

Transfer Station Task Force
Recommendations to the Carlisle Select Board
January 5, 2022

Transfer Station Task Force Members: Barney Arnold, Thornton Ash, Tom Bilotta, John Lavery (Vice Chair), Christine Lear (Chair), Carren Panico, Carrie Patel, Rob Peary, John Petrie, and Mary Zoll

Background & Research

As a result of its research on solid waste handling in Massachusetts, the Transfer Station Task Force found that the Carlisle Transfer Station is generally well run and effective. It provides excellent service at a very low cost (approximately \$150/household) *and serves 95% of Carlisle households. This is much higher usage than most metro west towns that use commercial haulers who dispose of trash outside of town for 30-85% of their households. Carlisle offers an extremely broad range of services that few towns in MA match.

As a result of our research, we concluded that we should focus our effort on reducing solid waste by increased recycling and this approach was supported by the Select Board when presented in November.

The remainder of this report outlines the recommendations of the Transfer Station Task Force intended to accomplish the desired increase in recycling. The recommendations are grouped in the following categories:

- A. Community engagement & education
- B. Changes to the transfer station & operations
- C. Specific recyclable & reuse initiatives including swap shed location and operation
- D. Construction & Demolition debris (C&D)
- E. Fees
- F. Objectives & measurement
- G. Implementation & ongoing support
- H. Other Considerations
 - 1. Private hauler use of transfer station
 - 2. DEP CMR 19 Compliance & Reporting

Appendices

- A. Proposed SB Charge to new transfer station action committee (TSAC)
- B. Research methodology
- C. Questions of interest to Select Board
- D. Transfer Station Operating Costs and Recycling Expense Breakdown

*Appendix D

Recommendations

The recommendations listed below are intended to reduce solid waste by encouraging and providing more support for recycling. Additionally, these recommendations are intended to improve the traffic flow, appearance and function of the transfer station, address some maintenance issues and reduce the current negative impact on the environment.

A: Community Engagement & Education

The most significant recommendation that the Transfer Station Task Force (TSTF) is making to the Select Board is to educate the community about the Transfer Station. Today the transfer station operates as if everyone has used the site for years, that there have been no changes in recycling or the costs to the town, and that everyone knows what goes where and why. This needs to change.

Signage and an improved website need to approach educating the community by addressing all kinds of current and potential transfer station users: the new family who just moved to town, the regular user who has recently become more concerned about their environmental impact, the person who does not recycle because they believe it all ends up in a landfill anyway, and long-time residents who are unaware of all the services offered today. The website should include details about each type of recycling that is available at the transfer station, detailing what should be placed in each receptacle. Descriptions should include where the recycling or waste goes once it leaves town, and whether the town receives revenue or pays for each type of recycling or waste. Ultimately the website and community outreach should include ways to recycle, repurpose, and donate items rather than throw them away. Additionally home composting, reducing one's consumer impact on the environment, and other actions could be promoted through workshops and the website.

Publicity

The transfer station offers more opportunities to recycle than residents may know about; spring brush, cinder blocks and bricks, and small propane tanks to name a few. Additionally, residents are welcome to take wood chips, sand and soil from designated areas behind the transfer station. The TSTF appreciates that a flier or webpage will be useful tools for residents, but the best way to help residents understand what the transfer station offers is in small bites. Monthly blurbs or letters to the editor, sharing one aspect of the transfer station at a time, will be helpful to residents. These items can also be shared on social media. Recycling numbers that are currently tracked by DPW staff can be posted to the town website and included in publicity. Publicity would also include notification about specific events at the transfer station; hazardous waste days, pass it forward days and support of town swap meets.

B: Transfer Station Physical Changes

We have defined a set of physical changes to the transfer station intended to enhance recycling, improve parking and traffic flow and generally improve its appearance. (See Figure 1)

Layout changes:

- Push swap shed and 4 recyclable trailers back to the fence boundary of the transfer station
- Swap the location of the mixed paper trailers with the textile and charity bins
- Remove the oil tank** and replace it with bins for redeemables as well as provide space for additional food scrap bins.

These changes would place the most often used recyclable trailers closer together and away from the transfer station entrance, improving traffic flow and user efficiency.

** Given the recent very expensive fine the town had to pay when the tank's contents were contaminated by a user, and that the DPW does not have the staff to monitor the use of the tank, it is no longer available to residents to dump their used oil. We support the change that waste oil be handled as a part of the BOH hazardous waste collection days and also suggest that residents be encouraged to return used oil to the place where it was purchased.

Removal of the oil tank was a need identified prior to formation of the TSTF and not a part of its charge from the Select Board.

Parking & Traffic Flow:

- Additional spaces would be available in the area formerly occupied by the swap shed and trailers
- Lined drive through parking spaces between the compactors and recyclable trailers would be tried as a pilot project (non-permanent lines) to determine if this improves parking and traffic flow

Appearance:

- Replace all existing signage with new consistent and clear signage intended to facilitate recycling, traffic flow and policy information
- Remove tree near swap shed
- Rebuild two sheds on either side of central compactor (not a part of TSTF charge)
- General cleanup
- Replace shabby Salvation Army bins with 2 newer bins (completed)

Signage

Signage is another key element to giving every resident the opportunity to participate in reducing solid waste and maximizing recycling. The current signage at the site is inconsistent, not visible, and out of date. New signage would include all dumpsters, structures, and services. There are some services available to residents that have not been identified on the website or on site. Signage will also include graphic indicators of each dumpster, quickly telling users that refuse deposited in each specific dumpster is ultimately recycled or not. Similar signage would clarify the expense or revenue generated by the contents of each dumpster. A third QR code sign will allow users to point their smartphone

camera at the code to take the resident to a town webpage for additional information about that item. These are the same pages that are described under the education recommendation. Ongoing attention needs to be paid to signage, making changes and updates as needed.

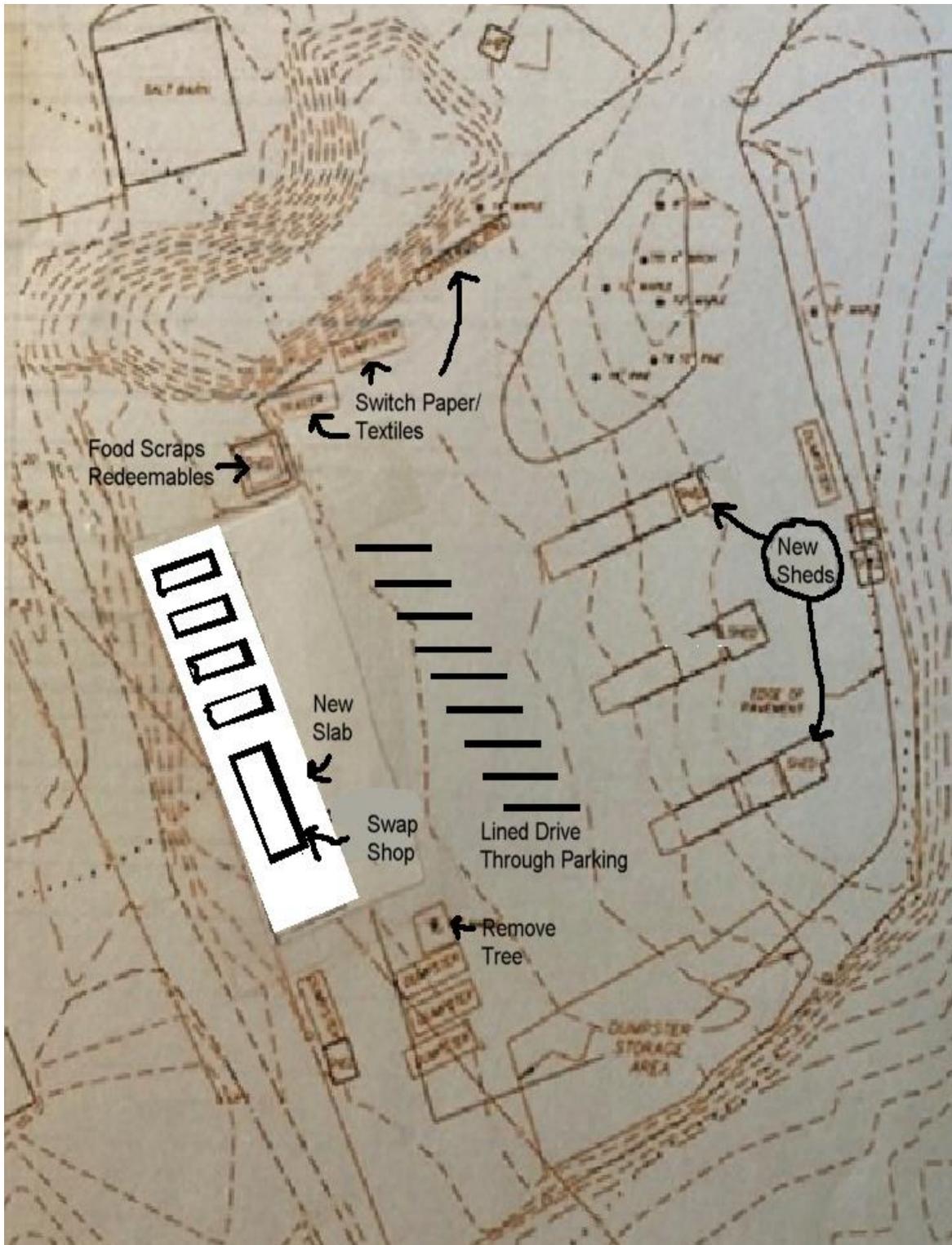


Figure 1: Transfer Station – Physical Changes

C: Specific recyclable & reuse initiatives including swap shop operation

The following specific recommendations are made for some recyclable & reusable items:

Swap shop

The swap shop **could be more efficient and user friendly with better signage and the following recommendations:**

- Currently inside the swap shop is often a dumping ground for bags and boxes of potentially useful items that no one wants to sort through; as well as junk that should be deposited into solid waste by the owner. The swap shop, and other areas of recycling (metal, furniture, appliances, etc.) need clear guidelines to make those areas most effective. One suggested change is to require that no items may be left in boxes or plastic bags – instead they should be displayed on one of the shelves.
- Periodic organized events when charities come in with a truck and accept some larger household items in usable condition. These should be organized and staffed by the Transfer Station Action Committee
- Clean up, repaint the inside - people are less likely to leave junk in a nice-looking, organized shed

Glass

Currently the transfer station glass is taken to a facility which in turn takes it to a landfill where it is employed as an alternative daily cover, a useful purpose. Though this is considered recycling by the state DEP, Carlisle's sorted glass is of higher quality and suitable for manufacturing new glass which is more environmentally friendly than its current use.

We recommend that the TSAC further explore the environmental tradeoffs of trucking our glass to Strategic Materials in Middleborough which aggregates higher quality glass for recycling at essentially the same cost as the current approach. This analysis should specifically include the environmental impact of the trucking as well as the staff impact of the additional driving time (about 40 hours per year) on DPW staff.

Redeemables (deposit return containers)

We recommend the addition of bins in place of the existing oil tank where residents could deposit redeemable containers. Any resident would be allowed to take redeemables from these bins to a redemption center. This is primarily intended to eliminate residents searching through the plastics, metal cans and glass dumpsters for such items, as well as divert them from the solid waste stream.

Food Scraps

This is an important new category of recycling, begun by the Household Recycling Committee, with the potential to have substantial impact on solid waste and greenhouse gas generation in landfills. Currently the food scrap bins are handling a relatively small percentage of household food waste, and the goal is to significantly improve recycling of food, already being done successfully by a number of metro west towns. Community education and engagement as well as adding more bins as needed is the recommended approach.

Textiles

Textiles including shoes and leather items is another relatively new category for reuse at our transfer station. There are two textile bins in place near the paper container. Carlisle is on track to divert more than 20 tons of textiles from the solid waste stream this year (2021). This also generates revenue for the Carlisle Public Schools but many residents are unaware that textiles may be recycled.

D: Construction & Demolition Debris (C&D)

Construction and Demolition debris is one of the most expensive elements of the transfer station operation. It provides a service which benefits almost all households and is not offered at most other municipal facilities.

Current town policy requires a resident to pay for a one time use C&D permit for \$50 (small pick-up truck load) and those bringing a larger load pay \$150. (See Section E below.)

We have two primary C & D recommendations: 1) building permit applicants wishing to use C&D would be required to pay a 1% fee (based on the projected job cost) paid at the time a building permit is purchased from the town, and 2) residents no longer need to pay for a special permit to dispose of C & D from their own home projects as long as they do not require a building permit; they would still need to have a valid Transfer Station sticker. A projected revenue estimate is in the range of \$2,000 to \$5,000 annually. * These two changes would be implemented for a 1-year trial period and then evaluated by the TSAC, the DPW, and the Building Inspector.

The following rules are recommended for contractors using the town C & D:

- Limit of 1 pickup truck sized load daily
- Contractor may opt out of fee by signing affidavit when pulling permit that transfer station will not be used
- TS attendants would receive a monthly list of opt-ins
- No out-of-town debris allowed
- Other limits on what is accepted (no concrete, metal, tile, etc.) remain in place
- No asphalt or roofing would be accepted
- Jobs above \$100,000 would not be allowed to use transfer station and would be expected to dispose of C&D elsewhere

** Since we do not have any historical experience with this type of fee the revenue estimate is speculative. After this fee is in place for 1 year the TSAC will evaluate this approach and recommend how it will be handled going forward. John Metivier has indicated willingness to try this approach.*

E: Fees for residential transfer station stickers and C & D use

The residential sticker fee would remain unchanged. No new fees would be imposed on non-commercial use. The current C&D permit fee for non-commercial use would be eliminated. * The current permit fee for commercial C&D would be replaced as described in section D above in this document.

**Since the pandemic, very few users (commercial or non-commercial) have paid the fee. In the first 9 months of 2021, a total of \$450 was collected from issuance of 9 permits.*

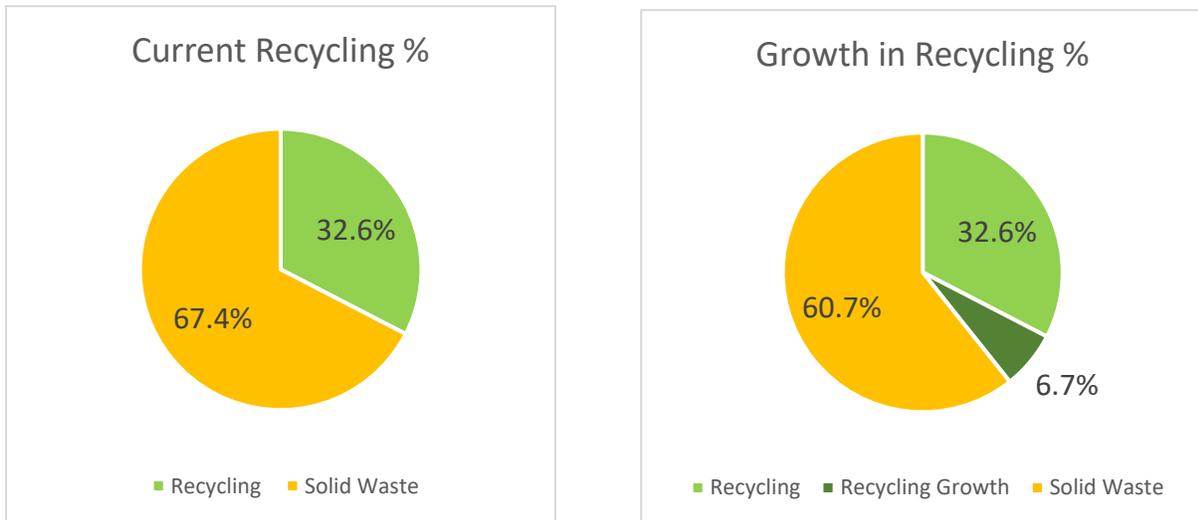
F: Objectives & measurement of results

The goal of this effort is to increase the recycling percentage from 32.6% to 35-40% over a 2-year period, a conservative target number. This would result in a reduction of solid waste of approximately 10% (180 tons). The increase in recycling is expected to occur in the following areas:

- 10% increase (70 tons) in traditional recyclables (mixed paper, cans, glass, cardboard & plastics) generated by community engagement and education (700 tons in 2019).
- 90 ton increase relative to 2019 from new recyclable categories (food scraps, textiles, mattresses) (14 tons in 2019; current 2021 figures are approximately 35 tons from recent initiatives)
- 20 ton increase from an ongoing education campaign to increase awareness of what is recyclable and reusable. These include metals and concrete products.

The reference year is 2019 as this was the most recent pre-pandemic year. Progress will be measured based on the tonnage data generated by the DPW in the categories submitted to the DEP annually. The Transfer Station Action Committee will work with the DPW to obtain this data monthly and report it to the town via the website and publication in the Mosquito. This data will be analyzed both for solid waste reduction and performance with respect to individual recycling categories so that program elements can be adjusted as needed.

Below is a graphical representation of the move from solid waste to recycling if these efforts are successful. *(Graph depicts target assuming 180 tons is diverted from solid waste by recycling)*



There are several known factors which may affect actual performance during the next 2 years. These include:

- Continued pandemic impact
- The decision to move wood from C&D to solid waste where it has a better environmental outcome
- Population growth
- Households moving to commercial haulers

2	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U												
																						Comparisons											
																						2019						2021					
3													Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD								
4																																	
5																																	
6																																	
8	Alum./Tin Cans	11.8	0.98	15	1.25																	0											
9	Books		0.00		0.00																	0											
10	C&D	185	15.42	181	15.08																	0											
11	Cardboard	183	15.25	221	18.42																	0											
12	Concrete products		0.00		0.00																	0											
13	Food Scraps		0.00		0.00																	0											
14	Freon Units	5.9	0.49	7	0.58																	0											
15	Glass	122	10.17	122	10.17																	0											
16	Mattresses		0.00		0.00																	0											
17	Metal	97	8.08	124	10.33																	0											
18	Mixed Paper	201	16.75	174	14.50																	0											
19	Mixed Plastic	57	4.75	62	5.17																	0											
20	Redeemables		0.00		0.00																	0											
21	Textiles		0.00		0.00																	0											
22	Tires	9.7	0.81	10	0.83																	0											
24																																	
25	Recycle	872	72.70	917	76.42																	0											
26	Trash	1,803	150.25	1,836	153.00																	0											
27	Total	2,675	222.95	2,753	229.42																	0											
28																																	
29	% Recycled	32.6%		33.3%																		#DIV/0!											
30																																	

Figure 2: Sample spreadsheet of metrics to be tracked

G: Implementation & ongoing support

The TSTF recommends that the Select Board establish a Transfer Station Action Committee formed from the existing Household Recycling Committee and interested members of the current Transfer Station Task Force. This committee could be structured like most committees in town (see Appendix A for the draft charge) with staggered 3-year terms for appointed members who wish to support the ongoing operation of the transfer station and DPW staff. This committee would manage the ongoing education, signage needs, reporting, website, publicity, and special events for the transfer station and maintain regular communication with the DPW Superintendent and staff.

Timeline

Initial discussions with Gary Davis, DPW Supt., would indicate a late Spring 2022 rollout of the changes to the transfer station coupled with the other recommended initiatives. A proposed timeline would be:

January - February 2022

- Select Board receives/revises/approves TSTF Recommendations
- SB appoints Transfer Station Action Committee (TSAC) (or a name of its choosing)
- DPW changes glass vendor
- TSAC meets with local private haulers regarding compliance and recycling issues
- DPW arranges for removal of old oil tank
- Town announcement that 2022 transfer station residential sticker fees will remain unchanged, and the C&D permit fees would no longer be required for non-commercial use

February-April 2022

- DPW completes site reconfiguration
- TSAC and community complete general clean up
- DPW coordinates pouring of new concrete pad for relocated swap shop and dumpsters
- DPW removes tree from area near current swap shop
- TSAC procures new outdoor signage and DPW helps to install it
- TSAC goes live with updated Website
- TSAC organizes systems to track & publicize progress and statistics
- TSAC and DPW Supt. implement new C&D policy with Building Inspector re contractor permits
- DPW coordinates move of swap shop
- TSAC organizes general Swap Shop inside cleanup/new signs/painting

April-June 2022

- Once signs are installed and website is ready, TSAC begins outreach campaign
- DPW adds redeemables bin and Black Earth adds additional food scrap bins in place of oil tank
- TSAC plans and executes *Transfer Station Grand Reopening Celebration*; ambassadors take regular shifts at transfer station for the next few weeks to educate and help users

Expenses

Gary Davis has provided cost estimates for most of the items below. There are sticker fee funds that are restricted to being used for recycling that may be available, and the DPW staff will be able to accomplish some tasks in the normal course of their work. The remaining costs -- such as getting a contractor to pour the new concrete slab, moving the swap shop and other construction costs -- will require town funds.

New TSTF recommendations:

- Concrete slab to support new location of swap shop and dumpsters - \$10,000
- Replacement of all signage - \$5,000
- Small cost items which might be done by transfer station personnel
 - Move of swap shop
 - Remove tree near existing swap shop
- Town wide mailer (optional)

In addition, there are two changes that the DPW Supt. has identified as current needs independent of the initiatives recommended by the Transfer Station Task Force. These would be funded by the DPW in the course of its normal operations:

- Removal of oil tank - (TBD – in process)
- Replacement of two compactor sheds (on either side of larger shed by solid waste compactor) which are in a state of disrepair - \$5,000 - \$10,000

Estimated total cost of all above items: \$20-40,000 (about 50% addressing existing needs and 50% generated by TSTF)

H: Other considerations

Private Haulers

The use of the transfer station by private haulers is very unique to Carlisle and presents several problems, especially regarding compliance with state regulations. It is recommended that the Select Board task the Transfer Station Action Committee to address this issue during the first half of 2022 so that Carlisle is able to certify its compliance by July 1.

Future issues to be addressed are:

- CMR19 Compliance required by the state DEP
 - 5 cubic yard limit on capacity of vehicles using transfer station to dump solid waste or C&D
 - Enforcement of waste bans which require that these haulers recycle all items that are banned from solid waste
- Town of Carlisle
 - Enforcement of requirement that all residential users purchase an annual sticker
 - Periodic reporting of number of users
 - Consideration of a fee for local haulers to use the transfer station

It is recommended that the new committee meet with the 3 private haulers currently serving the town to brainstorm how to attain compliance.

Policy change recommendations

1. Select Board should add to job responsibility of Town Administrator that the town file the Compliance Certificate required by DEP CMR19 on a yearly basis. (At this time, it appears that this required filing is not being done, either by the Board of Health or town administration).
2. Select Board should direct Town Administrator to report #households and #municipal users in the annual report of tonnage to the DEP as the same number based on the households shown in the US census; this would be consistent with how these numbers are reported by other towns.

Appendix A: Recommended charge for Transfer Station Action Committee

The Transfer Station Task Force recognizes that the recommendations to the Select Board include efforts that will need to be maintained. Given the nature and wide scope of the current workload of Carlisle's Department of Public Works, it is our recommendation that a new volunteer committee be appointed to follow through on these proposals and maintain and update as needed the improvements to the Transfer Station in close consultation and cooperation with the DPW staff.

We recommend that this new committee, the Transfer Station Action Committee (TSAC) is a possible name, be formed from the existing Household Recycling Committee (HRC) and all current members of the Transfer Station Task Force who would like to participate. The HRC has expressed interest in this approach.

This committee would be charged with the following:

- Schedule, write and publish monthly notices in the Mosquito as part of the education campaign to share recycling and solid waste statistics and highlight aspects of the Transfer Station, including the environmental impact of these efforts.
- Update the Transfer Station web pages with: 1) monthly statistics on solid waste and recycling, 2) revised disposal guidelines (should be reviewed annually), 3) announcements about upcoming Transfer Station activities, such as Hazardous Waste Days, Pass it Forward Days, etc.
- Maintain signage for content and appearance.
- Review fees on a regular basis.
- Seek grants and other funding for new initiatives.
- Assess proposed changes over time to make adjustments and advise Select Board when necessary.
- Assist with planning and hosting Hazardous Waste Days.
- Organize and facilitate Pass It Forward Days.
- Explore, organize and facilitate other activities to educate residents about recycling and how to get the most from the Transfer Station.
- Explore possible changes to improve accessibility such as bins to assist in loading the recyclable trailers or a ramp to access the swap shed.
- Further evaluate the possibility of sending our glass to Strategic Materials and make a recommendation based on a comprehensive analysis including all environmental impact as well as impact on DPW staff.

Appendix B: Research Methodology

This appendix briefly outlines the research methodology used by the TSTF and attempts to address some of the specific questions of interest to Select Board members.

Methodology

Research started with information provided by the Mass DEP solid waste databases along with the analysis presented by the HRC in 2019. The initial assumption was that all of this data and analysis was valid, and therefore we sought to identify other metro west towns which were performing better than Carlisle; learning from what they were doing better so it could be applied to Carlisle.

As a result of initial discussions with Julia Greene, our DEP (MA Department of Environmental Protection) representative and our preliminary analysis of the state solid waste data, it became very clear that there were substantial problems with the solid waste data and prior analysis of its meaning relative to Carlisle. The primary issue is that there are two solid waste streams in Massachusetts (municipal and commercial) but the state DEP data only addresses municipal use. On careful analysis of other towns which appeared to be performing better (such as Lincoln or Bolton), we immediately learned that much of their solid waste was diverted commercially and when this was accounted for, Carlisle's performance was comparable or better. This problem with the state data particularly affects the analysis with respect to PayT. Once PayT is in place, more residents choose to use commercial haulers. This diversion of solid waste from the municipal to the commercial system exaggerates the potential benefit of PayT.

At this point we realized that true environmental benefit would come from increased recycling and refocused our research on metro west towns which were outperforming us in specific recyclable categories such as food scraps, textiles, large furniture, etc. and tried to identify approaches to improve our own recycling.

As a result of these efforts, we determined that community education and engagement would be an essential strategy to making progress.

Resources

In developing these recommendations, members of the TSTF engaged via Zoom, by phone and in-person meetings with a variety of sources. These included:

- Town personnel
 - Gary Davis, DPW Director, and other DPW staff
 - Melissa Stamps, Town Assessor
 - Town Administrator
 - Planning Board
 - Jen Gibbons, Assistant to the Select Board
 - Board of Health
- DEP regional representative – Julia Greene
- DPW and Recycling personnel from other towns – Bolton, Concord, Dover, Groton, Littleton & Wellesley
 - Local private haulers operating in Carlisle
 - Orifice Recycling – the most significant commercial hauler operating in Carlisle

Appendix C: Questions of interest to the Select Board

Signage/Traffic flow/General Appearance – addressed by planned physical changes to transfer station

Pay as you Throw (PayT)

The TSTF approached its task with the understanding that Pay As You Throw (PayT) was to be considered. After our analysis of the state solid waste data was completed, we concluded that PayT was not a program we would recommend at this time for Carlisle. If over time the town does not see an increase in recycling and reusing, and a reduction in solid waste, PayT may be reconsidered.

Enhanced reuse via swap shop

Moving and improving the swap shop will make it easier to use, more accessible, and help reduce solid waste. Additionally organizing the area for larger swappable and recyclable materials will make recycling more effective.

Food scraps

Recycling of these has already begun based on initiatives of the HRC but usage could be expanded greatly.

Disposal of textiles and reusable clothing

Significant recycling of textiles is already underway due to initiatives of the Carlisle Public Schools. The Salvation Army has agreed to replace the existing bins in the hope that less shabby bins will invite more use. More community education about these options could help reduce solid waste.

Construction debris – rules, process, and cost

As outlined in the recommendations this is the most expensive disposal item at the Transfer Station. While it would be easier to stop offering this service, the TSTF has provided a way to offset much of the cost while allowing our residents continued use of this service

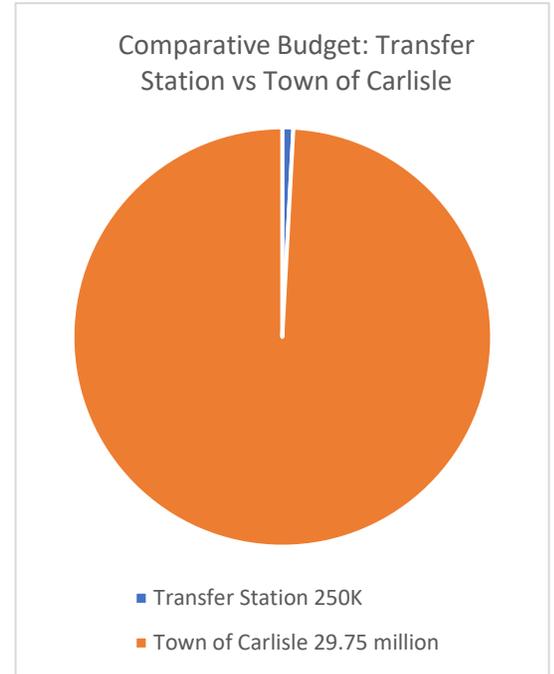
Compliance and Monitoring

The findings of the TSTF have confirmed that the transfer station is generally well run. Recommendations from the TSTF seek to increase understanding of how residents can use the transfer station with a more positive outcome, both financially and environmentally. Thus, the recommendations for clear and improved signage, better traffic flow, education, and accessible and regular information about the transfer station, will encourage self-directed efforts to participate in the best practices of the transfer station. This would not rely on or add additional policing burden to the staff of the DPW. After several conversations with the DPW Superintendent and staff, it is clear that they are aware of where infractions happen in terms of compliance. The current practice is for staff to approach non-compliant users with tact and information to help them. This approach keeps the atmosphere of the transfer station positive and helps to avoid conflicts for the DPW staff. Upon occasion a police detail may be stationed at the entrance to the transfer station to encourage compliance, for example when the new yearly stickers are required to be on vehicles.

Appendix D: Transfer Station Costs

Operating Cost Breakdown

Transfer Station	FY 2019 Actuals	
1 C&D + Sticker Receipts	\$49,855	(\$27/household)
2 Wages, Part-Time	(\$64,595)	
3 Electricity	(\$1,485)	
4 Sticker Fees - Recycling	(\$20,149)	
5 Sticker Fees - Hazrds Waste	(\$33,550)	
6 Dumping	(\$123,336)	
7 Gasoline	(\$34,420)	
8 Maintenance/Supplies	(\$29,016)	
9. Operating Cost	(\$256,696)	(\$139/household)



Recycling Detail vs. Solid Waste

Category	2019 Tons	\$Cost/Profit Per Ton ¹	Cost/Profit	% Actually Recycled ²
Dumping (Solid Waste)	1,869	(\$90)	(\$168,210)	0%
Cardboard	205	\$50	\$10,225	95% +
Mixed Plastic	62	\$10	\$615	95% +
Alum./Tin Cans	14	\$10	\$141	95% +
Mixed Paper	192	\$20	\$3,840	95% +
Glass	133	(\$50)	(\$6,650)	95% +
C&D	206	(\$139)	(\$28,565)	20%
Metal	111	\$160	\$17,680	(? >0)
Tires	8	(\$250)	(\$2,050)	(?)
Freon Units	7	<u>7</u>	<u>\$0</u>	<u>(? >0)</u>
Subtotal Recycling	937		(\$4,764)	
Percentage of tonnage recycled	33.39%	(937 Recycling Tons / (937 Recycling Tons + 1,869 Solid Waste Tons))		

1 – uses current costs (FY2022) for recycling & dumping

2 – per Waste Management and Devens Recycling

Most items that are diverted are in fact recycled except for C&D, most of which is eventually dumped in a landfill. Due to market factors some recyclables produce net revenue, and some others reduce disposal costs relative to solid waste disposal with notable exceptions for hazardous waste items and C&D which are more expensive to dispose of than solid waste.