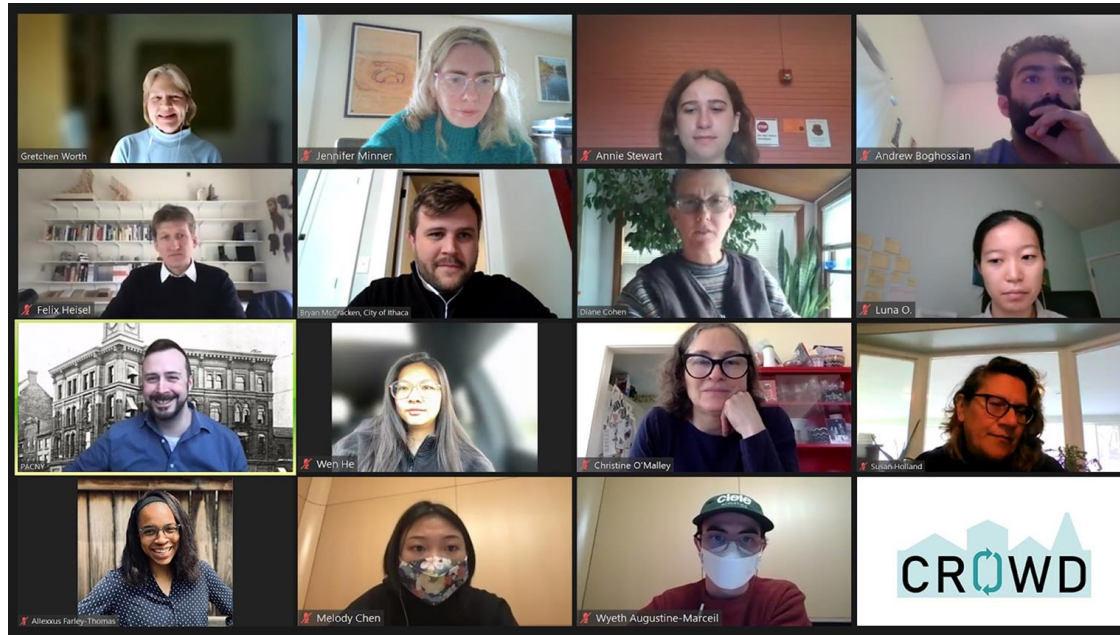


SUSAN CHRISTOPHERSON
CENTER FOR COMMUNITY PLANNING

**Supporting New York State municipalities in
their efforts to achieve a more equitable,
climate-resilient built environment**

Gretchen Worth, Project Director
projectdirector@ChristophersonCenter.org
www.christophersoncenter.org

An alliance grows into a CR0WD



Began in 2020 as a network to work toward a more **sustainable built environment** in New York State.

Supports building material reuse and recognizes the environmental, cultural and economic value of **deconstruction and a circular building economy**.

Preservationists, planners, architects, policymakers, salvage and reuse professionals, university faculty and students, and more.

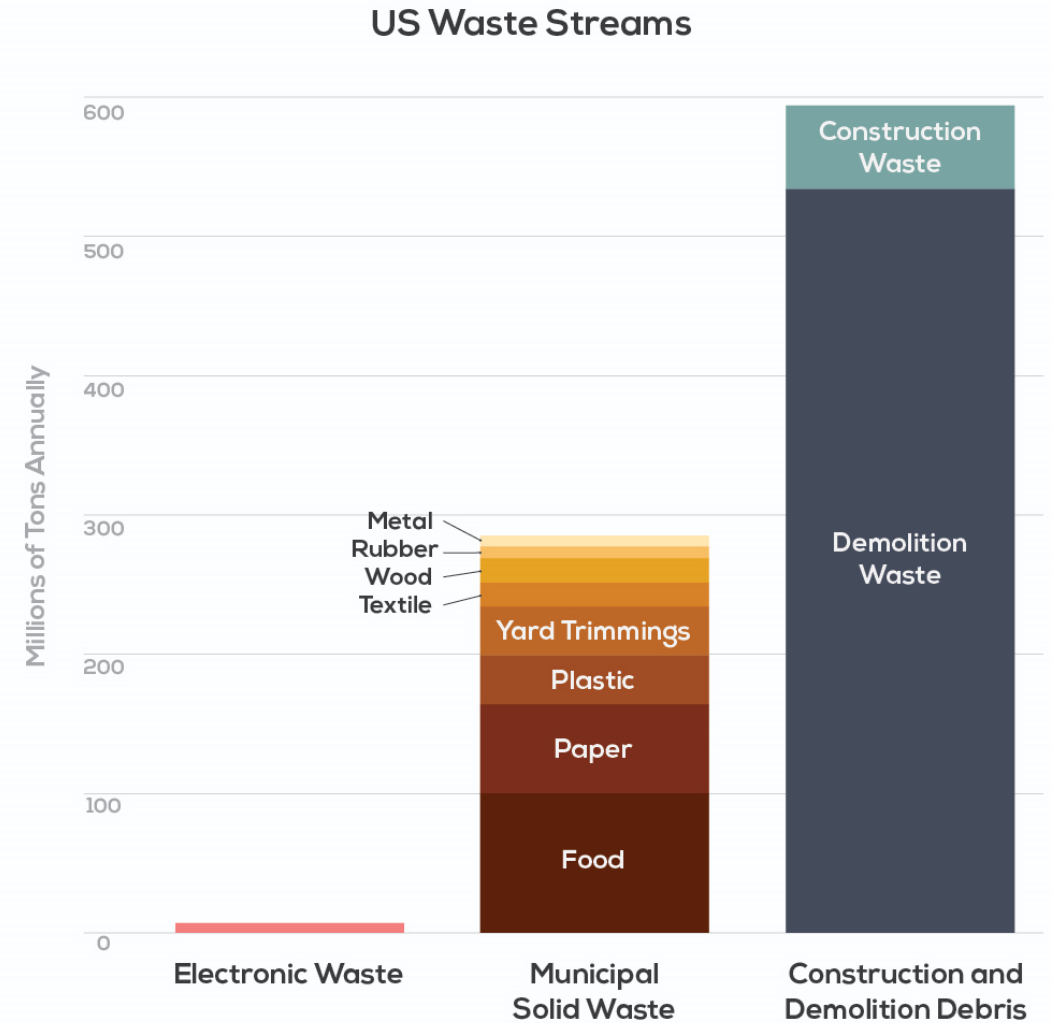





**600 MILLION TONS
ANNUALLY**

19 MILLION TONS IN NYS

Andrew Roblee



Source: *Advancing Sustainable Materials Management: Fact Sheet 2018*, EPA, November 2020, Draft New York State Solid Waste Management Plan (2023-2032), Department of Environmental Conservation



**It's not waste.
It's just wasted.**

Construction and Demolition Debris (CDD)

- **Largest single component of landfill waste**
- **90% comes from demolition rather than new construction – yet upwards of 80 percent of building materials can be reused**
- **Majority is asphalt and concrete (sometimes recycled) and significant tonnages of wood, brick and other reusable building materials in addition to architectural salvage.**
- **No local government in New York State has adopted deconstruction ordinances/building material diversion requirements.**

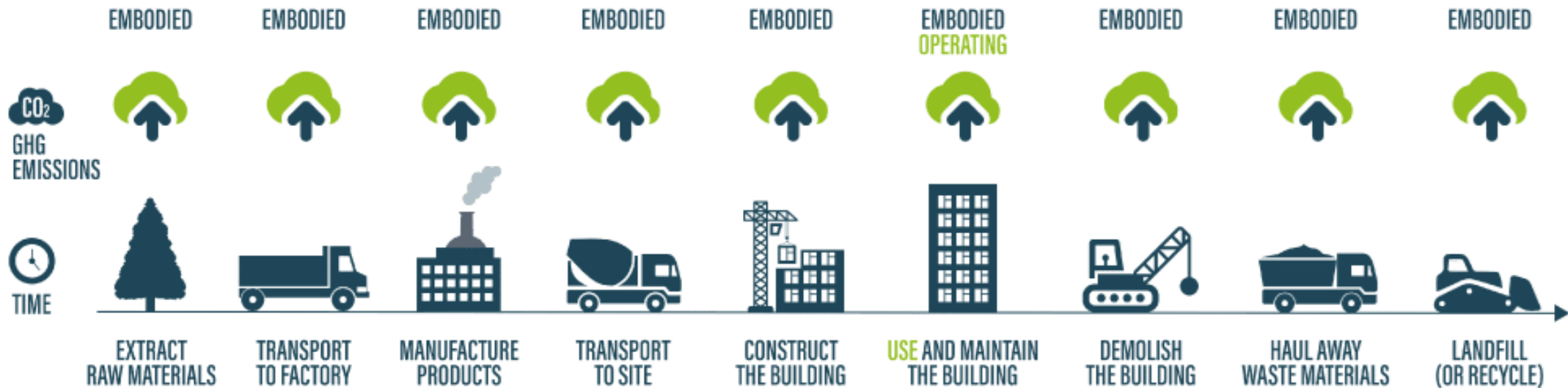
Andrew Roblee

Built environment generates 40% of CO2 emissions

13% = extraction/manufacture/transportation (EMBODIED CARBON)

27% = building heating, cooling, etc (OPERATIONAL CARBON)

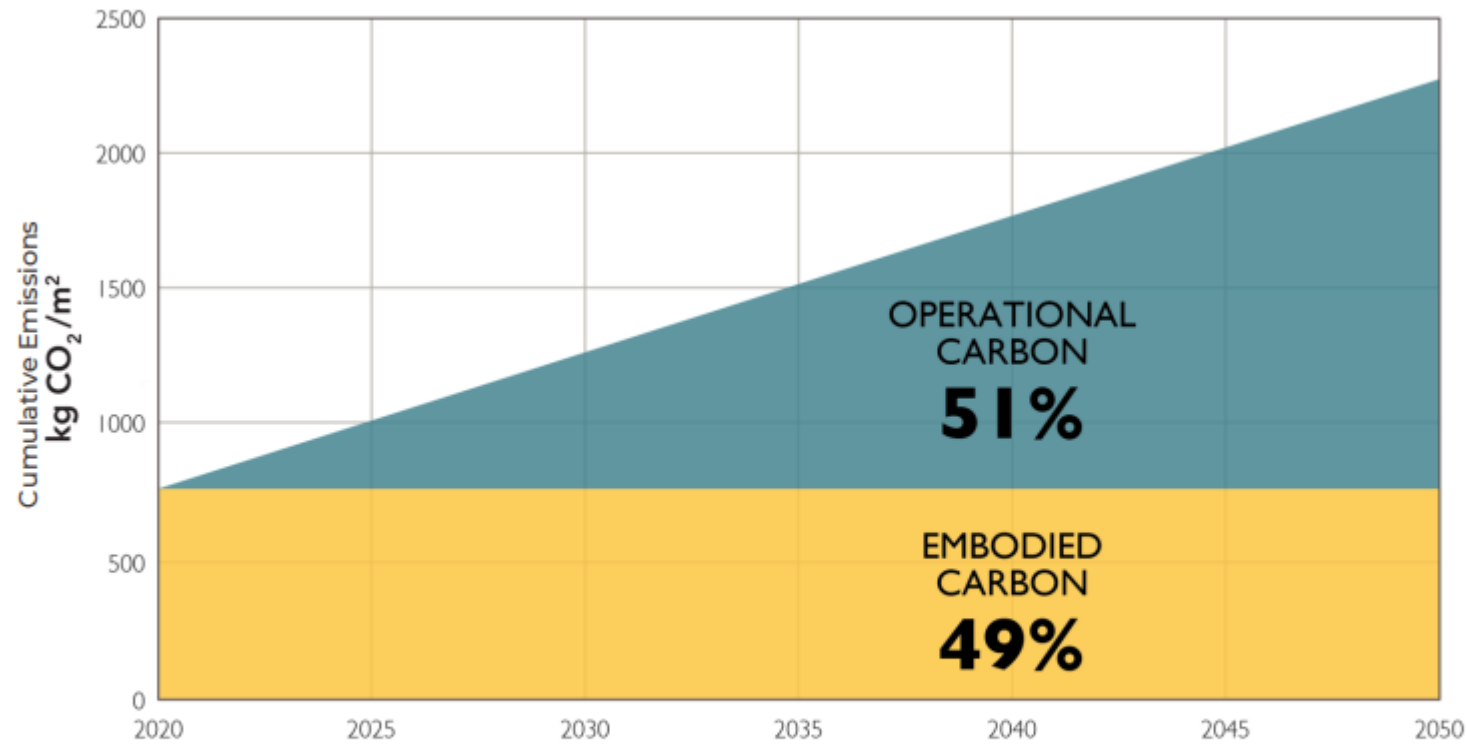
— Architecture 2030



Embodied Carbon Lifecycle

The greenest building is the one that is already built.

– Carl Elefante, former president, American Institute of Architects



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Image Credit: Architecture 2030

ENVIRONMENTAL

- Reduce waste to landfills
- Retain embodied carbon
- Conserve natural resources
- Lower carbon emissions
- Reduce toxic pollutants
- Improve public health and safety

Circular Construction Economy

SOCIAL/CULTURAL

- Improve design and manufacturing process/products
- Honor history and craftsmanship
- Develop trade skills being lost generationally
- Encourage sustainable treatment of our neighborhood buildings and infrastructure

ECONOMIC

- Create equitable green jobs to benefit local economies
- Augment existing material supply
- Strengthen vulnerable supply chains
- Lower cost of maintaining landfills



5 Challenges of Deconstruction

1. Cost
2. Time
3. Material outlets
4. Policy
5. Workforce



US deconstruction ordinances



Portland, OR

Initial 2016 ordinance required deconstruction of residential properties built before 1916 and all residential historic properties. 2020 amendment requires deconstruction of all residential properties built before 1940.



Palo Alto, CA

Deconstruction is required for any residential or commercial project in which the structure is being completely removed, regardless of year built and project value. Accessory dwelling units (ADUs), structurally unsound buildings, remodeling or additions projects are excluded.

***California is the only state with a building waste diversion requirement (65%!).**



Pittsburgh, PA

An executive order requires the deconstruction of city-owned properties that are condemned but not yet slated for demolition and forms a Deconstruction Action Council.

1. Political

2. Educational

3. Workforce

4. Research and

- ment
- 
- CROWD**
- Circularity, Reuse, and Zero Waste Development

CROWD

Circularity, Reuse, and Zero Waste Development

Policy development, local and state



Toward a More Sustainable Built Environment:
Recommendations To Support
Deconstruction, Salvage and Reuse
(to Support Ithaca's Green New Deal)

POLICY RESEARCH

- Mapping partnerships

POLICY GUIDES

- City of Ithaca Deconstruction Policy Pack + general municipalities
- Public comment guide for NYS's climate act
- Local Municipalities Guide

OUTREACH

- Local, county and state elected officials
- NYS agencies (Department of Environmental Conservation, Empire State Development, NYSERDA)
- Professional/state-wide organizations (NYSAR3, Northeast Recycling Council, New York State Landbank Association)



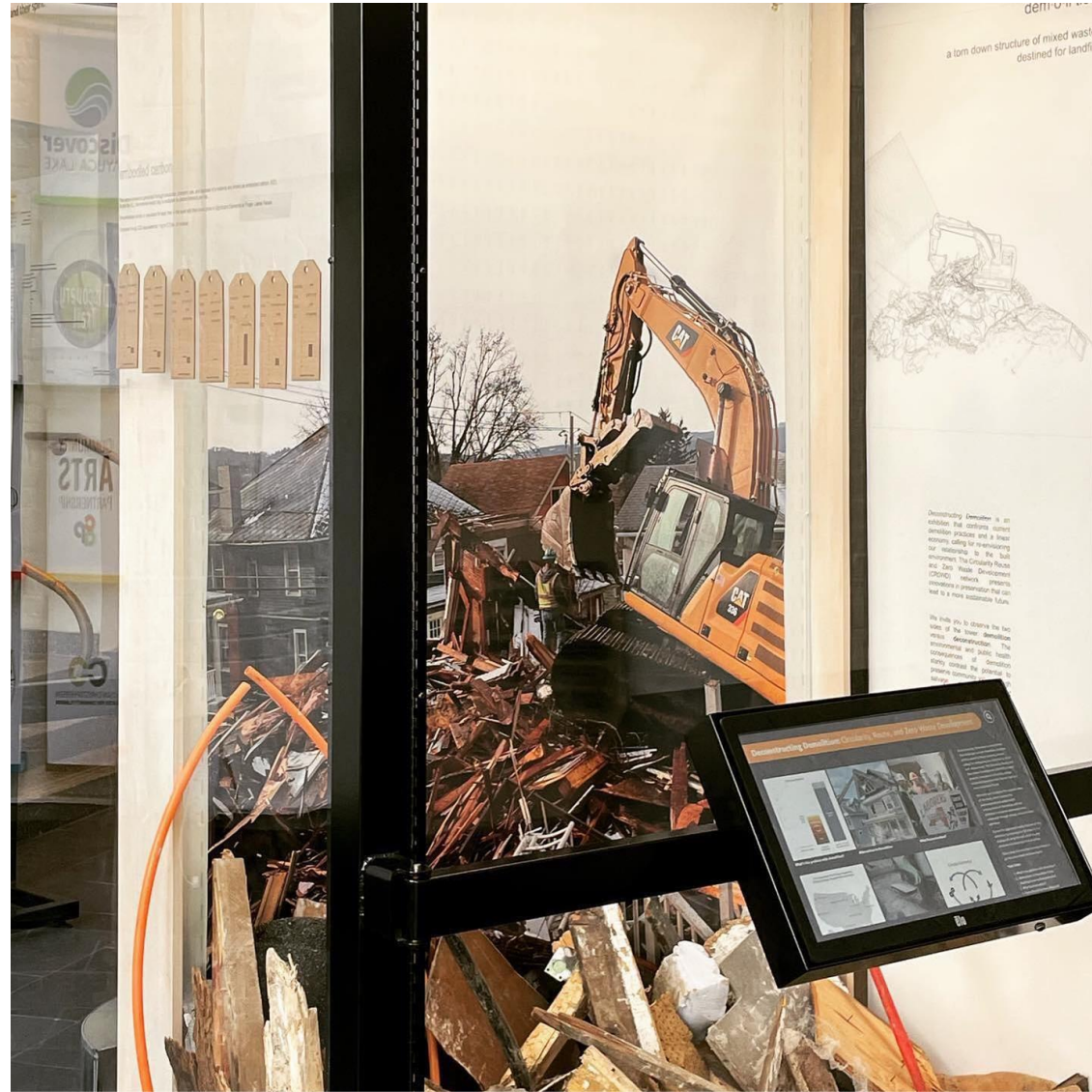
Policy development, local and state

CR0WD State Policy Committee

- Developing legislation timeline and policy priorities with elected state officials
- Determining legal authority re: materials management
- Creation of a materials hierarchy (market value, embodied carbon, environmental impact when landfilled, etc)
- Deconstruction pledges: universities, counties
- Vacant School Survey ➡ Building Circularity Centers



Education and community engagement



Education and community engagement



SUMMITS

- NYS Reuse Summit, June
- Deconstruction Summit, December

CONFERENCES/SEMINARS

PROOF OF CONCEPT DECONSTRUCTION PROJECTS

FOCUS GROUPS

- Developers, property owners
- Local building permit personnel
- NYS Land Bank directors
- Planning departments
- Etc



Green workforce creation/development



Photos: Finger Lakes ReUse



Research, data gathering and analysis

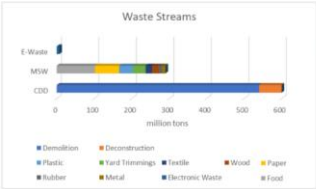
Deconstruction Ordinance Examples from US/Canada

An increasing number of local governments are adopting deconstruction ordinances and/or building waste diversion requirements. Below are examples of some of the best-known, successful initiatives from cities around the US and Canada, including unique approaches they have taken.

Palo Alto, CA	Deconstruction is required for all full structural removals -- residential and commercial.
Ordinance	Deconstruction and Construction Materials Management Ordinance
Date	Adopted Summer 2019; effective July 1, 2020
Summary	Deconstruction is required for any residential or commercial project in which the structure is being completely removed, regardless of year built and project value. (Accessory dwelling units (ADUs), structurally unsound buildings, remodeling or additions projects are excluded.)
Requirements	<ol style="list-style-type: none">1. Before applying for a building permit, a salvage survey by a city-approved reuse organization must be completed and <u>becomes</u> part of the permit application.2. Source separation is required on site, which ensures a larger amount of reusable and recyclable materials is salvaged (mixed CDD waste lowers the "capture" rate). Source separation requires materials be placed in separate containers that are delivered to a city-approved materials recovery facility.3. Before final inspection for the building permit, documentation must show that all materials indicated on the salvage survey were properly salvaged by a city-approved reuse organization, with their weight included. (This information is uploaded to an online waste recovery and recycling tracking system for verification.)
Results/Implications/Recommendations	<ol style="list-style-type: none">1. Clarify effective date and what happens to permit applications already "in process."2. Offer internal training & FAQs for building staff, C&D staff, inspectors, haulers.3. Work with hauler and processing facilities to define <u>guideline</u> on source separation <u>stream</u>.4. Offer multiple touchpoints for outreach prior to deconstruction.5. Build partnerships with contractors during a "pilot" phase.

Waste Stream Data

- Compiled research on national perspective of waste streams for display in the Deconstruction Exhibition
- Includes waste streams people are familiar with (e-waste) to compare to deconstruction and demolition CDD Waste: [link](#)
- More [E-Waste Research](#)
- Compiled data into graph: [data link](#)



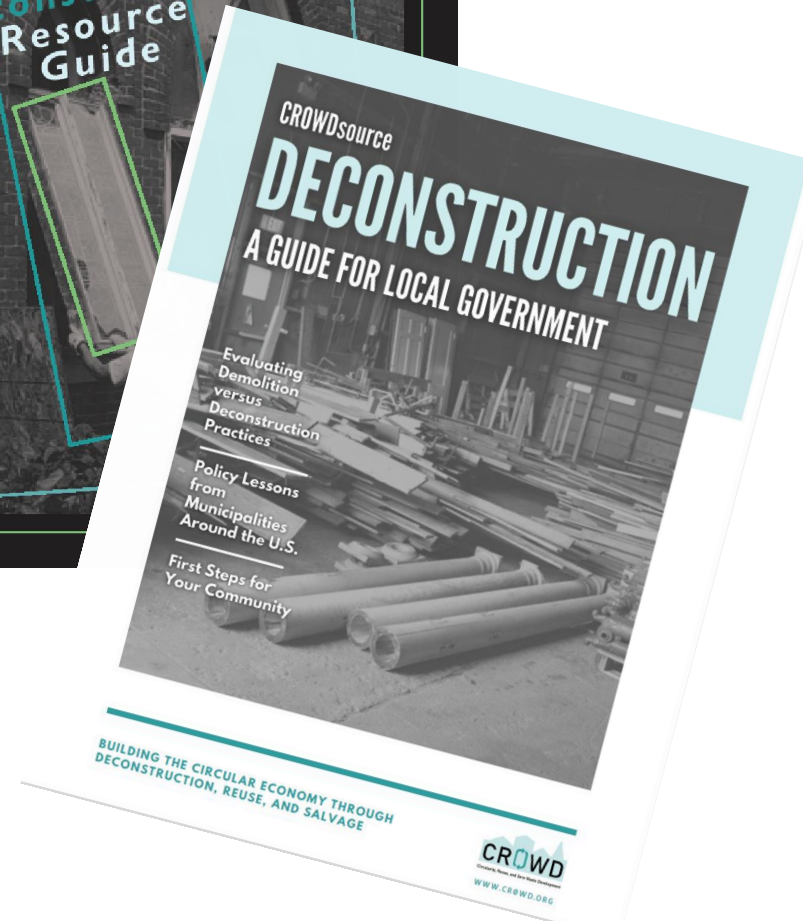
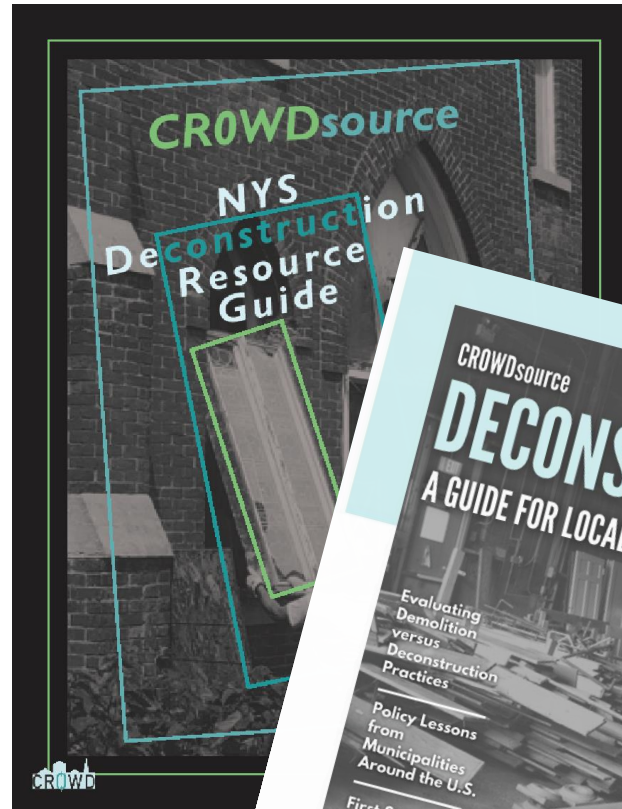
The US generates more than 600 million tons of CDD annually. This is twice the amount of municipal solid waste (MSW), our daily consumer garbage. As a result, CDD is the largest single component of US landfills — 40 percent. Most CDD is the result of demolition (90 percent) rather than new construction (10 percent). Yet upwards of 80 percent of building materials can typically be reused (wood, brick, architectural salvage) if they were to be salvaged.

No local government in New York State has yet adopted a deconstruction ordinance or a meaningful building waste diversion requirement.

Sources: (1) EPA, (2) EPA, (3) EPA, (4) EPA, (5) EPA, (6) EPA, (7) EPA, (8) EPA, (9) EPA, (10) EPA, (11) EPA, (12) EPA, (13) EPA, (14) EPA, (15) EPA, (16) EPA, (17) EPA, (18) EPA, (19) EPA, (20) EPA, (21) EPA, (22) EPA, (23) EPA, (24) EPA, (25) EPA, (26) EPA, (27) EPA, (28) EPA, (29) EPA, (30) EPA, (31) EPA, (32) EPA, (33) EPA, (34) EPA, (35) EPA, (36) EPA, (37) EPA, (38) EPA, (39) EPA, (40) EPA, (41) EPA, (42) EPA, (43) EPA, (44) EPA, (45) EPA, (46) EPA, (47) EPA, (48) EPA, (49) EPA, (50) EPA, (51) EPA, (52) EPA, (53) EPA, (54) EPA, (55) EPA, (56) EPA, (57) EPA, (58) EPA, (59) EPA, (60) EPA, (61) EPA, (62) EPA, (63) EPA, (64) EPA, (65) EPA, (66) EPA, (67) EPA, (68) EPA, (69) EPA, (70) EPA, (71) EPA, (72) EPA, (73) EPA, (74) EPA, (75) EPA, (76) EPA, (77) EPA, (78) EPA, (79) EPA, (80) EPA, (81) EPA, (82) EPA, (83) EPA, (84) EPA, (85) EPA, (86) EPA, (87) EPA, (88) EPA, (89) EPA, (90) EPA, (91) EPA, (92) EPA, (93) EPA, (94) EPA, (95) EPA, (96) EPA, (97) EPA, (98) EPA, (99) EPA, (100) EPA, 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