

Revitalizing Our Transfer Stations
Best Practices and Recommendations
Prepared by Zero Waste Warren County, NY



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Introduction

About Zero Waste Warren County

Zero Waste Warren County (ZWWC) is a group of concerned citizens who advocate for the conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning and with no discharges to land, water, or air that threaten the environment or human health. The aim of ZWWC is to make the Zero Waste approach the norm for municipalities, school systems, businesses, institutions, and individuals.

The Project to Revitalize Our Transfer Stations

ZWWC conceived of this project to take a closer look at the county's transfer station's positive steps to reduce solid waste and collect recyclables. As members of ZWWC, we also wanted to determine if further initiatives could increase household and small business participation in recycling while reducing the financial burden on our rural towns. We looked at the good and the bad and found many unique ways each town has customized its transfer station for efficiency and financial affordability. Since the 1990s when landfills were closed in Warren County and transfer stations were created [1], there have been many changes in the world of solid waste and recycling.

Background

The Environmental Protection Agency (EPA) reported that Americans are recycling a greater percentage of total municipal waste, from 6 % in 1960 to 32% in 2018 [2]. During the same period, there has been a vast increase in the total amount of municipal solid waste per person. The numbers of plastic containers for food and drinks, motor oil, over-the-counter medications, and laundry detergents have increased exponentially since 1960 when Americans used glass bottles, wax paper, tin cans, and paper bags.

The increased rates of recycling since 1960 reflect several factors:

- There is more solid waste being generated.
- There are commodities available to recycle.
- The public is more aware of the importance of recycling.

However, exactly how much of the recycled materials generated in 2021 is turned into 2nd generation products is debatable [3].

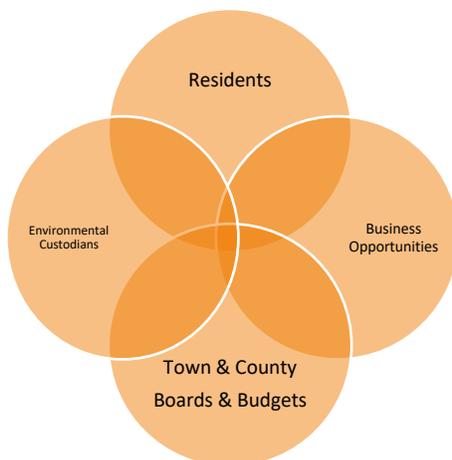
When China's National Sword Policy set strict limits on allowable contamination levels in the

recyclables it would accept as imports, U.S. recycling processors had to scramble to find new outlets. The loss of the Chinese market for recyclables created new opportunities for domestic partners, but the infrastructure to create new products from old was not in place. That is no longer the case. Massive investments have been made in recycling factories in the U.S. eager to locate large quantities of high-quality materials used to manufacture second generation products. Warren County has yet to take advantage of this development. What some see as a downside, others see as an opportunity for innovation.

The Current State of Recycling in Warren County

For Warren County residents and small business owners, recycling is one of the most visible pro environmental activities available to them. While recently many households and small businesses are choosing to contract with a private hauler, many continue the rural tradition of “riding to the dump” - nowadays called the town transfer station. Town boards must remain responsible to the needs of the community while looking ahead to solve the problem of increasing amounts of solid waste, plastics filling landfills and household chemical waste randomly discarded within our communities where they will litter and pollute residential drinking wells, wildlife, wetlands, and recreational lakes.

The ZW committee hopes to find goals and methods that intersect those of residents, small businesses, town boards, and environmental stewardship.



Each partner needs to support the three other partners.

- Residents becoming more educated about reducing waste and recycling
- Government supporting infrastructure development, feasible collection points, aggregation of materials and efficient transportation systems.
- Entrepreneurship & business environments incentivizing startups.
- Environmental custodians sharing science and benefits of protecting natural resources.

ZWWC's goal is to reduce the amount and toxicity of solid waste generated by Warren County residents, businesses, and institutions, regardless of where it is ultimately disposed – landfills, incinerators or recycled. To achieve this end, ZWWC looks forward to working with town and county government to keep our transfer stations on a sound financial footing while promoting reduction of waste in households and businesses. This citizen report looks at the present with hope for the future, acknowledging what is being done well in Warren County. This report also urges timely innovations for our future. We want to share information about marketable commodities, accessibility for residents, transportation to markets, collection operations, how recycling information is shared, and what can be improved. ZWWC would like to highlight what works well for the environment, town residents, town budgets and local businesses in the new recycling environment using information obtained during our visits to a sampling of Warren County transfer stations.

Bolton – Reuse and Accessibility

Bolton transfer station has a REUSE cabin where residents can take home items other folks can no longer use.



There are some accessibility issues at the Bolton Transfer Station. Metal ladders are in place along the side of the roll offs for newspapers, junk mail, tin cans, and plastics. This is OK for those able to manage, but it can be an obstacle for older residents and people with disabilities.



Chester - A 'Give and Take' Store

Chester is the first transfer station that has a free 'give and take' store with an attendant. The store was started years ago by the wife of a former Chester supervisor. It has a large space for clothing, household items, books, and equipment. There is also free furniture kept in a roll off across from the attendant's station. Items are kept for several months before being disposed. An attendant, Debbie, takes great pride keeping this free store clean organized and welcoming.

The attendants are very receptive and helpful to elderly and residents with disabilities, often taking their recyclables directly from their cars and depositing them in the appropriate bin.



Lake George – Team Innovation

The transfer station team at the town of Lake George is very innovative. Lake George does NOT contract with Waste Management to lease roll offs. They have their own roll offs. They do not contract with Waste Management to haul off the roll offs to markets. They do it themselves with town trucks. They believe this saves lots of money.

When the roll off holding corrugated cardboard gets unruly and disorganized, the team compresses the contents with their very own machine constructed by the department from a light post which works like a ramming rod.

Three cheers to the Lake George Team.



Lake Luzerne – Battery Smart and Pet Litter Collection

Lake Luzerne transfer station has everything in its place. It also has a dedicated attendant, Mr. Stanley Peters who ensures residents stay informed about good practices and that everything goes where it belongs, from cat litter to lithium batteries.

Hazardous lithium and cadmium batteries, as well as smart phones, go into mailer boxes which are sent to CALL2RECYCLE, the industry's battery recycling program.



Pet litter collection point:



Thurman – Nestled in the Hills and Far from Major Thoroughfares, It Makes-Do with What It Has

The Thurman transfer station is hidden away in the hills with beautiful vistas of Crane Mountain. The transfer station works with limited hours, limited resources and on a small scale. It does well with what it has! It does not have an industrial compacter, so bags of garbage go directly into the back of a truck compacter where it is compressed. A town employee drives the truck, as needed, to the solid waste disposal site.



Queensbury, Ridge Road – Keeping Cardboard Neat

The Queensbury Transfer Station does a great job keeping newspapers and corrugated cardboard neatly stacked. This allows for better compaction and more tonnage in each haul, translating into less cost for transportation. In the future this neat organization could mean their OCC (old corrugated cardboard) is baler-ready to be sold. Good going, Queensbury!



Warrensburg – Using Two Scales Keeps Numbers in the Black

Warrensburg transfer station has something that sets it apart from other transfer stations we visited; it has **two** scales for weighing solid waste. The truck scale accommodates pickup trucks and larger utility trucks that can drive up and onto the scale. This scale can weigh large volumes of solid waste, C&D, so the responsible party can be charged accordingly. Another smaller scale is adjacent to the office. Residents drive up, place their trash bags on the small scale, and are charged 10 cents per pound. No discussion and no quibbling. There was some initial opposition to installing the scales, but residents soon came to appreciate this objective method of measurement. The purchase and installation of the two scales was \$175,000. It paid for itself in eighteen months and now covers the salary and benefits for one full time attendant. Since paying off the scales, the transfer station operates in the black. The transfer station accepts municipal waste from non-residents who use the scale and pay accordingly. The scale can also be used by some local business for a fee. Bravo Warrensburg!



Recommendations & Innovations for 2022 and Beyond

Recycling businesses in 2022 are looking for large quantities of high-quality, source-separated recyclables. Presently, that means #1 and #2 plastic containers, clean and dry bales of corrugated cardboard, bales of mixed paper, and clean glass sorted by color – and they pay accordingly. When transfer stations allow contaminated products in their hauls they lose out. If they can meet the specifications of end markets, they can get good prices. Large quantities of pure materials can get competitive bids.

STAY ON THE LOOKOUT FOR EMERGING MARKETS FOR RECYCLED MATERIALS TO SAVE MONEY IN BUDGETS

Currently, the industry has unmet demand for high quality - high volume corrugated cardboard. The market price at the time of drafting this report was about \$150 per ton. Yet in 2021 disposing of post-use cardboard (OCC) was very costly to Warren County towns. Here are 3 examples:

Queensbury paid out \$14,551.25 to Perkins to take OCC and \$5670.00 to haul it there. Total \$20,221.25

Bolton paid out \$7101.25 to Perkins to take its OCC and \$17,380 (greater distance= greater hauling fee) to haul it to Perkins for a total of \$24,481.25.

Chester paid out \$2,400 to Perkins to take OCC and \$4788 for hauling to Perkins. Total \$7188.00

Sample of OCC costs:

Town	Tipping Costs	Hauling Costs	Total cost to dispose corrugated cardboard
Bolton	\$7,101.25	\$17,380.00	\$24,481.25
Chester	\$2,400.00	\$4,788.00	\$7,188.00
Queensbury	\$14,551.25	\$5,670.00	\$20,221.25

In 2022, the high demand for OCC translates to markets paying for OCC. This is an example of the ever-changing marketplace. ZWWC will be working with Warren County to investigate new end markets for OCC with the goal of breaking even or even making a profit offsetting operating costs of transfer stations.

MORE COOPERATION and CONSISTENCY AMONG TRANSFER STATIONS AND TOWNS

Each Warren County transfer station operates as a free-standing operation and chooses to participate or opt-out of the contract bids secured by the county purchasing department. Cooperation and coordination between transfer stations, especially those in proximity, should be considered in the future to attain a quantity of materials that attains 'economy of scale'. If a larger transfer station with room to spare became an aggregate site for one or two other transfer stations, a business looking for large amounts of materials would have more interest in purchasing and transporting. Recycling businesses require a critical mass of materials to make it worth their while to purchase. Would one transfer station also become a specialized collection site for one material, storing it and bundling it for transportation?

KEEP THE MATERIALS CLEAN AND UNCONTAMINATED

Presently only #1 and #2 plastics should be accepted, and public education must be expanded to ensure participation. The distressing reality today is that less than 10% of recyclable plastic is being recycled. Cardboard, on the other hand, is valued by paper mills but needs to be clean, collected, stacked neatly, or compressed to minimize transportation costs.

RECYCLING MESSAGING IS CONFUSING, ESPECIALLY IN REGARD TO PLASTICS AND PAPER

Some transfer stations in Warren County accept all plastics, some accept only #1 and #2, some accept #1 and #3, some state only plastics with a "mouth." Some transfer stations accept magazines and junk mail; others do not. It can be different from town to town. The county should accept #1 and #2 and streamline its messaging. Magazines and paper should be consistent at all transfer stations in the county and should reflect the specifications of recycled paper end-markets. If every transfer station collected the same primary materials, the information could be consistent county wide and throughout schools, community organizations, and towns.

- Targeted public education could be created for the entire county instead of each transfer station using intensive labor to customize educational materials about what can and cannot be recycled. There needs to be consistency!
- It would even work for summer residents and tourists who come from outside the area and may recycle differently than in Warren County.
- Standardization for the main recyclable commodities (i.e. paper, corrugated cardboard, plastic containers, metal cans, glass containers) will reduce confusion among residents. It will also reduce contamination of materials destined for recycling markets, resulting in more value for our recyclables in the marketplace. Below is a photo of a contaminated plastic haul. It contains brown paper bags, single use food packaging, plastic bags and many more items that cannot easily be recycled. The next two photos are contaminated plastics in Warren County collections:



SIGNAGE at TRANSFER STATIONS and INFORMATION BROCHURES SHOULD USE MORE PICTURES AND FEWER WORDS

Signs with words instructing residents what can and cannot be disposed of Are NOT participation friendly and are often ignored by residents. Pictures are friendly. Pictures increase understanding and participation. They help to keep collections cleaner and uncontaminated. Below are examples of pictures that work well.

CAN I RECYCLE THIS?

YES

Cardboard, mixed paper,
plastic BOTTLES ONLY, cans, & glass



Bottles #1 & #2 ONLY



NO

Plastic bags, food waste, Styrofoam,
paper cartons, foil pans
Or plastic containers



PROMOTE COLLEGIALLY AMONG WARREN COUNTY TRANSFER ATTENDANTS

Several transfer stations attendants are dedicated to efficient recycling and solid waste removal. They impressed the ZWWC members with their knowledge of recycling, dedication to the community they serve, and determination to make improvements. Giving them the time and space to share ideas that work for Warren County transfer stations could lead to many innovations and improvements for residents who use the transfer stations as well as increased efficiency and greater cost-effectiveness. During the spring and fall, why not schedule brainstorming sessions for transfer station attendants and managers? The attendant/s at one transfer station would host personnel from the other transfer stations to share best practices. The Warren County Recycling and Solid Waste Compliance Coordinator, Thomas Szabo, could lead this initiative.

CONSIDER USING A SCALE TO WEIGH RESIDENTIAL BAGS of GARBAGE

Using a small platform scale to weigh residents' bags of garbage may create more revenue for our towns. Warrensburg was the test case. With two scales, one for weighing trucks and trailers and another for weighing a few residential bags at a time, Warrensburg quickly paid the \$175,000 investment and now supports the salary of one full time attendant. Lake Luzerne also uses a large and a small scale to weigh garbage. Scales often come with computerized data management and the ability to print invoices and receipts while collecting data. Small transfer stations may want to dispense with this more expensive option. [4] [5]

REDUCE FOOD WASTE in SOLID WASTE STREAM & CONTINUE ENCOURAGING BACKYARD COMPOSTING

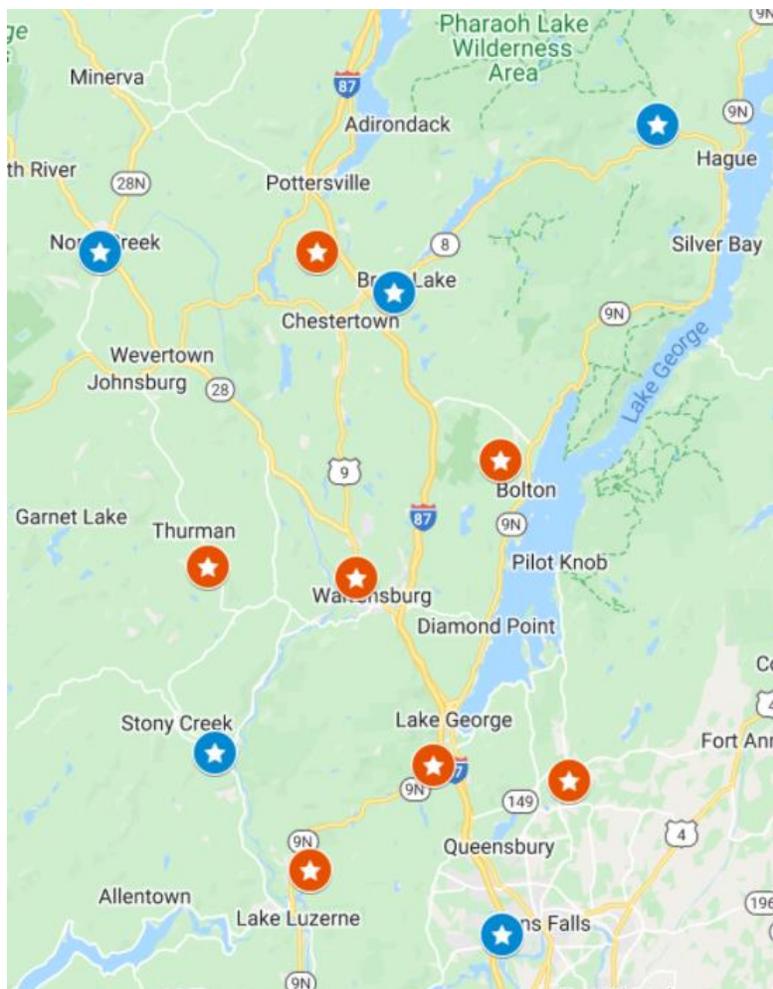
Warren County has several initiatives promoting backyard composting. These efforts should be encouraged and supported in each town and hamlet. To increase awareness of small-scale composting, educational kiosks demonstrating the benefits and how-tos of backyard composting could be located at transfer stations. Offering discounted backyard composter bins could also spread the word. The Queensbury town website includes well organized composting information. Compost bin sales and educational programs were offered in many towns through the Rotary Club, Up Yonda Farm, Warren County Soil and Water District, and Queensbury Climate Smart Community sponsored programs in 2021. In April, ZWWC organized a Zoom meeting about an upcoming food waste diversion and recycling municipal grant. Participants included Thomas Szabo, Warren County Recycling and Solid Waste Compliance Coordinator, and Ethan Gaddy, Warren Assistant County Planner. There is a significant role for backyard composting and Warren County can keep the momentum.

Conclusions

As a stakeholder in the future of Warren County, Zero Waste Warren County (ZWWC) is providing this report to the Warren County Board of Supervisors, its Public Works Committee, individual town board members, the Public Works department, Warren County Recycling and Solid Waste Compliance Coordinator and Warren County Planning department. We hope it will be received in the spirit it is offered.

We will be posting this report on [our Zero Waste Warren County website](#). We plan to continue to research best practices to bring Warren County into the 21st Century as a Zero Waste community. With residents using the elements to Refuse, Reduce, Repair, Reuse, Recycle, and Compost and Transfer Stations using best practices, we can get there! Thank you.

Map, Charts



Google Map of Warren County Transfer Stations

Transfer stations with a red star were visited by ZW members while researching this report.

Link to this map:

https://www.google.com/maps/d/edit?mid=14CdWIRNrwiB9hUEphuP_Fk9JRWRqz873&usp=sharing

References

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- [2] EPA, "National Overview: Facts and Figures on Materials, Wastes and Recycling," 2022. [Online]. Available: <https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials#Trends1960-Today>. [Accessed 13 March 2022].
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