renting truck or container</td>
<td>$100/wk for 26 wks or $2600, may not be needed</td>
</tr>
<tr>
<td>Total one-time costs for Pilot</td>
<td>$3,950 – 14,350</td>
</tr>
<tr>
<td>Bag Revenue Net of Effect of Reduced Sticker Fee</td>
<td>$0 - +$4000</td>
</tr>
<tr>
<td>Projected Net Cost of a 6-month Pilot</td>
<td>$0 – 10,000</td>
</tr>
</tbody>
</table>

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7 Calculated as ($240-75)/1.25