

# FROM DEMOLITION TO DECONSTRUCTION: CITY SALVAGE AND REUSE POLICIES



Cities around the nation are currently facing growing numbers of old, inefficient, and deteriorating structures in their communities. Owners of these buildings often turn to demolition because of the impractical costs of renovation. However, frequently these older homes are made of quality or historic materials that go to waste because demolition sends them straight into a landfill.

Deconstruction is a process that can salvage waste from demolition while simultaneously contributing to a city's overall sustainability goals. The deconstruction process involves taking apart an existing building element by element in the reverse order of its construction to preserve or recycle as much of the materials as possible. Those salvaged materials can then be transformed into profitable resources, sold for future construction projects or to repair and restore similar homes that remain.

## BENEFITS OF DECONSTRUCTION

Deconstruction benefits more than just the environment – the process can help protect public health by reducing the airborne toxic pollutants associated with demolition, create employment and new economic opportunity, foster the creation and expansion of small businesses that handle salvaged materials, and provide local and affordable access to building materials in the event of a disaster.

[According to the Delta Institute](#), deconstruction can offer several environmental, economic, and community benefits for cities with high vacancy and unemployment rates. Those benefits include:

### Environmental Benefits

- Reduced toxic dust from job site
- Reduced heavy metal leaching into soil
- Reduced waste to landfills
- Reduced consumption of new material

### Economic Benefits

- Jobs from removing structures
- Resale of affordable building materials
- Sale of value-added products

### Social Benefits

- Removal of blight
- Workforce development partnerships
- Workforce training and contractor training
- Local reclaimed materials that can be used in the restoration and preservation of historic structures.



## DECONSTRUCTION IN CITY POLICY

Because cities are usually responsible for issuing demolition permits and for oversight of the demolition process, the city has the power to construct and implement a deconstruction policy. A deconstruction policy defines minimum requirements for covered buildings to be deconstructed rather than demolished through the standard procedure. These policies can be the responsibility of different city departments, like an office of historic preservation or an office of sustainability, but as with any good policy, it is important all relevant departments be involved in

the planning process. For example, the engineering, planning, and building permit offices would likely be involved, but so should a public works, solid waste department, economic development, environmental protection, and others.

## Important Considerations

Deconstruction has many benefits, but because the process involves more planning than standard demolition and each city's specific needs are different, there is no one-size-fits-all policy. Drawing from research and discussions with experts, below is a list of important considerations when creating a deconstruction plan.

### 1. Calculating Impact

As with any successful building policy, a first step to consider is the scope of buildings that will fall under the deconstruction policy. The goal is for the number of affected buildings to be enough to make an impact, but also not so much that the policy – and the resulting materials saved -- will overwhelm the system or local capacity.

Investigating the inventory of targeted buildings by their construction date could help cities better calculate a reasonable number of structures the policy will apply to. For instance, a policy that applies to all homes and duplexes constructed prior to 1960 may encompass too many existing buildings in the city. This could put strain on local contractors, create an inventory of too many materials to realistically salvage or recycle, and lead to an administrative burden beyond what the city can manage. A helpful place to start is the list of demolition permits issued over the previous several years. Cities can use this data to predict potential impact by calculating what percentage of the projected number of future tear-downs each year would require deconstruction under the new policy.

### 2. Preparing the Industry

Because deconstructing buildings is more labor and time intensive than the standard demolition process, a deconstruction requirement can create burdens on local contractors. Existing contractors will likely need training in deconstruction techniques and cities can help

ensure that there is a large enough pool of professionals who can perform deconstructions. The city could offer free workshops, by partnering with organizations such as [Build Reuse](#), to certify contractors to take part in the deconstruction process. Build Reuse also offers other training opportunities such as community-wide forums that bring together and educate community leaders and organizations that will be the backbone of a successful deconstruction policy.

Creative incentives from the city could also help relieve some of the greater cost burden, like offering a certain tax rebates or expedited permitting and plan reviews for companies that participate in deconstruction training.

### 3. Planning for Material Inventory

Deconstruction means giving building materials a second life. A successful deconstruction plan does not end once materials are kept out of a landfill, it is most successful when those materials are recycled or reused in future projects. Having a plan for those materials is one of the most important considerations for any city contemplating a deconstruction policy.

Creating a system and setting up the infrastructure for collecting, storing, organizing, and reintroducing the salvaged materials back into the marketplace is essential. Storage locations can be existing city-owned warehouses or salvage yards, but when this infrastructure does not already exist, cities will have to look elsewhere. Cities may want to consider turning to local nonprofit organizations for help finding space or to grant opportunities that will provide for the purchase of new, affordable storage areas.

A city could take this opportunity to create new jobs for those responsible for this process. Alternatively, many cities have salvage companies or nonprofits already involved in similar work and could come up with creative ways to bolster those existing entities to try to expand operations to meet the new demand of the deconstruction policy.

### 4. Implementation

An important aspect of any effective policy is considering the necessary administrative pieces before implementation. In the case of

deconstruction, this may include training for city staff on fielding questions from the contractors, effected homeowners, and other members of the public. Understandable and comprehensive paperwork and online resources that educate the public on the benefits of deconstruction will also make for a smoother roll-out.

### SPOTLIGHT: DECONSTRUCTION POLICY IN PORTLAND, OREGON

In 2016 Portland became the first city in the country with a [deconstruction requirement](#). The City Council unanimously adopted an [ordinance](#), including code language, requiring projects seeking a demolition permit for a house or duplex to fully deconstruct the building if it was constructed in 1916 or earlier, or if the structure is designated as a historic resource.



Those requesting to tear down a building that meets these requirements must submit a completed pre-deconstruction form to Portland's Bureau of Planning and Sustainability as a part of the demolition permit process. Documentation identifying the destination for all materials removed from the structure (excluding concrete) must be submitted to same office no more than thirty days after completion of the deconstruction work.

To help assist with this process, the City provides suggested [Deconstruction Resources](#) including free material pickup services and a list of [Certified Deconstruction Contractors](#).

Portland estimates that increased deconstruction will:

- Divert 8 million pounds (4,000 tons) of materials for reuse (annually)
- Create job opportunities in the construction industry
- Increase the likelihood of discovering materials containing lead and asbestos and facilitating their safe removal and disposal

[Portland Deconstruction Examples: Photos & Video](#)

#### OTHER POLICY EXAMPLES

- [San Antonio, Texas Deconstruction and Salvage Initiative](#)
- [Milwaukee, Wisconsin Deconstruction Ordinance](#)

#### OTHER RESOURCES

- [Deconstruction & Building Material Reuse Tool - Delta Institute](#)
- [A Report on the Feasibility of Deconstruction: an investigation of deconstruction activity in four cities - Partnership for Advancing Technology in Housing](#)
- [EPA Study: Construction and Demolition Debris Generation in the United States \(2015\)](#)

Follow and engage with us on social media:

- [Twitter](#)
- [Facebook](#)
- [Instagram](#)

Contact us at [publicpolicies@usgbc.org](mailto:publicpolicies@usgbc.org) with any feedback or questions.