



RESIDENTIAL DECONSTRUCTION PROGRAM

City of Portland, Oregon

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National Zero Waste Coalition

Lauren Zimmermann Onstad

Sustainable Building and Deconstruction Specialist



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



Origin: Neighborhood Action vs. Developers



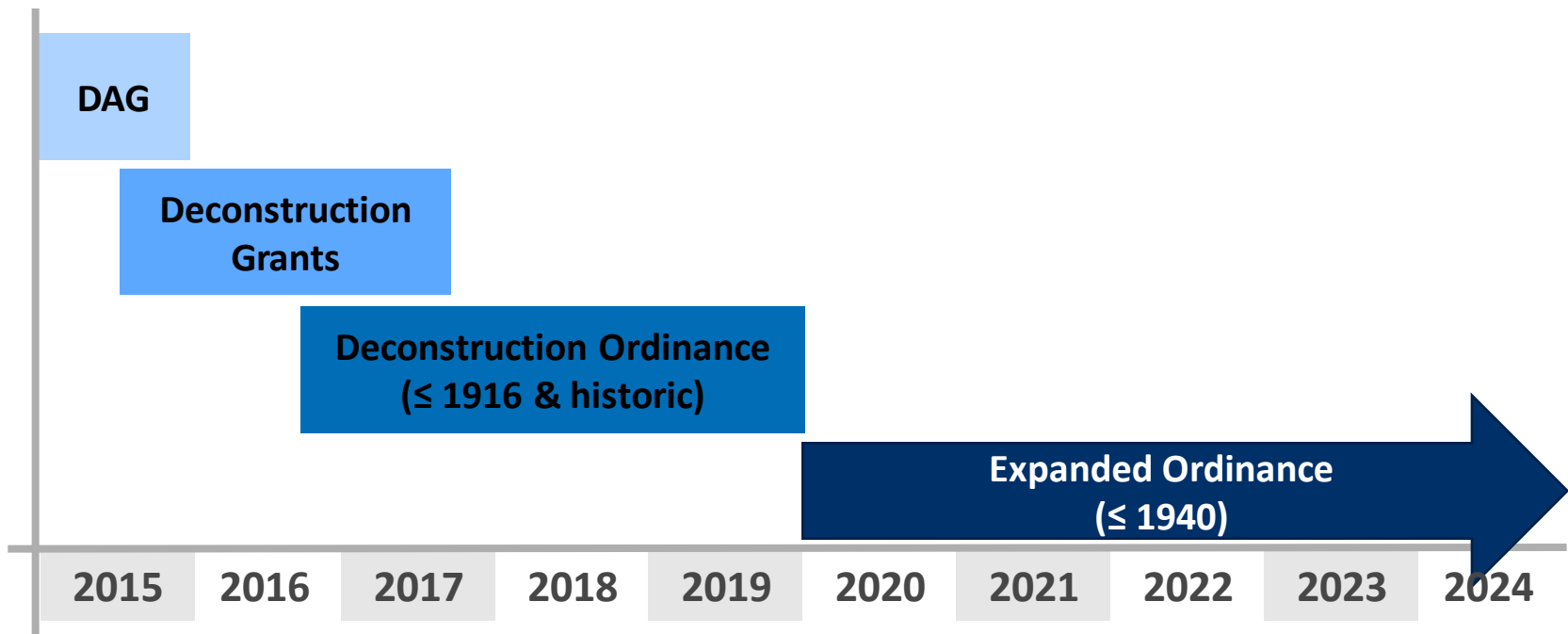
Market Opportunities

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



Multi-Phased Approach

- Deconstruction Advisory Group (DAG) to build a coalition
- Deconstruction grants to introduce and incentivize
- Year-built specific to capture the right amount of permits
- Requirements grow over time to not overwhelm permitting



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 with Build Reuse
 - 15 students
 - Priority population



Certified Deconstruction Contractors

- Currently 15 companies
- 4 businesses dedicated to decon



Salvageable Materials

- #1: Lumber
- Doors
- Hardware
- Flooring
- Sinks
- Lighting
- Windows
- Appliances
- Tubs
- Cabinets
- Toilets
- Mirrors
- Roofing



Unsalvageable Materials

- Hazardous materials:
Asbestos, lead, fire,
biohazard
- Damaged / repairs
needed materials
- Concrete / brick /
masonry





Deconstruction Ordinance Today



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 with the Post Deconstruction Form only.

approved

check sheet

cancelled page submitted by the contractor.

New Tonnage:

Salvage Type: **SOLD**

File name...
accepted file type



Evolution of the market

- Comparable cost and project schedule to demolition thanks to adoption of best practices for demolition
- High and low development cycles result in varying permits
- Neighboring town of Lake Oswego tax credit
- Market of contractors thrives on by removing barriers



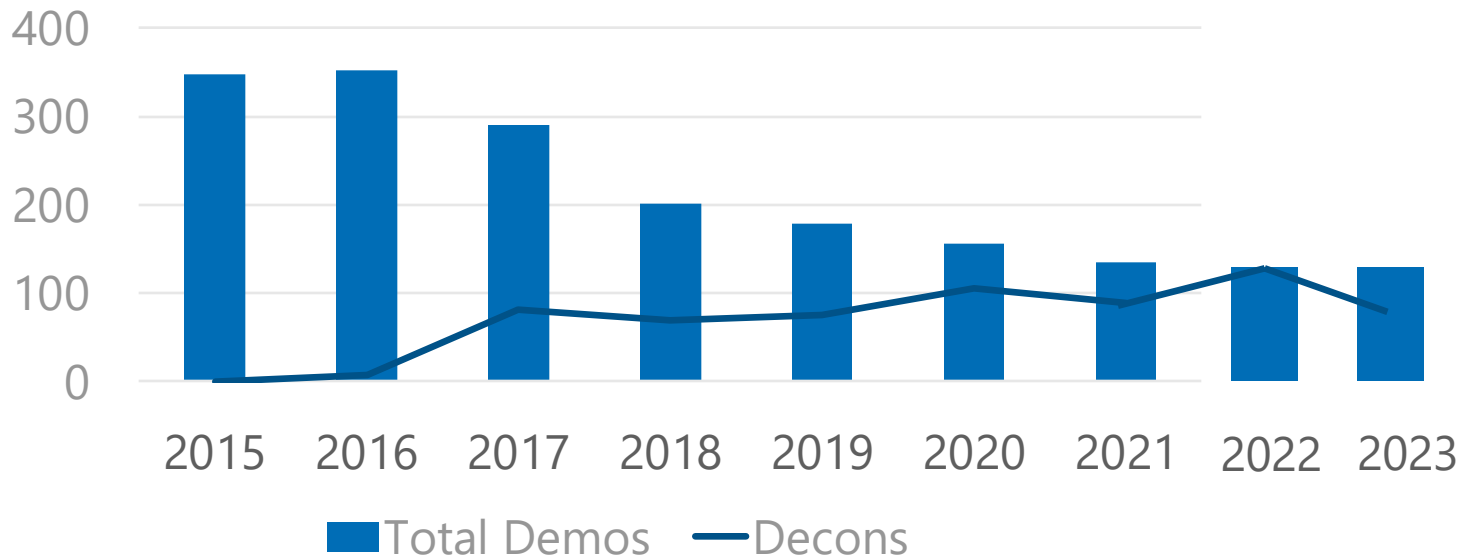


source: Sankofa Lumber

Impact

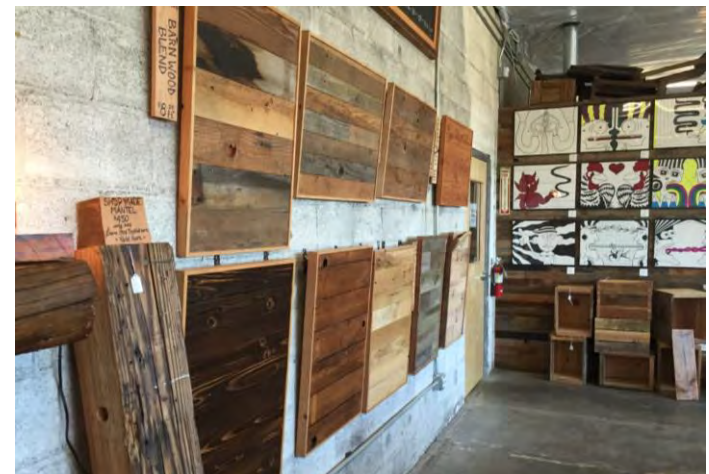


The fall of demolition



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 emissions avoided
- 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



What's Next

- Exploring increasing requirements for year-built
- Piloting commercial deconstruction & expecting a long learning phase
- Reviewing C&D recycling policies
- Collaborating with Oregon Metro on reuse materials planning
- Remove barriers to move materials and achieve commodity lumber resale

Takeaways

- Focus on *who* completes the work and manages the materials
- Consider methods to avoid storing materials
- Inventory regional material pathways
- Explore circular economy tie-ins: building code, waste streams, climate tech start-ups
- 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>





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lauren.zimmermann@portlandoregon.gov

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