

1998



Preservation - Building is preserved as is , or moved or disassembled and rebuilt as is.

- Conservation – Building is partially or fully disassembled and the components reused for:
 - Use in other historic buildings
 - Used “as is” for different applications
 - Remanufactured into something else
- Demolition – Mostly, NO

Demolition

Demolition is Non-participatory and Wasteful, With Fewer Jobs. But it is Quick and “Easy”, Because Costs are Externalized.



Portland's Deconstruction Regs

- All single-dwelling structures (houses and duplexes) in all zones are subject to the Deconstruction Ordinance if:
 - The structure was built in 1940 or earlier; or
 - The structure is designated as a historic resource subject to the demolition review or 120-day delay provisions of Title 33.
- A certified deconstruction contractor must perform the deconstruction work. Certified Deconstruction Contractors are trained to safely and effectively disassemble the house and salvage valuable materials for reuse. <https://www.Portland.gov/bps/climate-action/decon/deconstruction-requirements>

Deconstruct By Hand

Deconstruction Employs More Workers. Requires Cooperation; Markets for Materials; & More Time & Effort



Both of these photos are of deconstruction job trainings

Deconstruction By Hand

Conservation – material saved and used to build something else.



Preservation- Glastonbury Restoration reused materials for renovation of a house from the same period. Materials used for same application. House too damaged to save for complete rebuild (c. 1730-1750)

Machine Assisted



Can Shorten Time Required and Be Safer.

Community Effort –

First Deconstruction Job. C. 2006



Current Projects

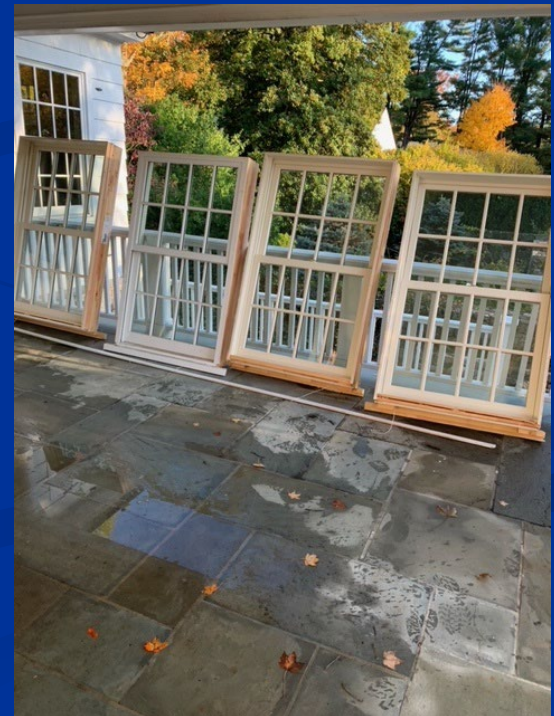


Recent Project – Soft strip



House gutted before I was called, but:

\$ 50k in donations
10k direct sales
20k Auction Sales



How To - Current Projects



Ask me how we got started on this project

What Can We Save ?



Buying



Developer Saving



Saving by Photo

What Can We Save ?



.... So we may get some doors and trim ,but probably not sheathing and framing which is the bulk of the materials. A remnant skating rink floor (now a plumbing warehouse) may generate \$ 15,000 in flooring & result in enough net to cover my project development costs.

Prioritize



More Materials



Donated to Ecobuilding
bargains by owner



For my own customers - pays (hopefully) for
managing job.

Case Study – 384 Davenport Floor



- 1) Estimate 5,000 + sq. ft. recoverable
- 2) Removal, sorting and nail removal – by owner
- 3) Flooring picked up and power washed offsite, bundled
- 4) Retail selling price \$ 5.50 sq ft. Total value \$ **27,500.00**
- 5) Removal cost \$ 3.00 Sq Ft. = \$ **15,000.00**
- 6) Power washing, handling, storage ,sales \$ 2.00 sq ft = \$ **10,000.00**
- 7) Margin \$.50 sq ft. = \$ **2,500.00**
- 8) The “plus” = 200 sq ft retailed at \$8.50 /Sq ft. Used directly in value added products such as furniture = net margin \$ **700.00**
- 9) In general these numbers only work if overhead kept to a minimum.
- 10) We have 3 months from discovery until demolition

Case Study – 384 Davenport Floor

Reusing c. 1940 Flooring



- 1) Estimate 5,000 + sq. ft. recoverable
- 2) 200 Sq Ft. into inventory for furniture making
- 3) Sale of 100 sq ft for use in an 18th century house
- 4) 350 sq ft for new build studio walls
- 5) 350 sq ft for a third floor rec room in 1928 house
- 6) 36 sq ft for “Lost New Haven “ (along with the original ticket window for the skating rink)
- 7) 520 sq ft. for a residential use

What to Save



“Small” jobs that yield 20 tons



Soft Strip Can Have High Yields



Even though we left the shell of the house ,we still recovered flooring, sheathing and some framing ,as well as finishes.

Soft Strip Can Have High Yields



More Examples



Stored in basement no uninstall required.



Owner De-nails Bead Board for Reuse in New House ,same location.

Repurpose



bles

Repurpose



Repurpose



Repurpose



Reuse/ Repurpose



200 sq ft of flooring from local renovation (out of 1,000), last minute call, contractor removed from dumpster into my truck.

Repurposing Materials. Building and installing reclaimed. Select reclaimed materials for making value added products, maximizes return, keeps everything local.

Repurpose

A bed frame that was in
Acme Furniture since at least
1968. State St. and Crown St.

Factory flooring from Derby
Avenue

Details from St. Ronan St.,
Davenport Ave. and
Winchester Ave.



Minimizing Cost -Materials Flow

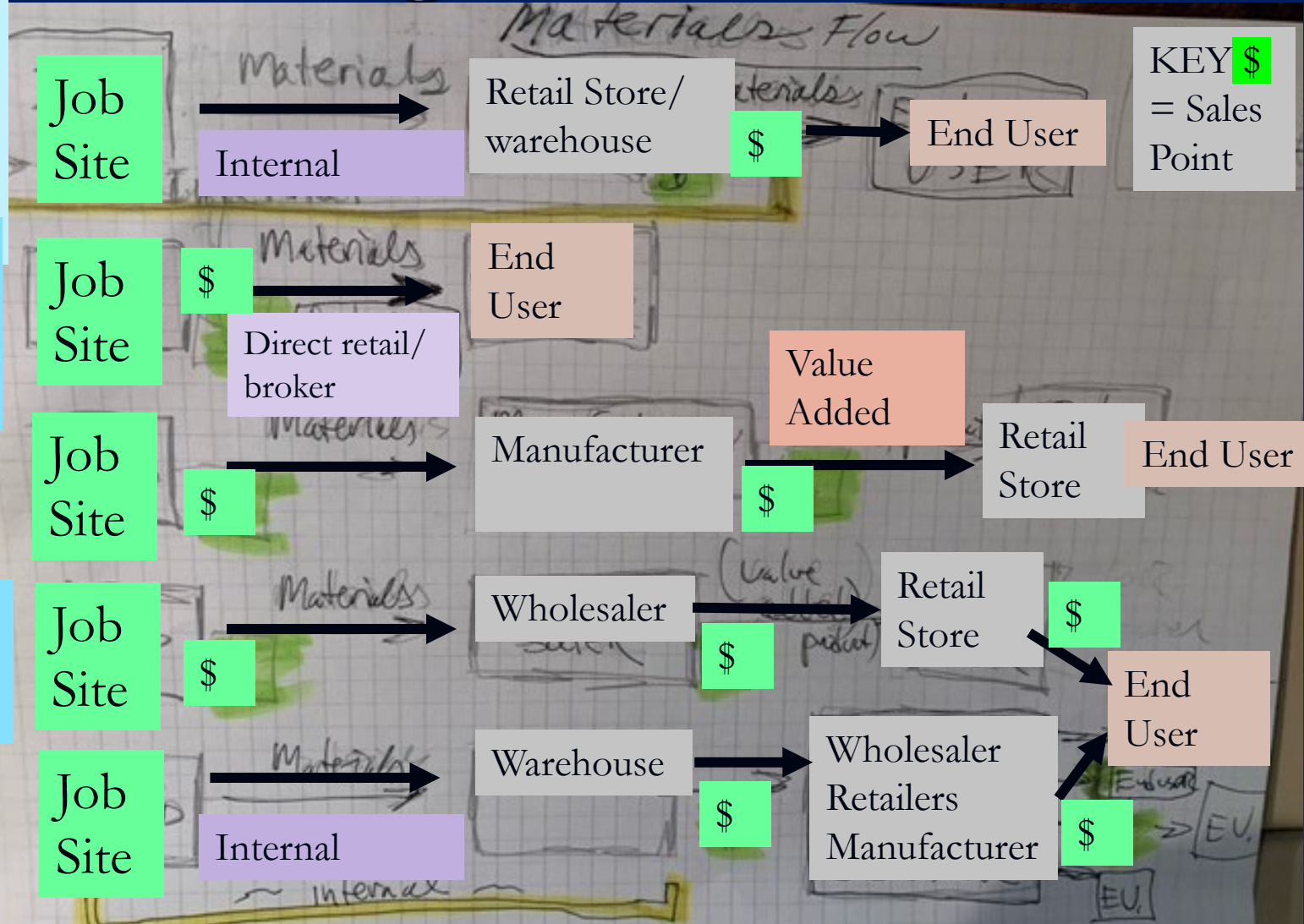
Maximum
Material
Prices/ Big
Management
/Overhead

Can undersell
Retailers, But
No Storage
Capacity

Lower prices
but larger
volumes

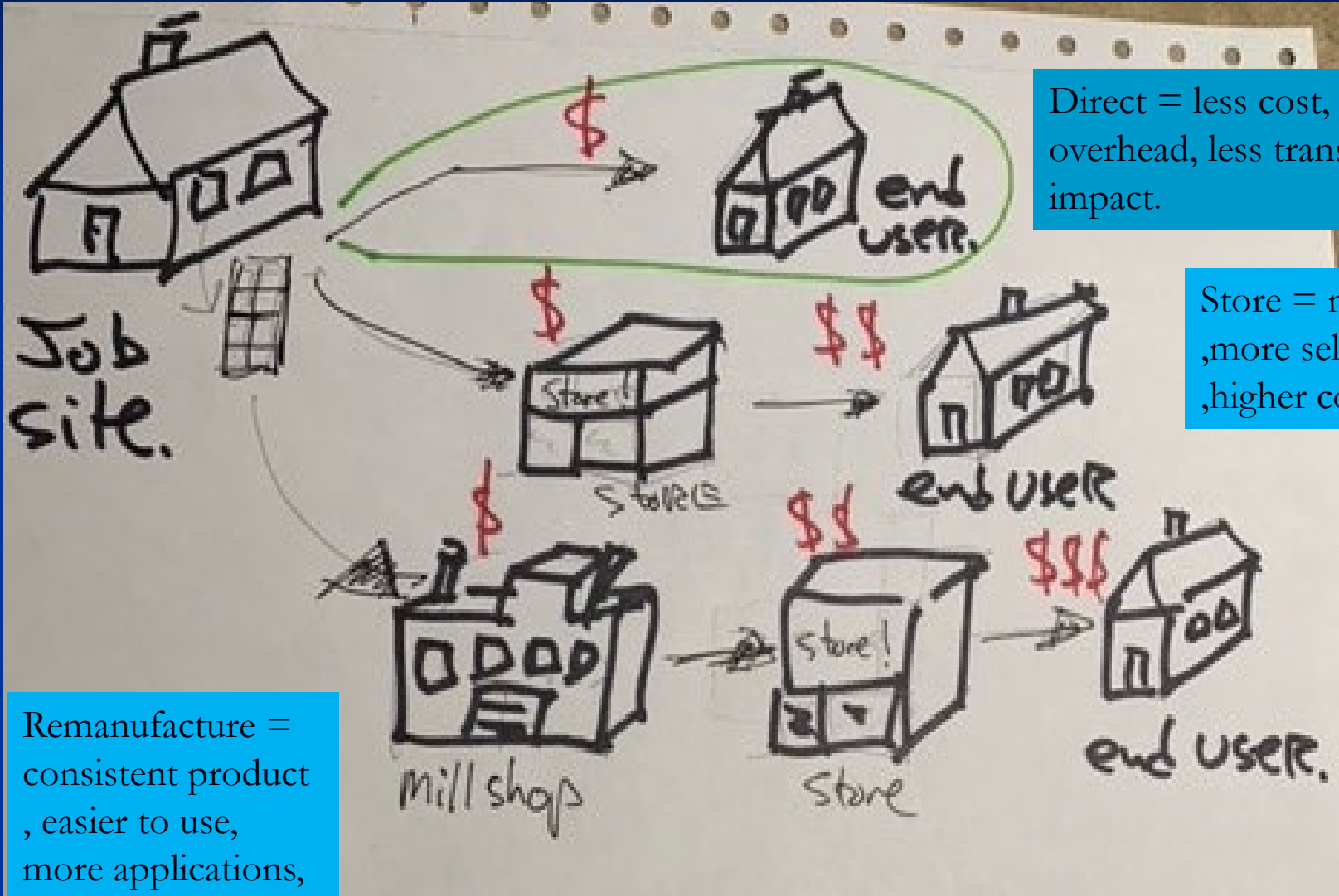
Lower prices
but larger
volumes

Can recover
more, but
more
overhead



Created with CUD (Computer Unassisted Drafting)

Materials Flow



Direct = less cost, less overhead, less transportation impact.

Store = more time, more selection, higher cost

Remanufacture = consistent product, easier to use, more applications, higher cost

How Can I Find Stuff ?

- “I’m excited about using salvaged cabinetry, but the difficulty is that it’s a lot like finding the perfect prom dress at Goodwill,” Elfline says. “Salvage stores get higher-quality and less high-quality items, ranging from good to great.” <https://www.seattletimes.com/explore/at-home/create-a-greener-more-unique-home-by-using-salvage-when-you-remodel/>

Other Considerations -Materials

- Deconstruction can also include contents and landscaping,
- Donations- reuse centers do not take everything ,and what they take may change periodically
- Are you a specialist or a generalist ?
- Job site to end user is most efficient but requires
 - A large market base
 - Capacity to complete a lot of work in a short time, works best without short deadlines

Issues and Solutions

- Issue: If There Is No Budget for Salvaging.
- Solution: Sell materials directly from site to pay for removal & marketing., can only save what is worth more than removal cost. Use marketing online; auction, yard sign, “estate sale” etc.
- Have owner donate what can't be sold – it's fast and they get benefit from tax break but have to pay for removal in cash for tax break later.
- Sell to Contractors Able to Engage in Own Removal.
- If homeowner is willing to participate in process – they will pay for removal and use materials themselves or donate.

Design Consideration

- Design around available materials, rather than design and then try to find materials that fit.
- Reclaimed Materials are unique and Finite
- Plan ahead
- Working with old materials is not the same as with new.
- If you want to work with old materials AND save money, you are cutting down your options by 75%, you can compensate for this with more time, or by compromising your design, but something has got to give .

How to Maximize Salvage & Make the Numbers Work

- Find out about jobs early
- Owner buy in
- Convince owner to reuse their own materials
- Redirect demolition contractors already hired
- Have good customer base and sell directly
- Utilize tax incentives, use job training options, minimize travel time, have trained personnel
- Salvage person directly makes value added products

Basics

- 1) Education – revise the paradigm that disposal is always the cheapest option. Materials recovery needs to be part of the design process.
- 2) Regulatory. Monetary incentives need to go beyond tax write off options that only apply in limited situations. E.G. Portland ,Oregon & San Antonio Regs.
- 3) Organization – Demand for locally reclaimed materials is increasing. Part of the high cost of deconstruction is due to haphazard recovery systems. As geographers like to say “it’s a distribution issue”

Process Problem ?

■ <https://www.wbdg.org/resources/design-for-maintainability> “ Whole Building Design Guide”

- Initial Costs-Purchase, Acquisition, and Construction Costs
- Utility Costs - Water, Electric, Natural Gas, etc.
- Operation, Maintenance, and Repair Costs
- Demolition and Disposal Costs
- Replacement and Refurbishment Costs
- Residual Values-Resale or Salvage Values or Disposal Costs
- Finance Charges-Loan Interest Payments
- Environmental and/or Remediation Costs

Resources

- <https://www.sanantonio.gov/historic/CurrentProjects/Deconstruction>
- <https://ecobuildingbargains.org/>
- <https://www.mongers-market.com/>
- <https://habitatgnh.org/restore/>
- <https://armsterreclaimedwood.com/>
- <https://www.facebook.com/profile.php?id=100059604561609>
- <https://www.instagram.com/urbanminers/>

Resources

- <https://www.nereuse.us/> (BUT HURRY)
- <https://fairfieldcountyrestore.org/>
- <https://bigreuse.org/>
- <https://www.hvhouseparts.com/>
- <https://reconnstructioncenter.org/wp/>
- <https://nerc.org/nerc-resources/search-for-resources/materials-exchanges-in-the-northeast#wood>
- https://www.newhavenindependent.org/article/regenerative_architecture