



THE PORTLAND DECONSTRUCTION PROGRAM

City of Portland, Oregon

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Sustainable Materials Management Planning – Benton County

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THE BUREAU OF
**PLANNING &
SUSTAINABILITY**

Support policies that reduce the embodied carbon of building materials and construction through the use of low-carbon alternatives, adaptive reuse...

- B4, Climate Emergency Workplan

Advocate for research-informed changes to codes and regulations to increase use of reused & deconstructed materials.

- Goal 8.3, 2030 Regional Waste Plan

Materials have a useful life after discard.

– OR 2050 Vision for Materials Management





Neighborhood Action vs. Developers



Deconstruction Advisory Group (April 2015)

- Builders/Developers/Demo Contractors
- Neighborhood Groups
- Development Committee
- Historic Preservation
- Salvage/Deconstruction
- For-profit, non-profit, retailers
- Recycling Industry
- Permitting Staff
- Regional and County Gov Staff



Market Opportunities

- Demand: wood waste
hog fuel market drop
- Demand: salvage materials
 - Strong DIY / salvage ethic
 - Vintage aesthetic
- Supply: Established retail marketplaces



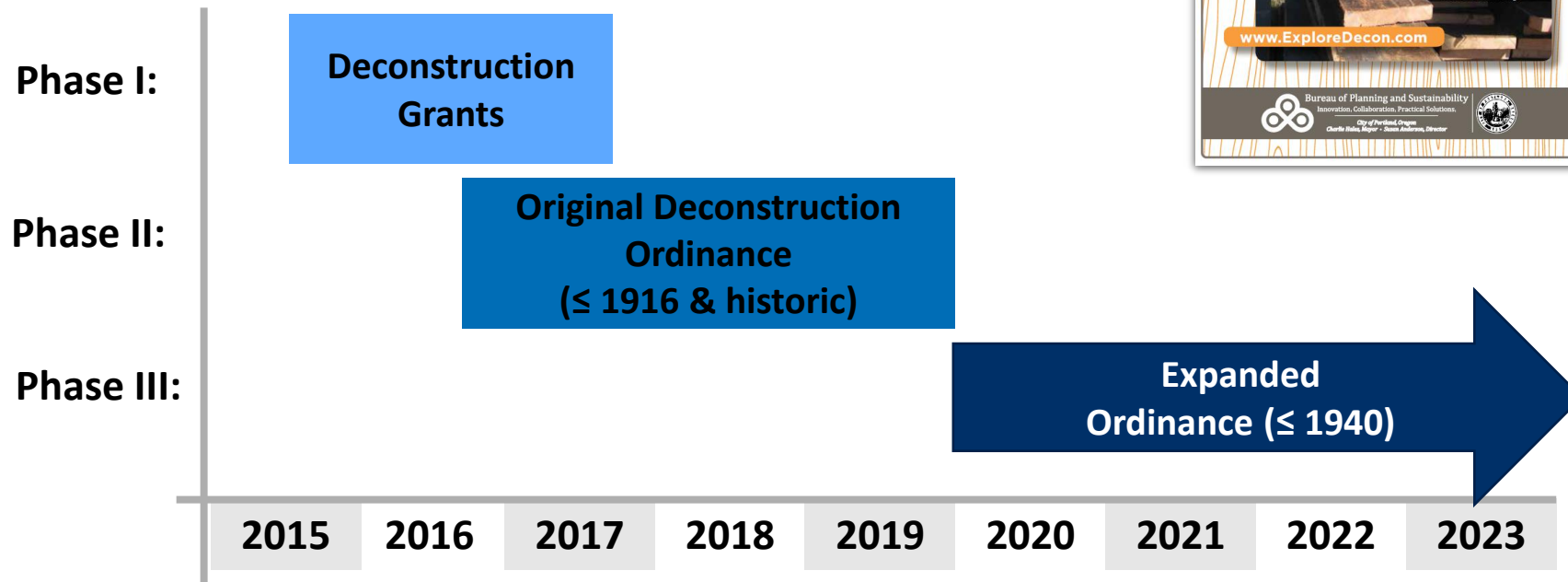
Concerns with Required Deconstruction

Group	Concern	Solution
Developers	Cost	Competition, Grants
Developers	Time	Competition
Developers	Availability of Contractors	Contractor Training (BMRA)
Developers, Deconstructionists	Not all houses worthy	Exemptions
Neighborhoods	Maximize Salvage	Certified Decon Contractors (BMRA)
Neighborhoods	Avoid greenwashing	Certified Decon Contractors (BMRA)
Developers, Deconstructionists	Flooding material market	Year-Built Threshold
Deconstructionists	Workforce/hiring	Workforce Training (BMRA)



Multi-Phased Approach to Deconstruction

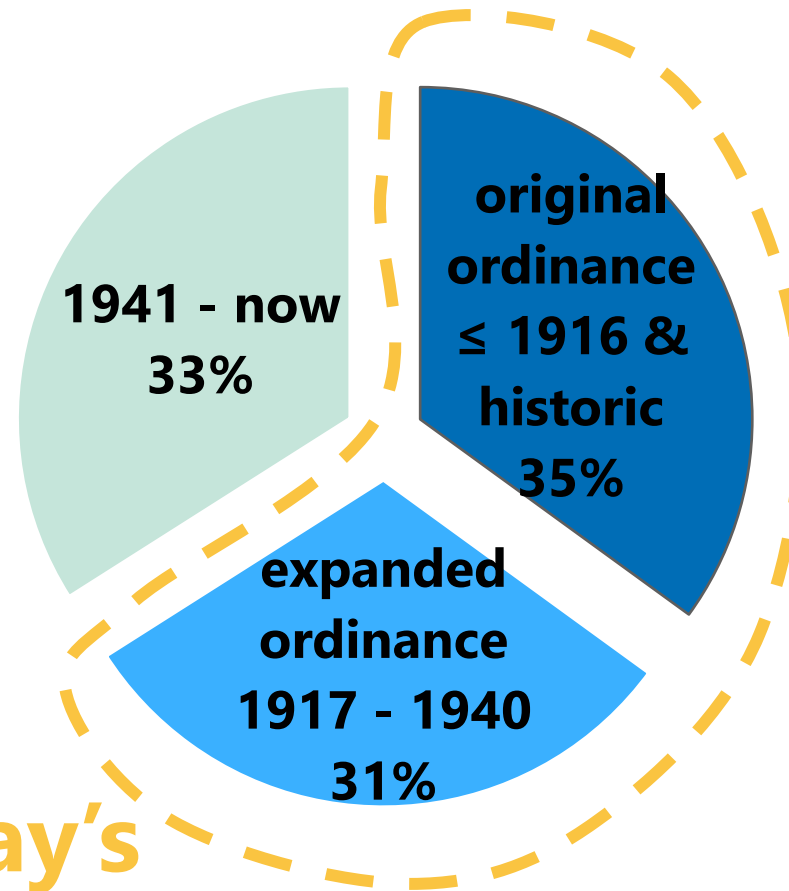
- Deconstruction grants: introduce and incentivize
- Requirements: grow over time
- Year-built specific: capture the right amount of permits



Deconstruction Ordinance



House/Duplex
Demolition
Permits



Today's
Ordinance



Salvageable Materials

- #1: Lumber - including framing, trim, sheathing and siding
 - Doors and windows
 - Wood flooring
 - Roofing - including wood shake, metal, fiberglass, tile, masonry
 - Water heaters, furnaces, wood stoves
 - Kitchen and bathroom cabinets
 - Toilets – 1.6 gallon/flush or less
 - Hardware
- Appliances
 - Lighting
 - Sinks
 - Tubs
 - Mirrors





Program Start-up and Admin



Program Start Up Costs

- 1 full time employee
- Pilot project funds: \$50k for 16 projects (~\$3-5k each)
- Contractor training: \$15k for 3 days with contractors
- Workforce training: \$36k for 12 days with 20 trainees
- Yard signs

Program Income

- Exemption requests (currently frequent): \$200 permit
- Violations (rare): \$500+



Contractor Training (Before & After)

- Contractor Training (Pre-Ordinance July 2016)
 - 3-day training with Build Reuse
 - 16 participants
 - 12 different companies
 - Skills assessment

- Workforce Development (Post-Ordinance Mar 2017)
 - 12-day training (Build Reuse)
 - 15 students
 - Priority population



Certification Requirements

- Complete Build Reuse's three-day Project Management Training Course.
- Pass a written exam taken online through Build Reuse.
- Pass a skills assessment conducted by the trainer.
- Obtain lead-paint RRP certification.
- Obtain AHERA Asbestos Inspector (min) credential.



Certified Deconstruction Contractors

- Currently 15 companies
- 4 businesses dedicated to decon



Contractor Admin

- Exemptions:
 - Unsafe or Hazardous Structure
 - Limited Reuse
- Recertification
- Post-Deconstruction Form
- Documentation of destination of salvaged materials
- Site Inspections

IMG_2209.JPG

Application Status: **SUBMITTED**

submitted the Post Deconstruction Form only.

approved

check sheet

cancelled page submitted by the contractor.

New Tonnage: _____

Salvage Type: **SOLD**

File name...
accepted file typ

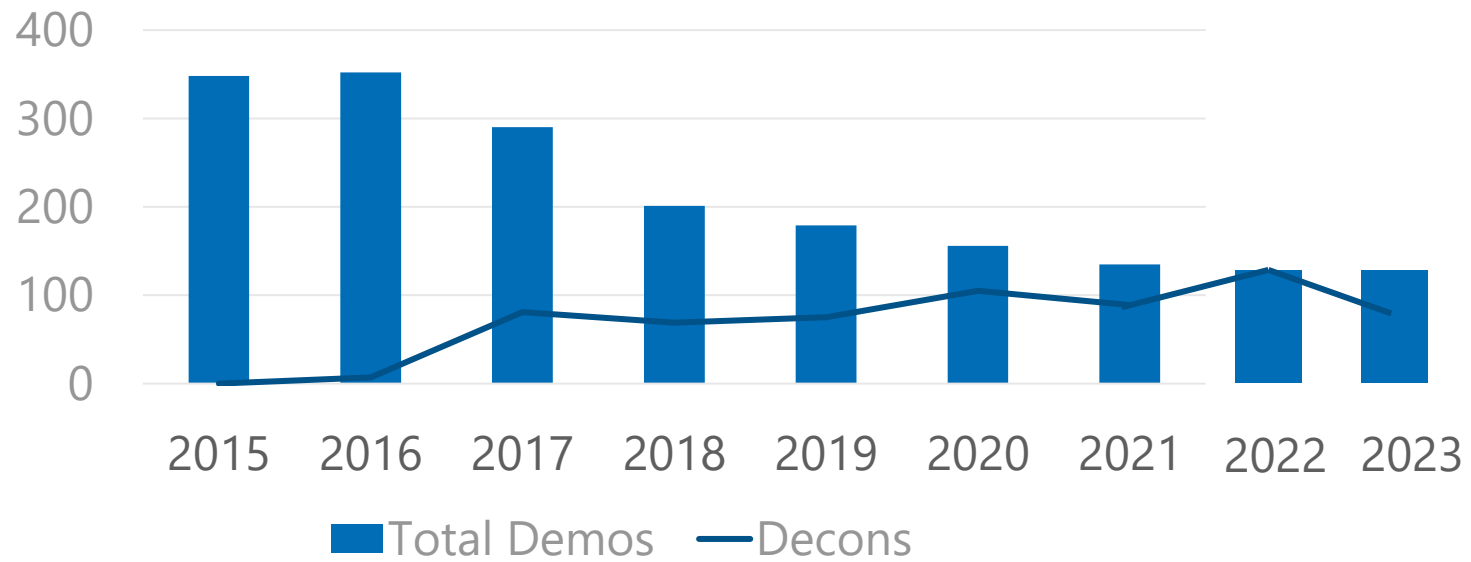


source: Sankofa Lumber

Impact



Since 2015



Benefits and Outcomes

- # of Projects through 6/2024
 - Over 600 house deconstructions
 - Over 4.2 million pounds of lumber recovered for reuse
 - Per house: 4 tons diverted, ~3,200 BF of lumber, 7.6 metric tons of CO₂eq
- Economic
 - 30+ jobs in deconstruction, fabrication, retail
 - 3 new salvage retail locations
- Permitting
 - Cost of deconstruction has come down while mechanical demolition costs have increased
 - Turnaround timeframe – equal to demolition



Benefits and Outcomes

- Hazardous materials
 - Deconstruction now best practice
 - New reqs for mechanical demo
- Preservation of built history
 - Craftsmanship
 - Materials
 - Old-growth lumber
- Excess to Access Program
 - Anti-displacement



Unexpected Outcomes

- Rise and fall of salvage shops and decon contractors
- Sometimes cut-throat service competition that keeps service costs low but occasionally eliminates a decon business
- Cost now comparable due to additional demolition requirements cost going up
- Slightly faster permits
- How to feed the machine in low development cycles
- Yet to adopt salvage wood from Oregon Residential Structural code



Corvallis Historic Project



Opportunities to Partner and Innovate



Oregon building trends:

- Mass timber
- Modular housing

Takeaways

- Starting with incentives helps make a market, but don't step too far into the competitive market
- Pair deconstruction with workforce development and promote circular economy
- Promote buildings and reuse stores as material banks for resiliency
- Inventory your community assets
- Quit it with all the glues



Links

Portland Deconstruction

<https://www.portland.gov/bps/climate-action/decon>

DEQ Study

Deconstruction vs. Demolition: An evaluation of carbon and energy impacts from deconstructed homes in the City of Portland

<https://www.oregon.gov/deq/FilterDocs/DeconstructionReport.pdf>

City of Portland Embodied Carbon

<https://www.portland.gov/bps/climate-action/embodied-carbon>

Build Reuse

<https://www.buildreuse.org/>





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