

# Bulky Wastes: Increasing Reuse & Recycling in Rural Areas

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Association (NEWMOA)



# What is NEWMOA?

- Non-profit, non-partisan interstate association
- Solid waste, hazardous waste, waste site cleanup, & pollution prevention programs
- CT, ME, MA, NH, NJ, NY, RI, & VT
- Formally recognized by EPA in 1986
- More information at: [www.newmoa.org](http://www.newmoa.org)



# Promoting Bulky Waste Reuse & Recycling in Rural Areas

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# What are Bulky Wastes?

- Carpet
- Furniture
  - ❖ Wood
  - ❖ Upholstered
  - ❖ Metal
  - ❖ Plastic\*
- Mattresses
- Large Rigid Plastics like:
  - ❖ Kiddie pools
  - ❖ Plastic furniture\*
  - ❖ Play structures

# Project Partners

## ● Maine

- ❖ Androscoggin Valley Council of Governments
- ❖ Department of Environmental Protection

## ● Massachusetts

- ❖ Franklin County Waste Management District
- ❖ Department of Environmental Protection

## ● Vermont

- ❖ Central Vermont Solid Waste Management District
- ❖ Northeast Kingdom Waste Management District
- ❖ Department of Environmental Conservation

# Project Outline

- Stakeholder Group in each partner location
- Guidance documents:
  - ❖ Furniture
  - ❖ Mattresses
  - ❖ Carpet
  - ❖ Large Rigid Plastics
- Workshop in each partner location
- “What to do” fact sheets in each location
- Outreach to others (e.g. this workshop!)
- Project website: [www.newmoa.org/solidwaste/projects/bulky](http://www.newmoa.org/solidwaste/projects/bulky)

# Current Practice

- Most disposed of
- Transfer stations charge drop-off fees
- Many curbside programs also charge fees

**Furniture & Carpet Disposal**  
\$5 MINIMUM NO ELECTRONICS  
\*\*Please request placement of these items, do not throw into container.\*\*

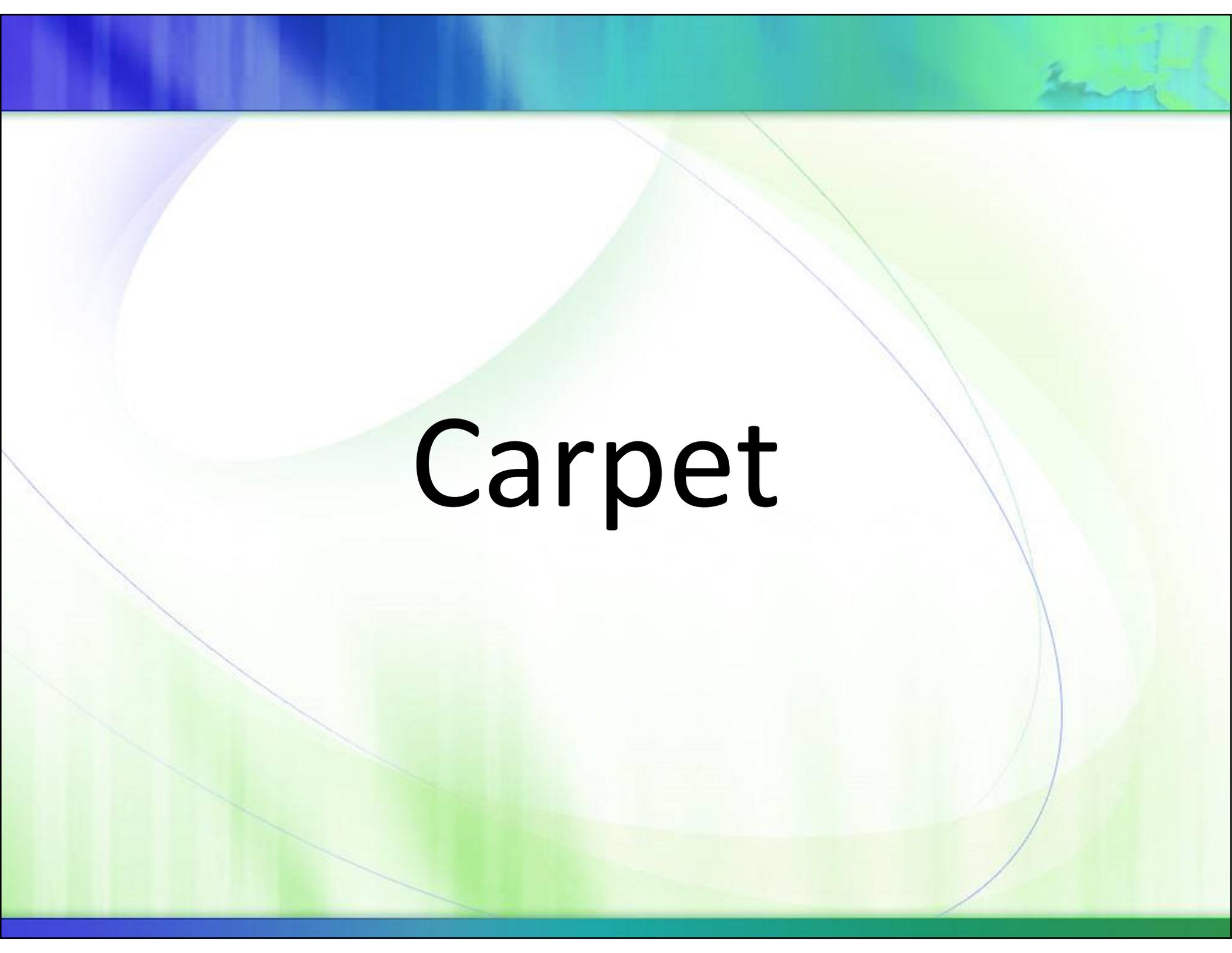
Twin / Single Mattresses or Boxsprings	\$30 each
Full / Queen / King Mattresses or Boxsprings	\$30 each
Couch	\$20 each
Loveseat	\$15 each
Upholstered Chair	\$10 each
End tables, wooden chairs, kitchen/dining room tables, bookcases, bureaus	\$5 each
Area rug	\$10 each
Wall-to-wall carpet	\$25 each
Sink, toilet	\$10 each

# Benefits of Reusing & Recycling Bulky Waste

- Save money on landfill disposal costs
  - ❖ Transportation costs too
- Conserve energy and raw materials
  - ❖ Save space in landfills too
- Return products and materials back into the economy and create jobs
- Helps people who need these items but cannot afford to buy them new

# Some Reuse is Happening

- Yard sales
- Online sales (e.g. Craigslist, e-bay)
- Sale to second-hand shop (or consignment)
- Give to friends/family or via FreeCycle
- Donation to charity that operates a second-hand shop and/or supplies low-income clients



**Carpet**

# A Major Factor in Bulky Bins

Carpet is heavy – so it's expensive to dispose of



# Carpet Recycling

- Recycling appropriate for carpet
  - ❖ Reuse usually feasible only for area rugs (10x10 max)
- Additional benefit – climate change:
  - ❖ Of all municipal solid waste – fourth greatest potential greenhouse gas reduction – behind only corrugated cardboard & office paper recycling, and food scraps composting (2011 EPA Region 10 Study)

# Carpet Basics

- Carpet composed of: face fiber, backing material, and adhesive
- Nylon face fiber has value & is recyclable
- Until recently most carpet was made from Nylon 6 or Nylon 6,6
  - ❖ With some made from Olefin (polypropylene) – which also has value when recycled
- Now over 50% of carpet is made from PET – the recovered fibers are low quality and have no market

# Carpet Recycling Basics

- Commercial facilities process incoming
  - ❖ Must be dry and free of mold/contamination
- Sort incoming carpet by fiber type
  - ❖ PET has no value & carpet is disposed



# Carpet Recycling Basics

## Nylon & Olefin fiber sheared from backing

- ❖ Backing often disposed
- ❖ Processors with high tech equip can process backing into polypropylene & calcium carbonate (have markets)



# Carpet Recycling Basics

- Fibers cleaned and sold
  - ❖ Made into variety of products including new carpet
- With more PET, processors are selling less & paying more for disposal
  - ❖ Now charging to accept mixed loads (don't really want)
- Carpet recyclers still exist:
  - ❖ MA & NJ
  - ❖ Commercial carpet tiles
    - Generated in large quantities – develop relationships with installers & construction companies
    - PVC backing has value
  - ❖ Process & recycle other products too

# Potential Carpet Options

## Communities can collect & send for recycling

- ❖ Must be kept protected from weather
  - Rent a trailer - partner with communities/businesses
- ❖ Expense to transport (processors in MA & NJ)
  - Partner with other communities/businesses to share costs
- ❖ Processors charge fee to accept mixed loads
  - Charge drop-off fee to help offset
- ❖ Or pre-sort and only send nylon & Olefin
  - Need scanner to ID fiber type (expensive)
  - Requires labor (volunteers?)
  - Cost to dispose of carpet without value
  - Charge drop-off fee to help offset

# EPR Potential for Carpet

## Extended Producer Responsibility (EPR)

- States have laws for similar consumer products – for example:
  - ❖ Paint: CA, CO, CT, ME, MN, OR, RI & VT
  - ❖ Mattresses: CA, CT & RI
  - ❖ Fee assessed when purchasing new item that funds end-of-life collection, transport, and recycling
  - ❖ Must be convenient & no fee to use
- Potential application for carpet
- Information at Product Stewardship Institute:  
[www.productstewardship.us](http://www.productstewardship.us)

# Bottom Line

- ~50 percent of carpet can be recycled
- Economics not favorable *at this time*
- Evaluate:
  - ❖ Current transportation & disposal costs
    - If carpet removed, disposal transportation & costs lower
  - ❖ Collection feasibility – location, container, partners
  - ❖ Cost to transport to recycler
  - ❖ Recycler tipping fee
  - ❖ Time & energy to change status quo

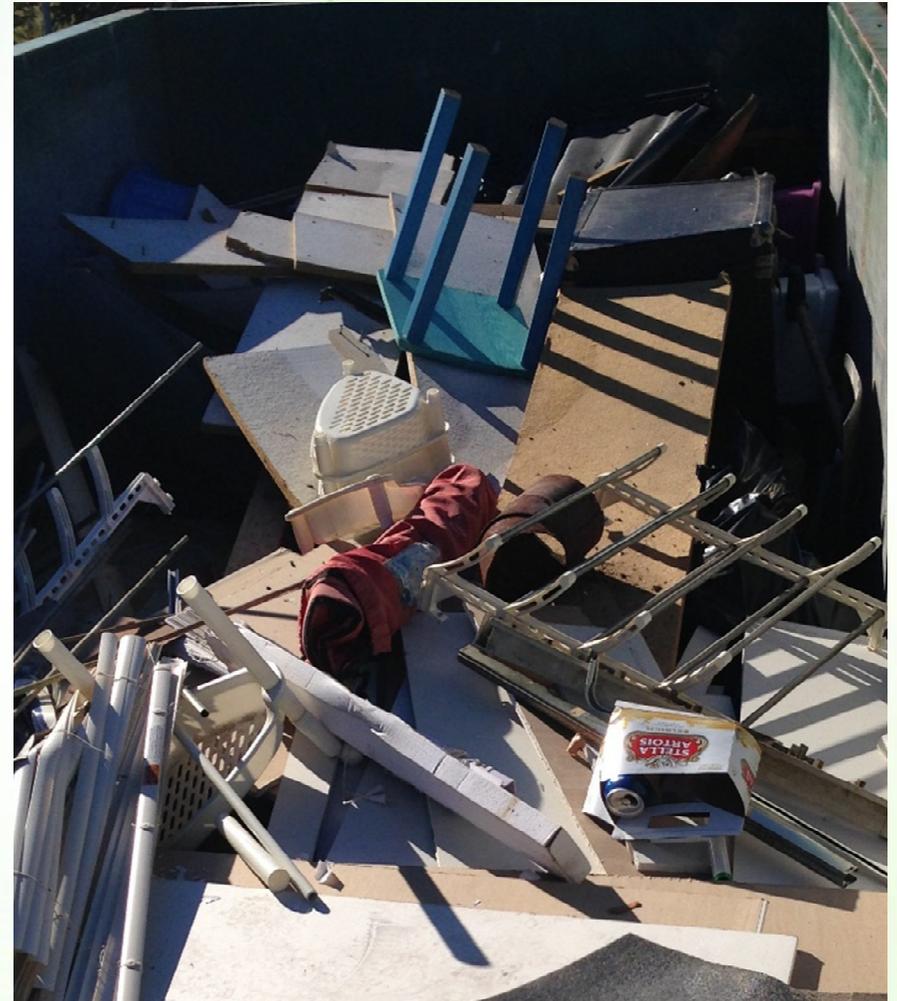
# Feedback Questions

- Current practice in your district?
  - ❖ How many allow drop-off at the transfer station?
  - ❖ How many have curbside pickup?
  - ❖ Special fees for carpet?
  - ❖ What happens to them?
- Know of any local reuse options?
- Know of anyone sending carpet for recycling?
- Any thoughts on feasibility of partnering with others to set up a carpet recycling system?
  - ❖ Who might be good to contact?



# Furniture

# Furniture Collection in Bulky Bins



# Furniture: Reuse

- True reuse is when the item is kept “whole” & is sold or donated for use again
- This option is only appropriate for good quality furniture

# Furniture: Reuse

Communities can partner with local non-profit or charity to promote donation and/or hold a collection event for residents to donate items

- ❖ Habitat for Humanity – [www.habitat.org/restores](http://www.habitat.org/restores)
- ❖ Salvation Army
- ❖ Goodwill
- ❖ Saint Vincent de Paul
- ❖ Furniture Bank Association – [www.furniturebanks.org](http://www.furniturebanks.org)

# Furniture: Reuse

- **Give away or obtain stuff for free:**
  - [The Reuse Marketplace](#) is a free regional network to find, sell, trade, or give away reusable and surplus items that would otherwise be disposed as trash. Businesses, institutions, governments, and organizations in the states of Connecticut, Delaware, Massachusetts, New Jersey, New York, Rhode Island and Vermont are eligible to create accounts and to post listings. Anyone is welcome to search or browse the posted items.
  - The [Freecycle Network](#) is made up of many individual groups across the globe. It's a grassroots and entirely nonprofit movement of people who are giving (and getting) stuff for free in their own towns. Freecycling, an internet-based exchange, is open to all who want to "recycle" that special something rather than throw it away. Whether it's a chair, a fax machine, piano or an old door, feel free to post it... or to look for it! Nonprofit groups are also welcome to participate. Everything posted must be free.  
There are two Freecycle groups within the District. The [Orange](#) group serves Orange, Erving, Wendell, and Warwick. The [Greenfield](#) group serves the general Franklin County area.
  - You can list items you're willing to give away for free on [craigslist Western Mass free stuff](#).
- **Donate reusable household items:** Reuse can mean reusing materials such as containers and bags for another purpose. It can also mean donating usable goods such as clothing, furniture, and other household items. Many non-profit organizations, such as Goodwill and the Salvation Army, have been accepting household items and clothing for years. This helps us to reduce the amount of trash thrown out and conserves disposal space. There are many local charitable organizations in our area that help people going through a transition. If you have something that is still usable, you may be able to help someone in this area by calling one of the organizations listed below and asking if they can match you up with someone that may need the item. Please consider if the item is in good enough shape to be reused. Junk and broken items do not qualify for donations. The following is a list of local charitable organizations:
  - Brick House (413) 863-9576
  - Survival Center (413) 863-9549
  - Greenfield Family Inn (413) 774-6382
  - Athol/Orange Family Inn (978) 544-8245
  - Salvation Army Thrift Store (413) 773-3649
- **Donate and purchase reusable building materials:** The reuse of construction and home improvement materials is an excellent way to keep good quality, usable items from being disposed in a landfill or incinerator. It also helps to conserve our natural resources by reducing the amount of building products being produced from raw materials. Construction and demolition materials such as doors, windows, cabinets, and plumbing fixtures are great candidates for reuse.

Some used building materials in good, reusable condition may be donated to [EcoBuilding Bargains](#) in Springfield, Massachusetts. This store helps manufacturers, wholesalers, retailers, contractors, and homeowners find alternatives to throwing out quality, surplus, and used construction materials. Donating materials helps to reduce your disposal costs, and helps others find quality materials at affordable prices. This helps the local community, our economy, and the environment.

# Furniture: Reuse

What about bugs in upholstered furniture?

- ❖ Treatment: heat, cold, CO<sub>2</sub>, or pesticides
- ❖ Exclude upholstered furniture from program



# The Wish Project Sanitization Process

## Large Scale Sterilization:

- 4 hours of active heating
- 2 tons per cycle
  - 60 Full sized mattress sets or
  - 28 Couches or
  - 70 chairs



# Furniture: Reuse

Communities can also facilitate local reuse by sponsoring a:

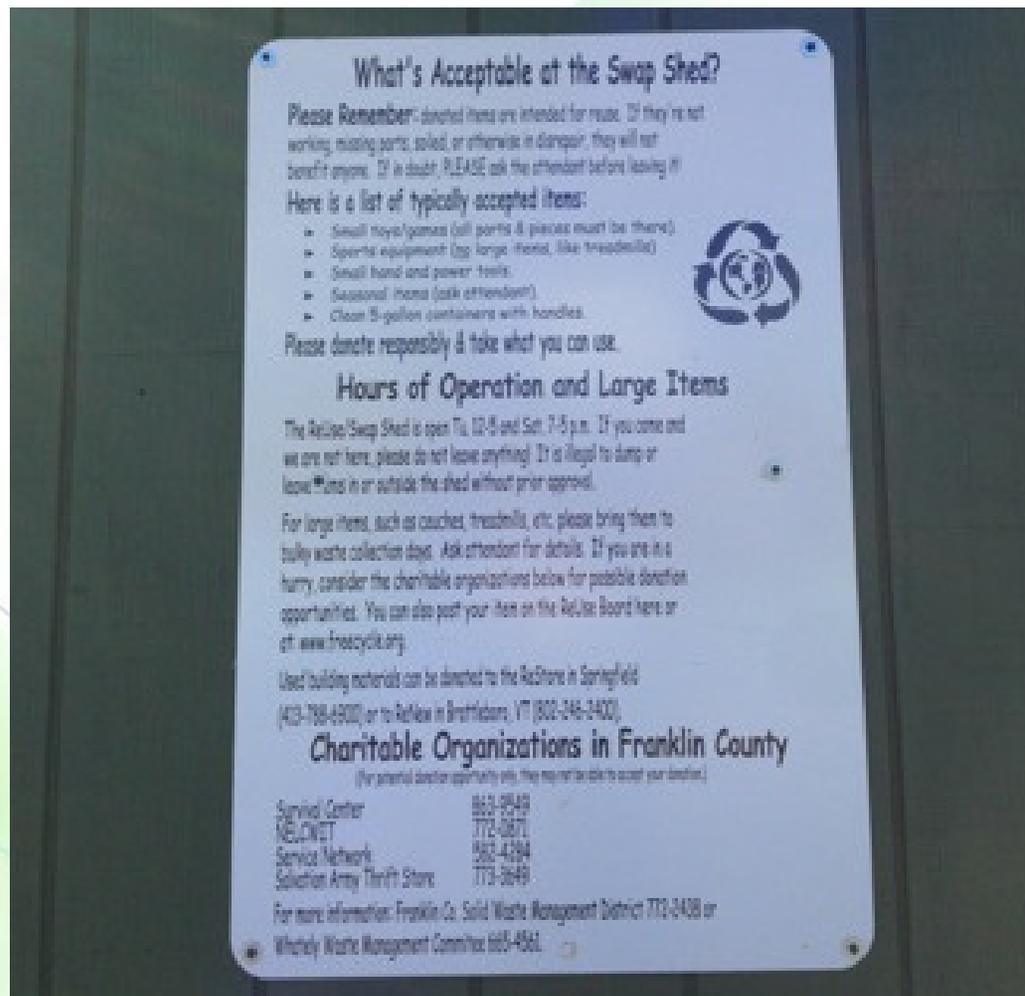
- ❖ Permanent Swap Shop
- ❖ One-day swap event
- ❖ Fix-it clinic



# Swap Shop/Event

## Need staff and/or volunteers

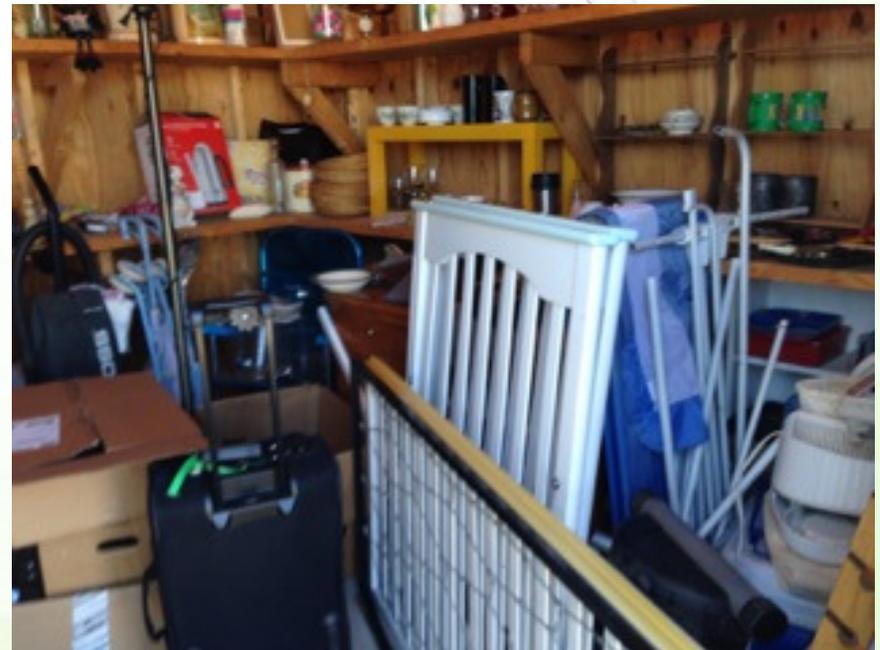
- ❖ Partner with local group/business



# Swap Shop/Event

## Need a covered or sheltered location

- ❖ If don't have an indoor space:
  - Hold in summer only
  - Rent a tent for one-day event



# Swap @ Transfer Stations



“Double Your Trash Back if Not Pleased With Our Service!”

# Swap Shop/Event

## Need to move items that remain

- ❖ Partner with local charity
- ❖ Make arrangements with a private hauling service like 1-800-Got-Junk (they reuse/recycle!), or dispose
- ❖ Charge drop-off fee to off-set expenses, but:
  - Lower than bulky waste disposal fee
  - Emphasize that donations are tax deductible

# Furniture: Repurposing

- Refurbishing, remanufacturing, rebuilding, or renovating furniture means that some or all components of the item are removed & replaced
- Examples: furniture re-upholstering, leather repair, woodworking, carpentry

# Furniture: Repurposing

- There are many examples of “fix-it clinics” or “repair cafes” across the country  
<http://repaircafe.org/en/>
- Community host locations: local library, food bank, or senior center
- Volunteers with repair expertise: boy/girl scout troops, veterans organizations, small businesses

# Furniture: Repurposing

- Social Media is a great source for inspiration & helpful tips



Photos Source: Pinterest

# Furniture: Repurposing



Photos Source: Facebook

# Furniture: Recycling

- Recycling is when the item is separated into its individual components that are then processed & used to create new products
- Examples: cotton, wool, wood, & metal

# Furniture: Recycling

## Communities can:

- ❖ Promote deconstruction of furniture into individual components to reduce the overall “bulk” & allow for easier recycling
- ❖ Collect & investigate sending to a C&D recycler rather than traditional disposal

# Furniture: Recycling

## Upholstered furniture

- ❖ Foam or other padding – usually disposed
- ❖ Fabric materials (cotton, wool, leather) – clothing collection systems handle all textiles ***if clean***
- ❖ Clean wood (not stained or painted) – many transfer stations have free drop-off
- ❖ Metal – many transfer stations have free drop-off

# Furniture: Recycling

## ● Wood furniture

- ❖ Furniture that is stained, painted, or treated with chemicals cannot be recycled as clean wood
- ❖ Manufactured wood (fiberboard, particle board, & plywood) cannot be recycled as clean wood
- ❖ Collect and investigate sending to a C&D recycler

## ● Metal furniture

- ❖ Most communities already collect & recycle metals

## Potential for greater reuse & recycling

- ❖ Promote reuse/repurpose ideas & existing options
- ❖ Hold collection event for donation – need partner
- ❖ Support swapping – shop and/or one-day event
- ❖ Organize fix-it social event
- ❖ Consider sending to C&D recycler
  - Evaluate current transport & disposal costs
  - If furniture removed, disposal transport & costs lower

Determine if you have the time & energy to implement

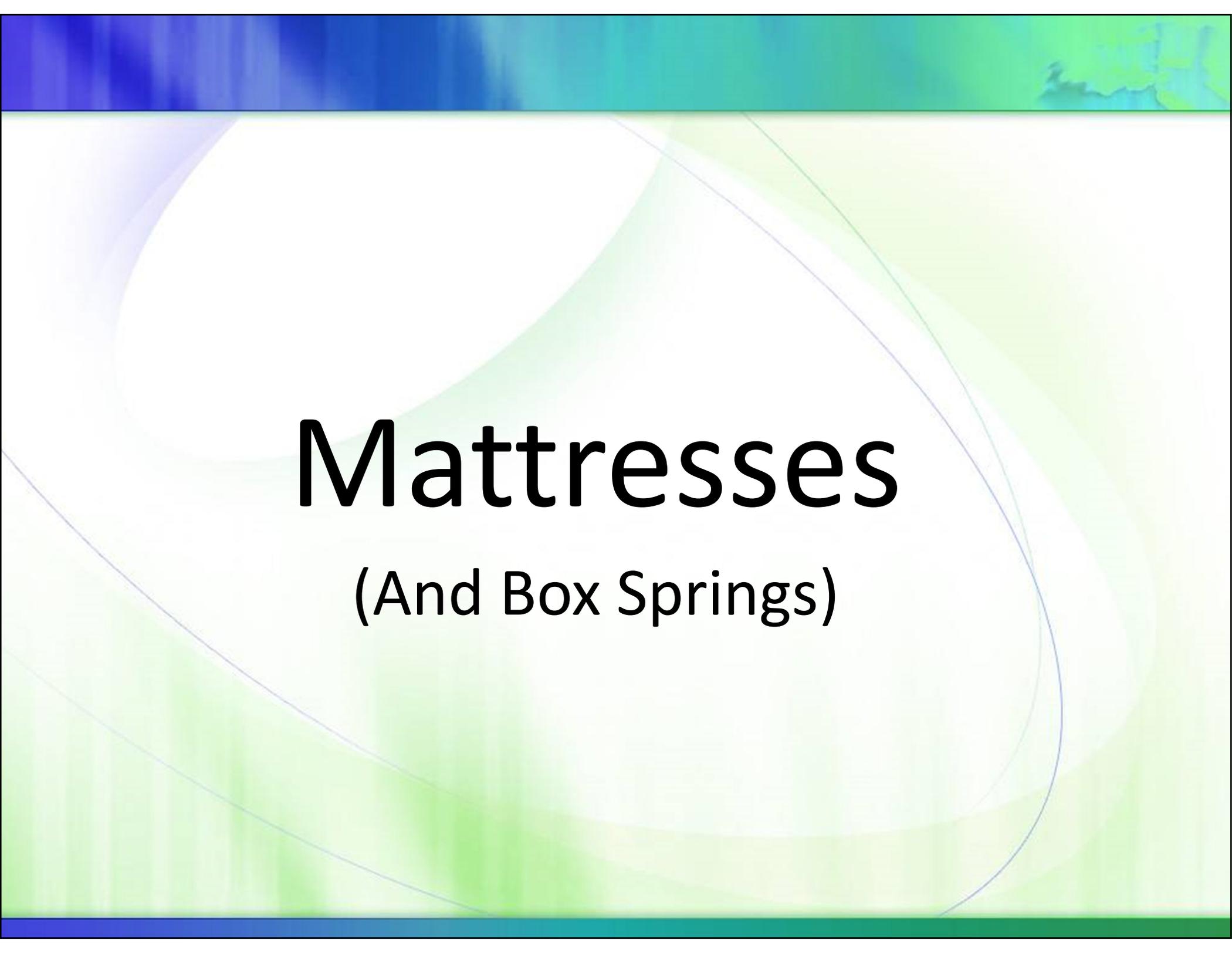
- ❖ Events take a lot of effort to set up the first time or two & might not seem successful
- ❖ But, if community can count on it as an annual or regular option, momentum will build (and the event will be much less work!)

# Feedback Questions

- Current practice in your district?
  - ❖ How many allow drop-off at the transfer station?
  - ❖ How many have curbside pickup?
  - ❖ Special fees for furniture? Different depending on?
  - ❖ What happens to them?
- Thoughts on feasibility of partnering to set up:
  - ❖ Donation collection event?
  - ❖ Annual swap event?
  - ❖ Fix-it event?
- How about:
  - ❖ Setting up a swap shop?
  - ❖ Sending to C&D recycler?



**Break**



# Mattresses

(And Box Springs)

# Mattresses Collected at Facility



# The Problem with Mattresses

- 15-20 million mattresses & box-springs are disposed of each year in the U.S.
- Each occupies about 40 cubic feet of landfill space



# The Problem with Mattresses

- Mattresses are hard to compact, & can easily catch in equipment used in landfill & incinerator operations
- As a result, some disposal facilities require the segregation of mattresses from other solid waste and/or charge an additional fee – this increases costs for communities

# Mattress: Reuse

- Only appropriate for good quality
- Communities can partner with local charity:
  - ❖ Promote donation
  - ❖ Hold a collection event specifically for donation
- Furniture banks:
  - ❖ Serve low income families & individuals moving from shelters, fire, refugee resettlement, domestic violence, etc.
  - ❖ Mattresses are in demand as families generally need more than one bed

# Mattress: Reuse

What about bugs in mattresses?

- ❖ Treatment: heat, cold, CO<sub>2</sub>, or pesticides

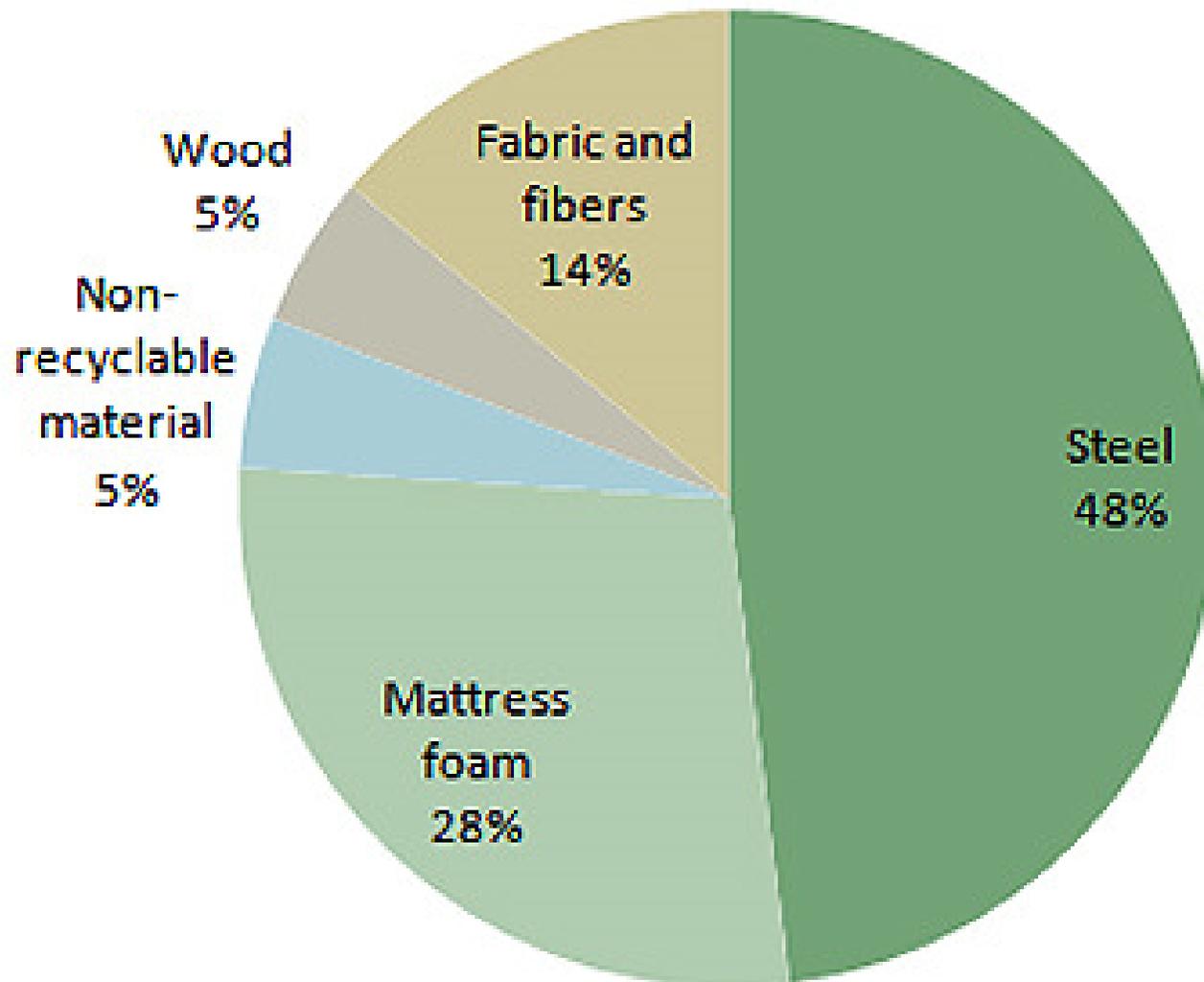


# When to Recycle instead of Donate

- Mattresses that are king sized
- If they are damaged: dry rotted, grossly stained, have bugs, or have broken box springs
- If they have been left outside in the rain
  - ❖ If they do get wet, let them dry naturally before sending to recycler (to reduce weight)

# Mattress: Recycling

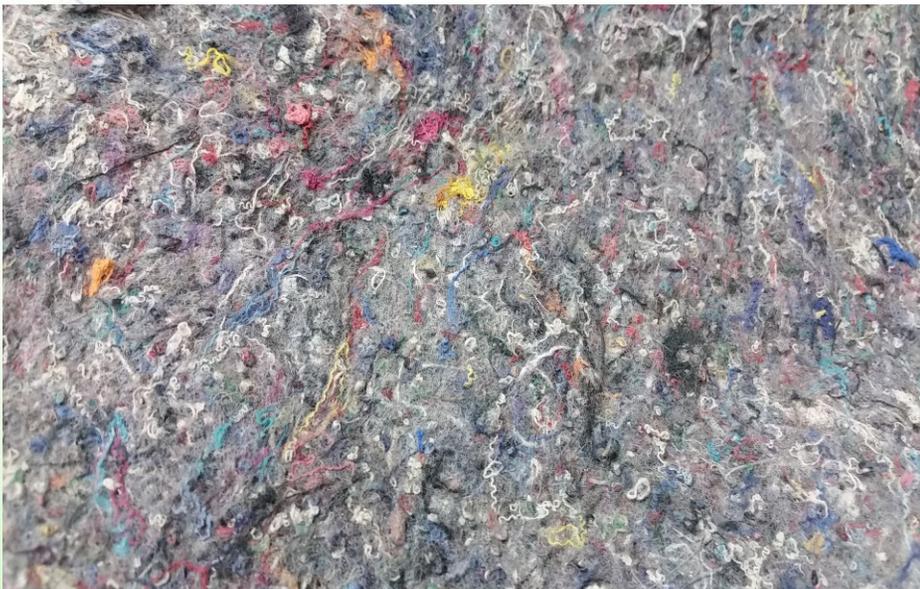
## Mattress Components by Weight



# Mattress: Recycling

- Over 80% of each mattress (by weight) can be recycled into other useful products
- Breaks down into:
  - ❖ Foam or other padding – usually disposed
  - ❖ Fabric materials (cotton, wool, leather) – clothing collection systems handle all textiles ***if clean***
  - ❖ Clean wood (not varnished) – many transfer stations have free drop-off
  - ❖ Metal – many transfer stations have free drop-off

# Mattress: Recycling



# Mattress: Recycling

Communities can promote dismantling



# Mattress: Recycling

Communities can collect & send to recycler

- ❖ Must be kept protected from weather
- ❖ Expense to transport (recyclers in CT, MA, & RI)
- ❖ Recyclers charge fee to accept



# Mattress Recycling



# State Support for Recycling

- MassDEP has a grant program to fund the rental or purchase of a collection container as well as the hauling and processing fees
- Example of municipal collection program
  - ❖ Greenfield, MA



# Manufacturer Support

- **Extended Producer Responsibility (EPR)**
  - ❖ Requires manufacturers to establish a program to collect, transport, & recycle their products
  - ❖ Consumers pay a small fee at the point of purchase to finance end-of-life recycling/disposal costs
- **States with EPR for mattresses**
  - ❖ Connecticut, Rhode Island, & California

# EPR for Mattresses

## Success of Connecticut's EPR Program

- Started in May 2015
- Administered by the Mattress Recycling Council (MRC), with input from the CT DEEP
- An average of 10,000 mattresses per month are now recycled in CT
- More than 90 municipalities participate in program
- Communities report savings thousands of dollars in avoided disposal costs
- Supports 40-50 private sector jobs

- Potential for greater reuse & recycling
  - ❖ Promote existing reuse options
  - ❖ Hold collection event for donation – need partner
  - ❖ Collect & send for recycling – evaluate:
    - Current transportation & disposal costs
    - If mattresses removed, disposal transport & costs lower
    - Collection feasibility – location, container
    - Cost to transport to recycler
    - Recycler tipping fee
- Determine if there is...
  - ❖ Time & energy to change the status quo

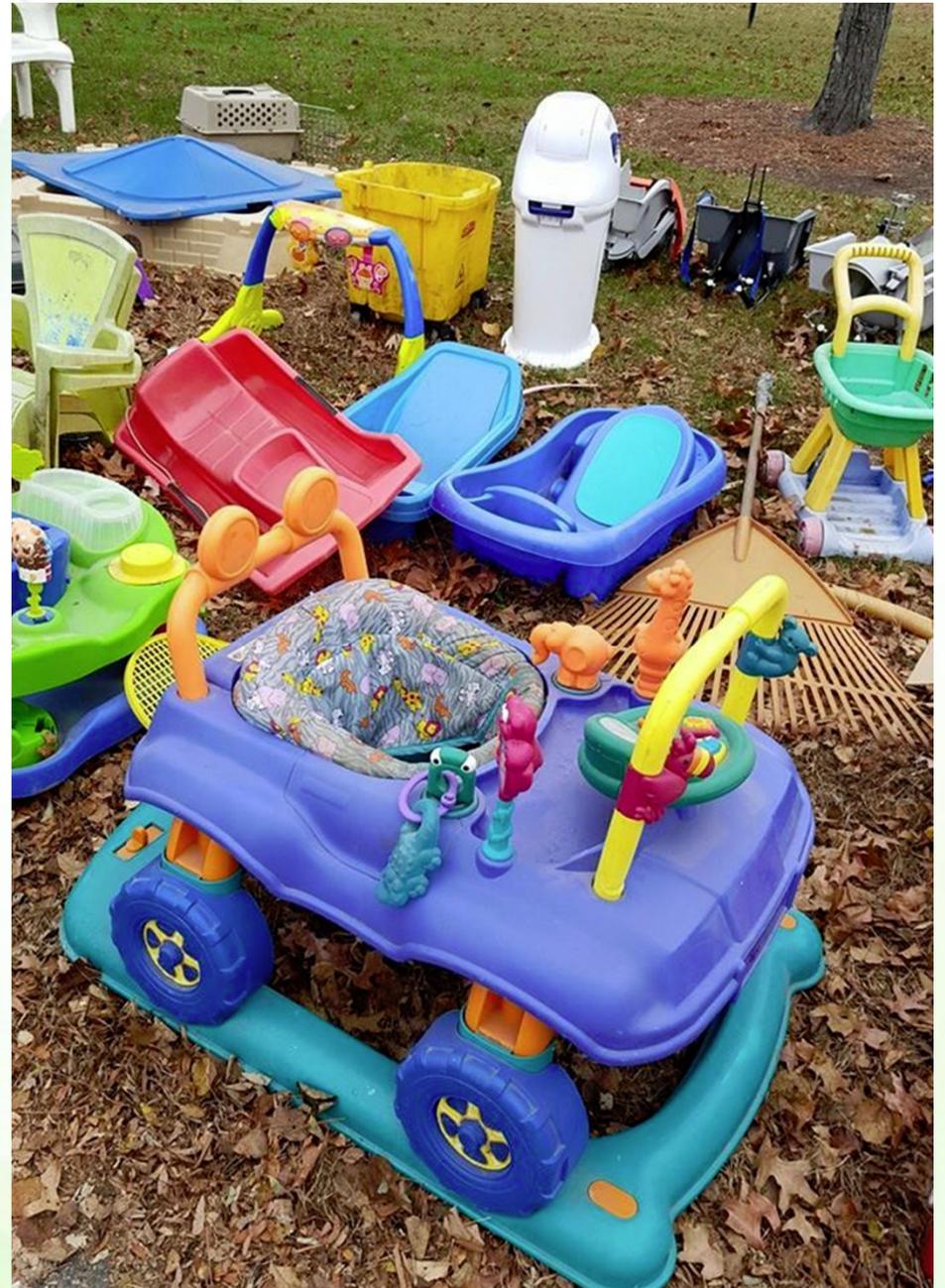
# Feedback Questions

- Current practice in your district?
  - ❖ How many allow drop-off at the transfer station?
  - ❖ How many have curbside pickup?
  - ❖ Special fees?
  - ❖ What happens to them?
- Know of any local reuse options?
- Know of anyone sending mattresses for recycling?
- Thoughts on feasibility of:
  - ❖ Partnering to set up donation collection event?
  - ❖ Collection & transport to recycler?

# Bulky Rigid Plastics

# Rigid Plastics: Reuse

- Appropriate for good quality
- Communities can hold a swap event
  - ❖ Need staff and/or volunteers
    - Partner with local group/business



# Rigid Plastics: Reuse

- Need to move items that remain
  - ❖ Partner with local MRF for recycling, arrange with service like 1-800-Got-Junk (they reuse/recycle!), or dispose
  - ❖ If there is an expense, likely off-set by reduced costs for bulky waste disposal & transport

## Northampton's Reuse Committee's Fall 2015 Bulky Rigid Plastic Collection

Saturday, November 7, 9am-Noon  
Smith Vocational High School



Bring your large, clean, rigid, plastic discards for sharing & recycling!

All collected items will be available to the public free of charge



# Rigid Plastics: Recycling

Communities can sponsor:

- ❖ Ongoing collection at transfer station
  - Whately, MA regional location



# Rigid Plastics: Recycling

- Communities can sponsor a collection event
- Need partnership with MRF
  - ❖ Typically only plastic – remove metal and fabric (e.g. car seats!)
  - ❖ *Current* recycling market weak so might charge fee

## Northampton Reuse Committee's Spring Recycling Rally

Saturday, April 30, 2016 • 9 AM to Noon

Smith Vocational High School 80 Locust Street, Northampton

- 1** → **Bulky Rigid Plastic**  
Nothing flexible or crinkly, no PVC  

- 2** → **Pellet Fuel Bags**  
Must be dirt-free and dry  

- 3** → **White Styrofoam**  
Large white chunks only, Must be rigid, dry & clean  

- 4** → **Bicycles**  
*via Bikes Not Bombs*  
Suggested \$10 per bike donation to offset shipping expenses  

- 5** → **Document Shredding**  
Limit of 2 curbside recycling-sized boxes  


For more info visit [www.northamptonma.gov/reduce-waste](http://www.northamptonma.gov/reduce-waste)  
or call 413-587-1059



# Bottom Line

- Most MRFs will take if you ask
- Fewer collection concerns – can get wet!
- Reuse
  - ❖ Hold community swap event
- Recycle – evaluate:
  - ❖ If your MRF will work with you
  - ❖ One day or ongoing collection
    - Ongoing collection location, container
- Determine if there is...
  - ❖ Time & energy to change status quo

# Feedback Questions

- Current practice in your district?
  - ❖ How many allow drop-off at the transfer station?
  - ❖ How many have curbside pickup?
  - ❖ Special fees?
  - ❖ What happens to them?
- Know of any local reuse options?
- Know of anyone sending large plastics for recycling?
- Thoughts on feasibility of:
  - ❖ Holding a swap event?
  - ❖ Collection & transport to MRF for recycling?



# Conclusions

# How Communities Can Facilitate Reuse of Bulky Items

- Partner with specific charity organization(s) and hold collection event for donation
- Add containers at transfer station dedicated to specific charity organizations that will pick up when filled
- Add a swap shop at their transfer station
- Host a reuse event, such as a yard sale, swap, or zero waste event

# How Communities Can Facilitate Recycling of Bulky Items

- Add dedicated container(s) at their transfer station
- Host collection event(s)
- Remember – for all reuse/recycling events:
  - ❖ Might take a lot of effort to set up the first time or two & not seem successful
  - ❖ But if community can count on it – they will build (and be much less work each time!)

# Promoting Community Reuse & Recycling Activities

- Include an insert in regular town mailings, such as tax bills, utility bills, & other communications about solid waste and HHW management
- Distribute a flyer at HHW collection and/or other community events
- Place announcements in the local newspaper

# Promoting Community Reuse & Recycling Activities

- Put up posters on local community bulletin boards
- Provide contractors, realtors, & others with lists of local facilities that accept good quality furniture & other bulky items for reuse or donation
- Post information on the town's website, Facebook page, & other social media platforms

# Zero Waste Connection

## A Professional Social Network

### Mission & Goals

- Promote sustainable consumption and pollution prevention as the preferred methods of achieving zero waste
- Provide forums for zero waste professionals to share information on program development and implementation
- Foster innovation in zero waste programs through the exchange of ideas in real time
- Increase the adoption of zero waste practices among practitioners
- [www.zerowasteconnection.org](http://www.zerowasteconnection.org)

# Questions?

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