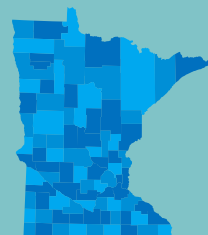


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Building Materials Focus Groups

This report summarizes the input and experiences shared by Minnesota construction and demolition contractors, haulers of building materials, and retailers of reusable materials. These stakeholders were volunteer participants in the MPCA's Building Material Focus Groups in 2021.



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Contents

- Introduction..... 1**
 - Background..... 1
 - Focus group overview 1
- Focus group findings..... 2**
 - Cross-sector themes..... 2
 - Advice to the MPCA..... 3
 - Process recommendation..... 4
- Appendix A: Focus group and interview questions 5**
 - Contractor questions..... 5
 - Hauler questions 6
 - Retailer questions..... 8
- Appendix B: Sector themes..... 10**
 - Contractor themes 10
 - Hauler themes..... 13
 - Retailer themes 15

Introduction

Background

The Minnesota Pollution Control Agency (MPCA) is developing strategies and programming to improve the sustainability of the state's building sector, given its significant environmental impact. These efforts have involved connecting with a range of stakeholders, including architects and designers, preservation specialists, reuse retailers, contractors, material and waste haulers, landfill operators, recyclers, and government units.

In an effort to better understand current management practices for building materials throughout the state, the MPCA conducted a study on the composition of construction and demolition (C&D) materials disposed of at solid waste facilities with C&D disposal areas.

To gain additional knowledge of the sustainable building sector and help identify gaps related to policies and practices, the MPCA also engaged three stakeholder sectors. The stakeholders included C&D contractors, haulers of building materials, and retailers of reusable building materials. The MPCA invited sector representatives to participate in focus groups and individual interviews. The purpose was to understand how materials flow within the building material management system, the amount of materials already being recycled, reused, and/or repurposed, and the mechanisms and processes used for recycling, reusing, and repurposing materials.

Focus group overview

The MPCA convened sector-specific focus groups and conducted individual interviews. A total of 23 individuals participated from April 12 through June 3, 2021.

Table 1. Number of participants by sector

Sector	Number
C&D contractors	9
Haulers of building materials	8
Retailer of reused materials	6

Methodology

The MPCA put out a call for focus group and interview participants through agency and partner communication channels. The names and contact information for interested parties were shared with Management Analysis and Development (MAD). MAD scheduled the sessions by sending Doodle polls to each sector list to find dates that worked for the largest number of participants. MAD also convened and facilitated the focus groups and interviews.

Participants received definitions and questions before the focus group session and interview so they could review and consider their answers in advance. The definitions and questions are recorded in Appendix A.

Focus group findings

Cross-sector themes

The following section describes the shared themes discussed across the three sectors. The complete list of themes from each sector-specific discussion are provided in Appendix B.

Themes and comments throughout this report are documented as stated by focus group participants to authentically capture the conversation and viewpoints. As a result, additional research was not performed and the comments were not altered by the report authors or the MPCA.

All three sectors believe contractors are recycling and reusing materials when possible. The main drivers of material reuse and recycling, as shared by participants, include:

- Structural integrity and overall value of the material.
 - Most high-quality, reusable materials are found in older buildings (pre-1900). Reuse depends on the quality and monetary value of the material to determine whether it is worth salvaging, storing, and selling. In addition to monetary value, reused wood material must provide a level of structural support necessary for the next project, as required by Minnesota and local building codes.
- An information-sharing network composed of contractors, haulers, and retailers to salvage/deconstruct, track, store, and sell materials.
 - Many of the participants mentioned the need to develop an information network to market and manage available materials with each other, businesses, and the general public. Currently, information on available building materials is shared via word-of-mouth.
 - Participants would like to see a more formalized network to manage materials for reuse, recycling, or repurposing.
- Infrastructure to store building materials and items for reuse and/or repurposing.
 - In addition to an information-sharing network, participants pointed to a need for well-run facilities that are able to warehouse and sell materials. They would like to see this approach expanded to create infrastructure that manages materials across the state, with special consideration given to rural areas' needs. More specifically, participants in Greater Minnesota said they need facilities that are located within a reasonable driving distance, so driving time and fuel costs make recycling worthwhile.
 - When asked if the State of Minnesota should manage brick and mortar warehouses, many participants shared their concern that a state-managed system would put the state in competition with retailers.
- Clients' project budget.
 - Reuse of materials and items onsite from remodeling projects can help bring down client costs, because it reduces the need for purchasing and installing additional materials. However, the cost of salvaging items from a different project site to sell to retailers or for the contractor to use elsewhere, can actually exceed the value of those materials and increase overall costs.
- Clients' environmental values.
 - Contractors mentioned that there is a small population of clients that have a large enough budget, a belief in the environmental benefit of reuse and recycling, and are willing to pay others to take the time to salvage, sort, and store materials.

- Ease of sorting, salvaging, storing, and transporting the material/items.
 - Contractors explained how their ability to reuse, recycle, or repurpose building materials depends on how easy it is to deconstruct, sort, and haul away building materials at a project site. Having the space onsite to sort materials into material specific dumpsters can be very difficult to accomplish, especially in population-dense municipalities. Having single-sort dumpsters that do not require sorting onsite is the easiest option but requires access to haulers that can transport the material to a facility for recycling.
- Reliable end markets for recycling building materials.
 - Most of the participants mentioned that end markets are key to the amount of material recycled. If there are not high-paying or convenient end markets, there is little economic reason to properly remove, sort, reuse, or recycle building materials, unless the building is pursuing Leadership in Energy and Environmental Design (LEED) certification.
 - Haulers in particular mentioned the stability of end markets that are state-driven. An example would be the recycling of concrete. A large amount of concrete is recycled because the Minnesota Department of Transportation (MnDOT) consistently uses it as roadbed material.
- Data to accurately describe the amount of building materials diverted through reuse, recycling, and repurposing.
 - When asked how often building materials are diverted through reuse, recycling, and repurposing, participants pointed to the poor availability of data. This data is currently tracked by a couple of hauling companies, a few contractors' waste management plans, and/or contractors overseeing projects seeking LEED building certification.
 - Some participants mentioned that data collection needs to start with contractors. Contractors have many ways to manage building materials. They may sort onsite, contract for a roll off box, contract with a salvaging company to remove the materials or contract with a hauler that may or may not offer single sort dumpsters.
 - Without an expectation for contractors to track and record the data, participants believe it will be difficult to describe the amount of building materials diverted through reuse, recycling and repurposing. One example where accurate data is seen as lacking is the amount of recycled concrete. The haulers believe they are not getting the credit they deserve for all the concrete recycled or used for aggregate.

Advice to the MPCA

At the end of each conversation, participants were asked “What advice would you give the MPCA to increase the percentage of all reused and recycled building materials in your area?” The following responses are broken down by sector.

1. Contractors

- Increase the number of reuse retailers and recycling facilities for ease of managing materials (commercial and residential).
- Warehouse reusable materials and make them available to contractors and the public.
- Create an incentive program, because that would move the needle significantly on the number of people using reused materials.
- Look upstream and challenge product manufacturers to think of new ways to support deconstruction practices.

2. Haulers

- Consider selective requirements to deconstruct where it makes sense. For example, focus on older buildings that have quality materials rather than all buildings.
- Create realistic goals. Do not impose requirements that cause an undue burden or are unattainable.

3. Retailers

- Convene conversations with the industry to talk about reuse, and exchange ideas on how to increase it and find long-term solutions.
- Facilitate connections within the ecosystem of reuse and recycling of materials for other benefits beyond economic. An example is taking the time to salvage materials because it is the right thing to do when it is cheaper to demolish and put in a landfill.
- Offer financial incentives to offset the burden associated with the time to remove and reuse materials.
- Share success stories of what worked and the benefits of reusing materials.
- Make reuse cool!

Process recommendation

MAD recommends the MPCA engage additional C&D contractors, haulers of construction building materials, and retailers of reused materials in the construction off-season to verify and collect additional input on how to increase statewide sustainable management of building materials.

Appendix A: Focus group and interview questions

Definitions

Definitions were shared with the participants before the focus group or interview to create a common understanding. Some or all of the definitions were shared depending on the sector. The definitions used were:

- **C&D materials:** material produced in the process of construction, renovation, demolition, or deconstruction of structures. Structures include buildings of all types (both residential and nonresidential) as well as roads and bridges. Components of C&D materials typically include concrete, asphalt, wood, metals, gypsum wallboard, and roofing. Land clearing debris, such as stumps, rocks, and dirt, may also be included.
- **Reuse:** continued use or repurposing of products or materials in their original form without processing (includes donation of items to partners that facilitate reuse). Reuse can be done within an organization (reincorporating in the same job site or another job site), through resale, or by distributing materials for free through donation centers.
- **Recycling:** processing (destroying) products or materials into a primary, stock material that can be used to manufacture a new product in place of virgin materials. Materials intended to be recycled will typically go to a recycler that will sort and transfer the materials, or they may go directly to an end market where the material is used for new production.
- **Disposal:** end-of-use management of materials, typically referring to landfilling or on-site burying or burning.

Contractor questions

1. Please introduce yourself and tell us:
 - a. What type of contracting you do (prompts: construction, renovation, demolition, deconstruction, sub-contracted for specific work [electrical, roofing, carpentry, etc.]).
 - b. What types of buildings you work on (prompts: multi-family, single-family, industrial, other).
 - c. How long you have been doing this work.
 - d. What part of the state you serve?

Reuse

2. What construction or renovation materials do you reuse in projects? (prompts: cabinets, doors, fixtures, windows, etc.).
3. Where do you get these materials? (prompts: from other projects, a warehouse your company manages, purchase from another distributor/retailer).
4. Under what conditions does your organization reuse items in its construction or renovation projects? (prompts: when customers required it, when it is cheaper, when you have left over/surplus material).
 - a. How often would you say you reuse materials onsite or at another project? (prompts: I don't, Once in a while, half of the time, often).
5. When does it make sense for you to sell/donate/give construction or renovation building materials to other organizations for reuse? How often does it happen? (prompts: Once in a while, half of the time, often).

6. How do you make materials available for others to reuse?
7. If you don't currently use reused materials, what conditions would make it easier for you to reuse construction or renovation building materials?
8. What are the biggest challenges you experience in reusing construction or renovation building materials?

Recycling

9. What materials, if any, from your projects are sorted for recycling?
10. Where does the sorted material go? (prompts: recycler or straight to an end market where it is manufactured into a new product).
11. If you do recycle, what makes the time and effort of recycling worth it for you?
12. What makes it difficult to recycle? (prompts: knowing what is recyclable, space, number of dumpsters, demand for the material).

Sustainable Building Group recommendations

Starting in the fall of 2019, the MPCA convened a yearlong stakeholder group. The Sustainable Building Group (SBG) worked to develop recommendations for reducing the environmental impacts of the full building system in Minnesota, prioritizing activities and strategies that aim to extend the useful life of existing buildings and materials.

13. The Sustainable Building group (SBG), made up of multiple stakeholders including contractors, came up with the following recommendations. From your perspective, what will it take for these recommendations to be successful?
 - a. through c. are priority**
 - a. Establish a statewide, state-funded deconstruction training program that accompanies deconstruction and demolition licensing
 - b. Create a statewide grant program for building preservation projects
 - c. Create a statewide rebate program for reused building materials in new building construction and renovation projects
 - d. Create three tiers of deconstruction ordinance templates that cities/counties can select from and adopt
 - e. Implement a statewide diversion requirement for C&D waste for new construction, additions, renovations, and building removal
14. How would you improve the building material management system so we keep more building materials out of landfills?

Wrap-up

15. Is there anything else you think we should know?

Hauler questions

1. Please introduce yourself and tell us:
 - a. What part of the state do you provide hauling services?
 - b. How long you have been doing this work?

2. Would someone be willing to walk us through your process of collecting materials, transporting materials, and determining material destination?
 - a. How is that similar or different for you?
 - b. When you contract a dumpster, what determines when you pick it up? (time or when it is full or both?).
 - c. How do you decide where it goes?

Materials and system flow

3. What activities are the primary source of C&D materials that you collect and/or haul? (prompts: new construction, renovations and remodeling, demolition deconstruction, preservation, and restoration).
4. If you had to estimate what % of your total C&D materials hauled are disposed, recycled, and reused, what %age would you estimate for each?
5. In your opinion, what factors are driving these %ages in your area? (prompts: distance to disposal sites, low demand for recycled or reuse materials).

Recycling

6. If you haul recyclable C&D materials, what materials are being recycled the most? Why do you think that is?
7. What end markets are taking C&D materials in your area? (please be generic, we don't want you to give up any confidences by naming names)
8. From your perspective, what makes it easy for your customers to sort and recycle?
9. What limits your customers' ability to recycle C&D materials?
10. What advice would you give the MPCA to increase the recycling %age of all C&D materials for your area [in Minnesota]?

Reuse

11. From your perspective, what would encourage your customers to increase their capture of used C&D materials rather than putting it into a dumpster? (prompts: save money, retail location, online market)
12. What are your thoughts on working with the building contractor on providing a separate container or service to "harvest" items from the building for reuse?
 - a. What would make it easier?
 - b. What prevents it from happening?
13. What advice would you give the MPCA to increase the percentage of all reused C&D materials in your area?

SBG recommendations

Starting in the fall of 2019, the MPCA convened a yearlong stakeholder group. The Sustainable Building Group (SBG) worked to develop recommendations for reducing the environmental impacts of the full building system in Minnesota, prioritizing activities and strategies that aim to extend the useful life of existing buildings and materials.

14. The Sustainable Building group (SBG), made up of multiple stakeholders including haulers, came up with the following recommendations. From your perspective, what will it take for these recommendations to be successful?

a. and b. are priority

- a. Create three tiers of deconstruction ordinance templates that cities/counties can select from and adopt
- b. Implement a statewide diversion requirement for C&D waste for new construction, additions, renovations, and building removal
- c. Establish a statewide, state-funded deconstruction training program that accompanies deconstruction and demolition licensing
- d. Create a statewide grant program for building preservation projects
- e. Create a statewide rebate program for reused building materials in new building construction and renovation projects

Wrap-up

15. Is there anything else you think we should know?

Retailer questions

1. Please introduce yourself and your business.
 - a. What type of building material retailer are you (For-profit Retailer, Non-profit, or Donation Center).
 - b. How do you operate (Brick and mortar store / Online with website).
 - c. What part of the state do you serve?

Reuse

2. Please describe the products that make up your used building materials and/or surplus materials inventory.
3. Which products have the highest and lowest demand?
4. What trends have you noticed about demand over the past 5 years?
5. What has contributed to those trend(s)? (Follow up question if time: How has COVID-19 affected demand?)
6. How do you manage the used building materials and/or surplus materials that you don't sell or distribute?
7. Who supplies most of your used building materials and/or surplus materials inventory? (For example, Construction Companies, Independent (small) Contractors, Building Material Retailers (corporate), Building Material Retailers (independent), Residents).
8. Who makes up most of your customer base for used building materials and/or surplus materials? (Construction Companies, Individual Consumers, architects, Other Resale Retailers).
9. What barriers do you face with sourcing, storing, and resale of used building materials and/or surplus materials?
10. What are your reactions to the idea of a state-run warehouse where you could "shop" for additional items to incorporate in your inventory?

11. What advice would you give the MPCA to increase the percentage of all reused building materials in your area?

SBG recommendations

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- e. Implement a statewide diversion requirement for C&D waste for new construction, additions, renovations, and building removal

Wrap-up

13. Is there anything else you think we should know?

Appendix B: Sector themes

Contractor themes

Reuse

What is reused now and how?

The types of materials reused differ based on the type of construction. On renovation projects, materials can be reused within the same project. In building deconstruction, materials of the building can be salvaged for reuse on other projects, sold, or donated.

- Renovations: Doors, frames, casework, cabinets, and commercial kitchen equipment.
- Demolition: Exterior brick, metal framing, lumber.

What drives reuse?

- The cost of the material drives whether it is reused or not.
- In the case of remodeling, materials are reused if it reduces the client's costs.
- Client interests and values, especially when they are aligned with sustainable building guidelines or historic renovations.

How much?

- A contractor specializing in exteriors estimated they reuse materials 15% of the time. Most of the reuse occurs in their decking jobs.
- A contractor that does a lot of government and commercial work estimated 75% of their projects reuse something, but the amount of reuse depends on the building; quality and quantity of materials harvested from deconstructing the building.
- A general contractor commented that it really depends on the age of the building. The amount of reuse of materials from new buildings is lower.
- A contractor that does commercial work estimated they reuse some materials on 15–20% of their projects.

What makes it easy/hard?

Easy

- It makes sense to consider reusing some building materials when the building is pre-1900.
- A third-party group comes in to salvage materials and store in their own warehouse. It reduces the demolition costs and reduces the need for more dumpsters.
- Having a third party organization to warehouse the material, and market the materials to the public for reuse, like the University of Minnesota Reuse Center [does for campus-wide purposes and public sales].

Hard

- Resale value of used materials makes it hard to offset deconstruction costs.
- Difficult to find a buyer/user for the high volume of material generated in commercial demolition projects.
- The current communication strategy of what people have to offer is word of mouth.
- The time it takes to remove materials to be reused, e.g., oak or maple flooring.
- Newer houses are constructed with lower quality lumber.

- When it is easier to use new materials due to non-standardization, e.g., various locations of door hinges or hardware.
- The time it takes to think of new ways to reconstruct using old materials, e.g., reuse a wood door as countertop.
- The structural integrity of some reused materials, e.g., nails and pouring concrete with recycled aggregate.

Recycling

What is recycled now and how?

Participants recycle the following materials:

- Aluminum, steel, and copper.
- Asphalt and concrete.
- Cardboard (only if they have a certain quantity).
 - For some projects, recyclable materials are collected and dumped into a single-sort dumpster that is hauled to a third party for sorting and processing.
 - Some jobs may have on-site sorting. If that is the case, contractors label the dumpsters for the material for recycling. An on-site dumpster requires adequate space, worker training, and labor to sort and remove any materials that may contaminate the contents.
 - Some contractors believe recycling is the standard and sending materials to the landfill is frowned upon.

What makes it easy/hard?

Easy

- Single-sort dumpsters that are hauled to a third party for sorting and processing.

Hard

- Getting recycling data. If contractors are required to have a building waste management plan, they would find it difficult to track recycled material to find out where it went.
- Finding rural organizations that choose to recycle rather than bring to a landfill.
- Difficult to sort on-site and not taint recycling materials.
- It comes down to whether there is demand for the material. There is not a demand for Sheetrock or Styrofoam.

How much?

- One of the contractors provides an environmental impact report for deconstruction projects and finds it difficult to track down how much is recycled.
- One contractor said their company has a 75% goal to keep materials out of landfills.

Rural

- A couple of contractors commented on local individuals and organizations that reached out to them to repurpose demolition materials.

End markets

- Concrete and steel have reliable end markets. The value of these materials drives the repurposing of them. Concrete is crushed and sold as recycled concrete to be used in road construction and other applications. The price point of steel makes it cost-effective to melt down and reuse.

- Contractors identified the need to create end markets for the following materials:
 - Clay bricks
 - Sheetrock
 - Styrofoam
- One of the contractors commented on MnDOT’s material standards for construction fill and asked why crushed clay bricks are not allowed to be reused.

SBG recommendations

Starting in the fall of 2019, the MPCA convened a year-long stakeholder group. The Sustainable Building Group (SBG) worked to develop recommendations for reducing the environmental impacts of the full building system in Minnesota, prioritizing activities and strategies that aim to extend the useful life of existing buildings and materials.

The SBG, made up of multiple stakeholders including contractors, came up with the following recommendations. Participants shared their insights on how to make the SBG recommendations successful.

Establish a statewide, state-funded deconstruction training program that accompanies deconstruction and demolition licensing.

- Partner with trade associations and/or unions to make the training accessible across the state.
- Market the training to understand how it benefits the environment and that it results in a deconstruction certification.
- Cover wages to attend.
- Smaller contractors may find it difficult to pull workers off a job for training.

Create a statewide grant program for building preservation projects.

- Make the program intuitive and streamlined so it does not hold up the project or eat into the budget.
- Consider the type and scale of rural projects when determining which buildings qualify as preservation projects.
- Renew the MN historic rehabilitation tax credit.

Create a statewide rebate program for reused building materials in new building construction and renovation projects.

- Consider how to measure and track reused materials.
- Consider the unintended consequence of driving the use of substandard building materials to maximize the incentive.

Create three tiers of deconstruction ordinance templates that cities/counties can select from and adopt.

- Consider what would make this functional for rural and urban settings.
- Too much regulation may inhibit contractors from working in some jurisdictions.
- Coordinate the governance between state agencies and local governments so there is one point of contact rather than three.

Implement a statewide diversion requirement for C&D waste for new construction, additions, renovations, and building removal.

- Need infrastructure in outstate rural areas to offset the distance to transport materials.

- Create zones and infrastructure to get materials to available markets for recycling.

Advice to the MPCA

- More recycling and reuse facilities for ease of transporting and depositing of materials (commercial and residential).
- Warehouse reusable materials and make them available to contractors and do-it-yourselfers (DIYers).
- An incentive program would move the needle significantly on the number of people using reused materials.
- Look upstream and challenge product manufacturers to think of new ways to support deconstruction practices.

Hauler themes

Recycling

What is recycled now and how?

Factors in whether a contractor has source-separated dumpsters onsite:

- Contractors prefer single dumpsters because it reduces hauling costs.
- Contractors may not have room onsite for multiple, source-separated material dumpsters.
- There are labor costs to separating materials into multiple dumpsters.
 - A hauling company had a sort line at their facility, but the cost of labor and equipment ultimately led to them stopping that practice. They do some sorting still but not like other companies, such as Atomic Recycling.
 - In the metro, there are a couple of companies that provide sorting of single-sort dumpsters. But in Greater Minnesota there are no options.
- One company in Greater Minnesota said they only recycle concrete, steel, and shingles. There are no options for other materials to recycle.
 - Landfills may pull out concrete and metal for recycling.
 - If a dumpster has mostly or all concrete or some other valuable material, the hauler will likely take it directly to a recycling place, and not to a landfill, where it gets sorted for recycling. If there is going to be a substantial amount of material, a contractor may hire semi-tractor trailers to load material into directly and then haul to the end facility, rather than using a dumpster at all.
 - Wood, sheetrock, carpeting, ceiling tiles, and similar items are labor-intensive to remove and do not have strong end markets.
 - Commercial buildings that are made mostly of concrete and steel are easier to recycle than residential homes that are made mostly of wood.

End markets

End markets are a key component. If there is not a high-paying end market, there is little reason to spend more—if it costs more—to properly remove something, sort it, reuse and/or recycle it, unless the building is pursuing LEED certification. People want to recycle but only if it's cost-effective to do so. According to one hauler, even if someone built a material recovery facility (MRF) within the Duluth area, unless the end markets are there, there is nowhere to take the separated material besides the landfill.

- **Shingles:** There used to be an end market but not anymore. Those materials now go to a landfill. Haulers would like help getting the MnDOT specs used on state, county, and city road projects .
- **Brick:** There is not a great end market. Haulers asked MPCA to work with MnDOT to allow crushed brick into MnDOT projects.
- **Wood:** It is all over the place. Places used to pelletize it for wood-burning stoves and kitty litter, but that market is now gone.
- **Metal:** Relatively stable end market, but steel prices fluctuate.
- **Concrete:** Relatively stable end market, but places are more often calling for virgin materials now instead of recycled concrete. Can be tricky to recycle if it has insulation glued to it.
- **Sheetrock:** Only new Sheetrock can be recycled.

Data

Haulers suggested MPCA collect more data from contractors; they stated that they believe there are unlicensed haulers in the state who are not reporting to the MPCA. Contractors know where all their waste goes, to an extent, whereas individual haulers only know the parts they take away. If the contractor has separate dumpsters for metal or concrete hauled by another company to a recycling facility, a hauler hired for landfill waste will not know those numbers. The contractors are also the only ones who know how much reuse companies, like Bauer Brothers Inc., remove from a site prior to deconstruction or demolition. They also are able to report if they crush and reuse concrete on-site, for example.

How much

Two metro companies who do sort their materials said they recycle about 25% of concrete, 5–10% of wood and metal, and 1% of cardboard. A statewide contractor-hauler that mostly works on commercial buildings said they recycle 75% of their waste. A Greater Minnesota hauler said that with limited end markets, they only recycle about 5% of materials.

What makes it easy/hard?

Easy

- Single-sort dumpsters hauled by companies that sort it for people make it easy.

Hard

- Materials such as plastic, sheet flooring, and ceilings were not designed to be recycled.
- Not having facilities for sorting materials nearby makes recycling difficult. That requires sorting on-site instead, which adds to costs.
- Sorting and recycling can take longer than throwing everything into one dumpster, and some contractors prioritize speed.
- Most recovered wood cannot be reused per building codes—for instance, it can't be reused if it has a (nail) hole in it. Engineers often won't sign off on reusing some building materials because they don't meet current codes or specs.
- Buildings constructed after 1970 largely don't have things worth salvaging and are harder to recycle because of the quality of materials and how people started building houses.
- There is a limited end market for salvaged materials by Bauer Brothers Inc. They can only sell so many hutches and claw foot tubs.

SBG Recommendations

Starting in the fall of 2019, the MPCA convened a year-long stakeholder group. The Sustainable Building Group (SBG) worked to develop recommendations for reducing the environmental impacts of the full building system in Minnesota, prioritizing activities and strategies that aim to extend the useful life of existing buildings and materials.

The Sustainable Building group (SBG), made up of multiple stakeholders including contractors, came up with the following recommendations. Participants shared their insights on how to make the SBG recommendations successful.

Establish a statewide, state-funded deconstruction training program that accompanies deconstruction and demolition licensing

- A few haulers believed the skillset to do this work already exists. One said the training program is unnecessary and that contractors can already do this work.

Create three tiers of deconstruction ordinance templates that cities/counties can select from and adopt

- Haulers expressed concern about moving to a broader ordinance instead of treating every project individually. The type of building—commercial or residential—and the age of the building are factors that contribute to how much material can be reused or recycled from it. They said residential homes will likely never meet recycling or reuse requirements, depending on where the requirement is set, and that enforcement would be a challenge. Haulers added that there needs to be an incentive to make this idea work.
- One hauler described an ordinance structure where contractors pay a deposit up-front and get a deposit back when they meet the requirements. They believed this only benefitted the companies who were already recycling, and increased costs for everyone else without increasing the amount of recovered materials.

Advice to the MPCA

- Consider selective requirements to deconstruct where it makes sense—for example, in older buildings that have quality materials—not across the board.
- Goals need to be realistic.
- Demolition contractors are very savvy. In this tight market, they are most likely reusing or recycling materials as much as possible.

Retailer themes

Reuse

What is currently being reused?

- Lighting fixtures
- Architectural materials: built-ins, mantles, etc.
- Vertical barn siding
- Pallets
- Appliances
- Kitchen cabinets
- Bathroom vanities

- Doors
- Windows
- Cabinets

Who reuses materials?

- Homeowners (they make up most of their customer base)
- Contractors
- Staging companies
- Restaurant chains (in the case of reused barnwood)

What drives reuse?

- The way materials are displayed. Attractively displaying a 10-year-old kitchen cabinet set makes a huge difference in the amount and time of sale. One retailer hired a person just to display their inventory in their store.
- Advertising every product online and in-store.
- Having sales on certain inventory items or categories, i.e., lighting fixtures.
- In “do it yourself” (DIY) projects, reuse of materials, even when sourced from a different project or retailer, can reduce overall costs compared to buying new.
- Collaborating with other sellers, brokers, and businesses to acquire materials, e.g., fencing seller that had nine pallets of cedar posts.
- The type of item donated.
 - Furniture is the easiest thing to get and the biggest seller.
 - Specialty items such as cedar posts generate a lot of interest and sell.
- People spending more time at home due to the pandemic. They want to make it more livable, workable, and pleasing to the eye.
- Home buyers staging their homes are looking for cheaper materials, i.e., lighting fixtures
- People decluttering their homes.
- Finding new ways to repurpose building materials. An example is marble sinks—people do not want to reuse them. Perhaps marble sinks could be crushed into landscape rock.
 - DIY shows on television inspire viewers to reuse items in the same or new ways.

How much?

- 75% of donations come from individuals.
- 25% of donations are from businesses, i.e., contractors, building retail companies (ex: Lowe’s, Home Depot), and building suppliers (Dakota County Lumber).

What makes it easy/hard?

Easy

- Having a network to share what is available and maximizing available space to warehouse materials.
- Materials that are built to last. Consider how manufacturers can be encouraged to make things that are built to last, i.e., worth trading or can reuse multiple times.

Hard

- When there is not enough storage or demand to reuse large volumes of materials. An example is office furniture (cube dividers, chairs, desks) from organizations. As people work from home during the pandemic, organizations reconfigured and reduced their office space, resulting in tons of office chairs. Most of the chairs were either landfilled or scrapped for the metal.

- Time. Most retailers have a time frame to sell materials or items since more materials are coming in. Once the time frame has passed, they look at what can be salvaged. If it cannot be salvaged, it is put into the dumpster.
- Economic factors that play into supply and demand, too much or not enough items in demand, inflationary costs of certain materials (wood), and the housing market.
- The rising cost (shipping and transportation) of getting materials to the buyer.
- Style trends that generate a lot of old materials no one wants.

Recycling

What is recycled?

- Metals
- Cardboard

What makes it easy?

- Using a hauler that has recycling built into their business model, i.e., Atomic Recycling or Dem-Con.

State-run warehouse

- Consider if it would need to be online. Online would require organizations to store the material themselves.
- Consider how and what materials the state would receive and sell.
- The distance to travel to a warehouse makes a difference in deciding if the material is worth it.
- Consider how the material fits into the market. If it is done well and offered to the general public, it would become competition to the for-profit organizations.
- Consider the financial implications of storing materials that do not sell.

SBG recommendations

Starting in the fall of 2019, the MPCA convened a year-long stakeholder group. The Sustainable Building Group (SBG) worked to develop recommendations for reducing the environmental impacts of the full building system in Minnesota, prioritizing activities and strategies that aim to extend the useful life of existing buildings and materials.

The SBG, made up of multiple stakeholders including contractors, came up with the following recommendations. Participants shared their insights on how to make the SBG recommendations successful.

Establish a statewide, state-funded deconstruction training program that accompanies deconstruction and demolition licensing.

- Focus on the goals of increasing knowledge and creating savings. Anything restrictive will harm the goals.

Create a statewide grant program for building preservation projects.

- Award grant funding that overcomes the financial savings of throwing materials away.
- Include large-scale, historically significant buildings and individual homes.
- Engage stakeholders in what would make the most sense. Include business in problem solving so they take more ownership of the process.

Advice to the MPCA

- Convene conversations to talk about reuse and exchange ideas and work on finding long-term solutions.
- Facilitate connections within the ecosystem of reuse and recycling of materials for other benefits beyond economic purposes. An example is taking the time to salvage materials because it is the right thing to do when it is perceived to be cheaper to demolish a building and put the building materials into a landfill.
- Need financial incentives to offset the burden associated with the time to remove.
- Share success stories of what worked and the benefits of reusing materials.
- Make reuse cool!