

Greening in Place: From Policy to Practice

*Preservation
as a
Sustainable Development Tool*

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“If you tear that building down, that investment is wasted – but if you keep the building in use, you’re saving energy and conserving resources. That’s what people mean when they call preservation the ultimate recycling.” – Richard Moe, 2007



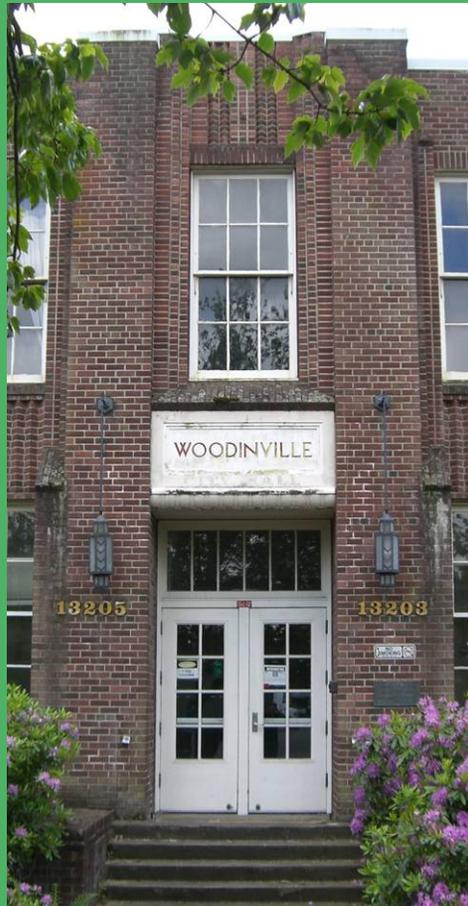
Historic Preservation in King County

Purpose of the King County

Historic Preservation Program:

- Identifying and evaluating historic properties
- Providing technical assistance
- Promoting economic development
- Developing databases for historic & archaeological sites

City and County Owned Properties



Historic Landmarks in King County



Inventory – potentially significant properties



Large percentage of building stock is potentially historic

- Pre-1945 buildings make up 16%
- 1945-1990 buildings make up 55%
- Age criteria in King County – 40 years



“Sustainability begins with preservation.”
– Whole Building Design Guide



The Ultimate in Sustainability

Environmental benefits

- Enhance & protect ecosystems & biodiversity
- Improve air and water quality
- Reduce solid waste
- Conserve natural resources

Economic benefits

- Reduce operating costs
- Enhance asset value and profits
- Improve employee productivity and satisfaction
- Optimize life-cycle economic performance

Health and community benefits

- Improve air, thermal and acoustic environments
- Enhance occupant comfort and health
- Minimize strain on local infrastructure
- Contribute to overall quality of life



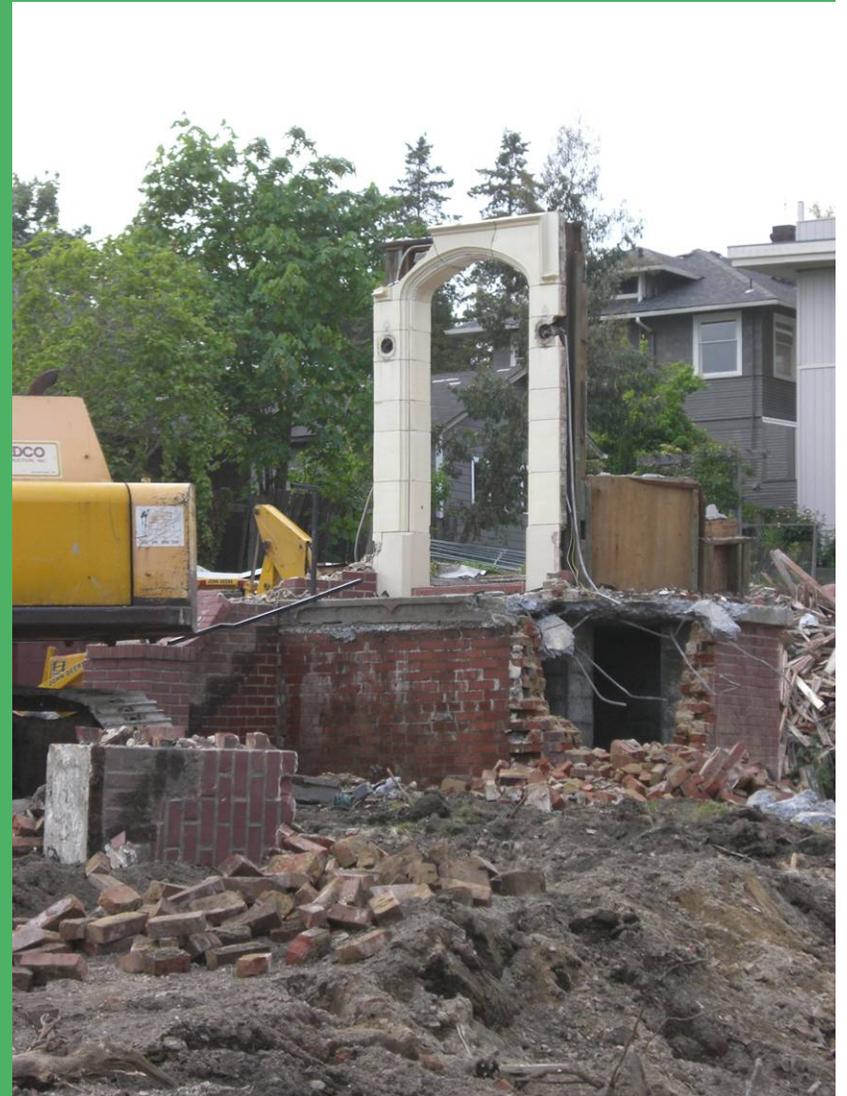
“Any new building, no matter how much green technology it incorporates, represents a new impact on the environment.”

– Richard Moe, 2007



Preservation Reduces Landfill Waste

- Construction debris accounts for 1/3 of all waste generated in US
- 136 million tons annually
- Only 20-30% recycled





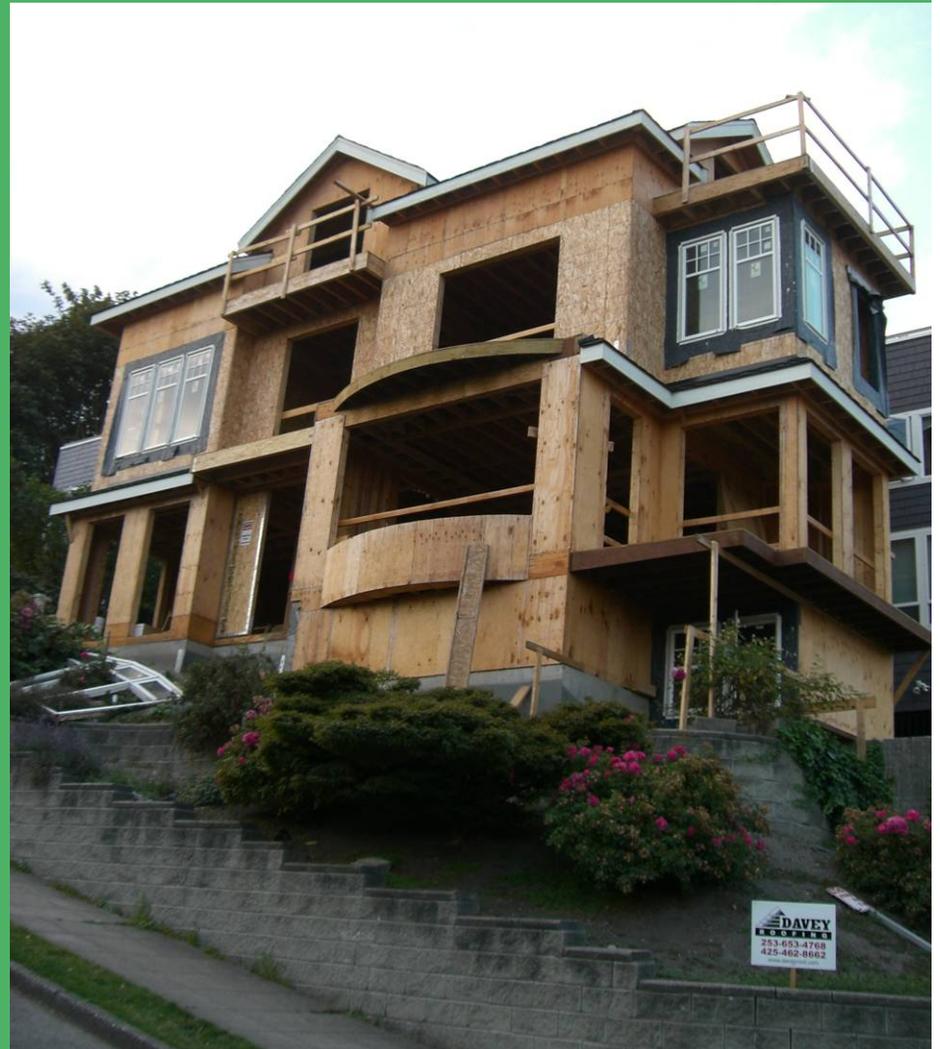
“I recognize the right and duty of this generation to develop and use the natural resources of our land; but I do not recognize the right to waste them, or to rob, by wasteful use, the generations that come after us.” – Theodore Roosevelt, 1910



Preservation

Reduces demand for new materials

- Vinyl is 40x more energy consuming than wood
- Aluminum is 125x more energy consuming than wood



Preservation

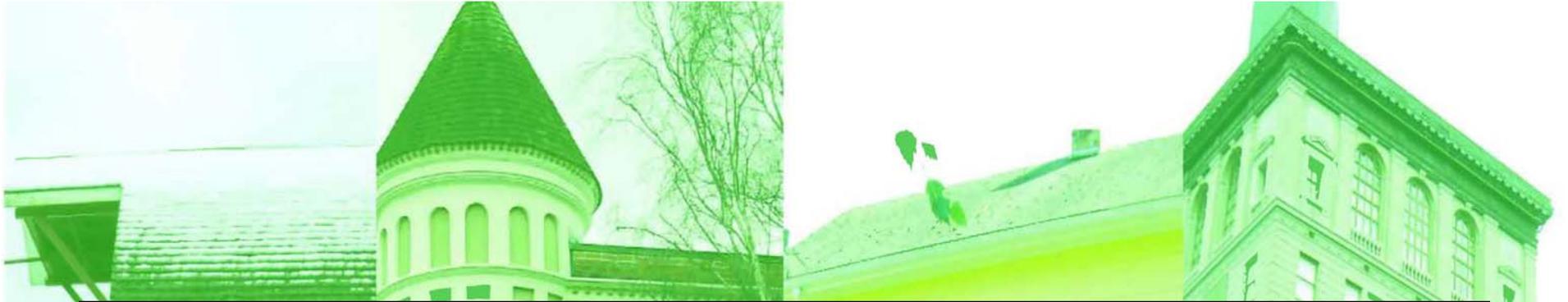
Reduces demand for new windows

- Single panes are easily replaced and recycled
- Glazing compound easily repaired
- Painted wood sash easily repaired or renewed
- Double or triple panes are not recyclable
- Glazing gaskets and blocks must be replaced
- Shop painted aluminum sash must be replaced

Preservation Utilizes Embodied Energy

- Reduces the loss of old growth timber
- Avoids new impacts
- Typical mid-20th century building contains equivalent of 5-15 gallons of gas/sq. ft.
- Nakamura Courthouse would have 1.9 million gallons.....





“If embodied energy is worked into the equation, even a new, energy-efficient office building doesn’t actually start saving energy for about 40 years. And if it replaces an older building that was knocked down and hauled away, the breakeven period stretches to some 65 years...”

– Mike Jackson, Preservation Magazine, Jan 2008



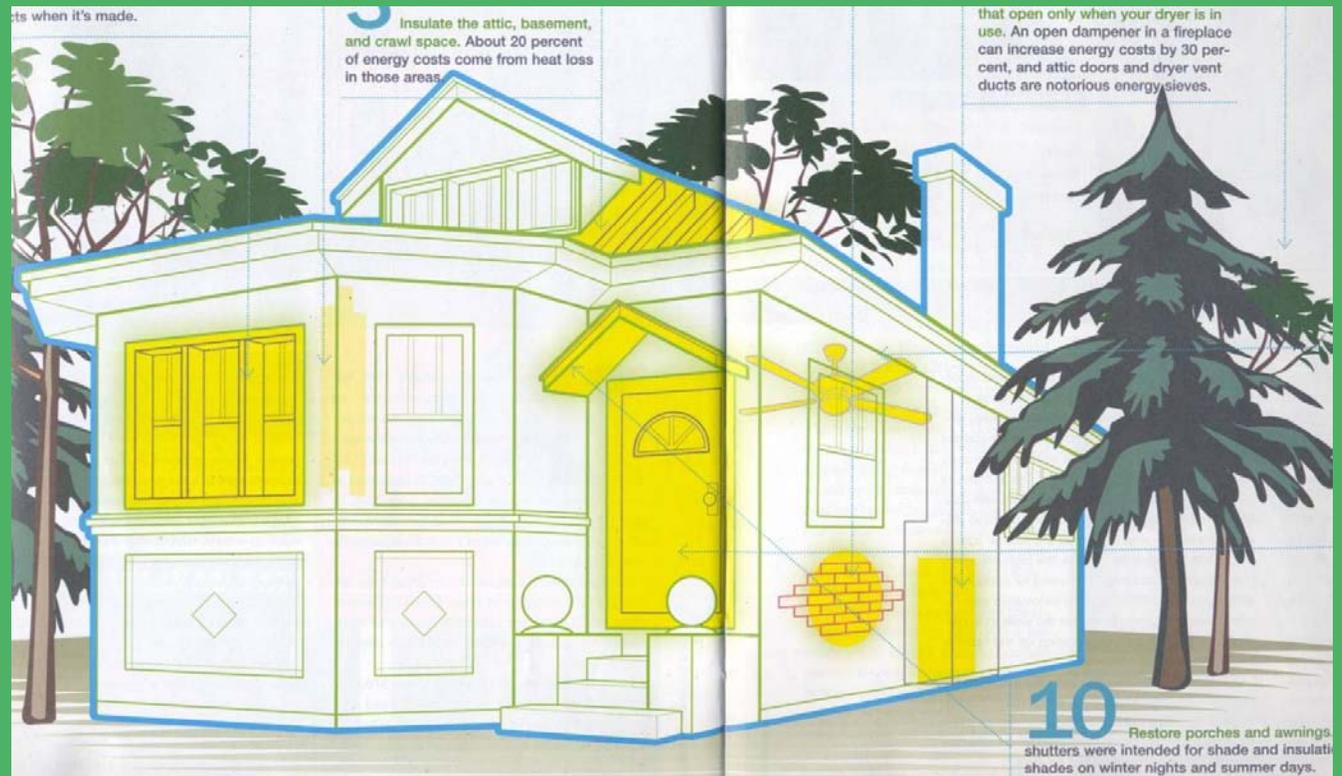
Preservation Reduces Operating Costs

- Many historic buildings are already energy efficient
- Pre-1920 buildings use 20% less energy than 1980s buildings
- Vast majority of heat loss is through the roof and walls



Preservation Reduces Operating Costs

Encourage attic/wall insulation &
window/door weatherization



Preservation Enhances Property Values

- Historic districts have a greater rate of property value appreciation
- Historic districts have more stable property values



Preservation Increases Employment

- New construction is 50% materials and 50% labor
- Rehabilitation is 60-70% labor



Preservation Increases Employment

For \$1 million...

- General production plant produces 23.9 jobs
- New construction produces 30.6 jobs
- Rehabilitation produces 35.4 jobs

And many of these are green collar jobs or specialized trades...

Preservation

Optimizes life-cycle performance

- Life span is 80+ for many local historic buildings
- 30% of new windows in buildings are replaced within 10 years
- Historic buildings have a high degree of flexibility in use





“Anyone who doesn’t see something amiss in replacing century-old windows with ‘environmentally responsible’ windows that will be junked and replaced every decade or two is suffering from an irony deficiency.”

– Wayne Curtis, Preservation Magazine, Jan. 2008



Preservation

Enhances occupant comfort and health

- Eliminates toxic assemblies, e.g. vinyl windows
- Individual controllability of ventilation



Preservation

Reduces Need for Additional Infrastructure

- Utilizes infrastructure already in place
- Higher density minimizes cost of infrastructure



Preservation Enhances Quality of Life

- Retains the memory of place
- Emphasizes importance of social capital in buildings and neighborhoods
- Encourages social interaction and civic engagement



Preservation Enhances Quality of Life

- Re-circulates paychecks within a community
- Provides heritage tourism dollars and overall community economic well-being
- Adds to the affordable housing stock



Making Preservation MORE Sustainable

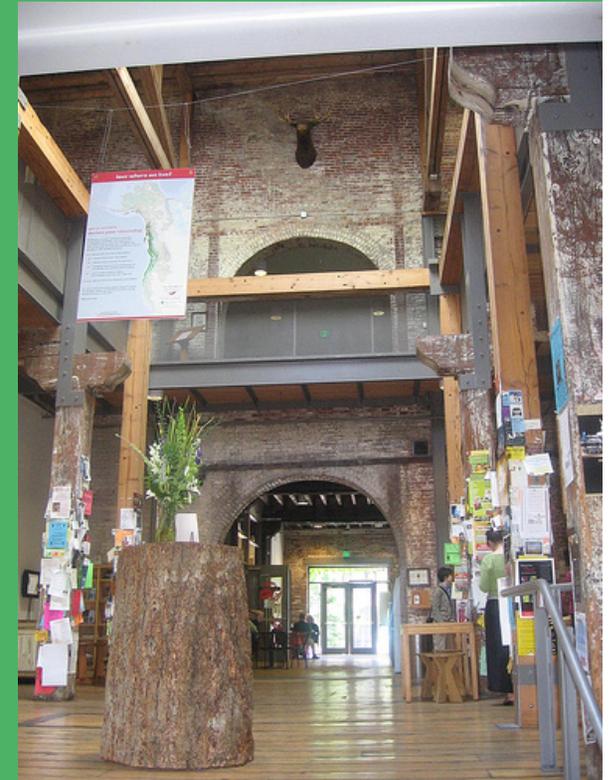
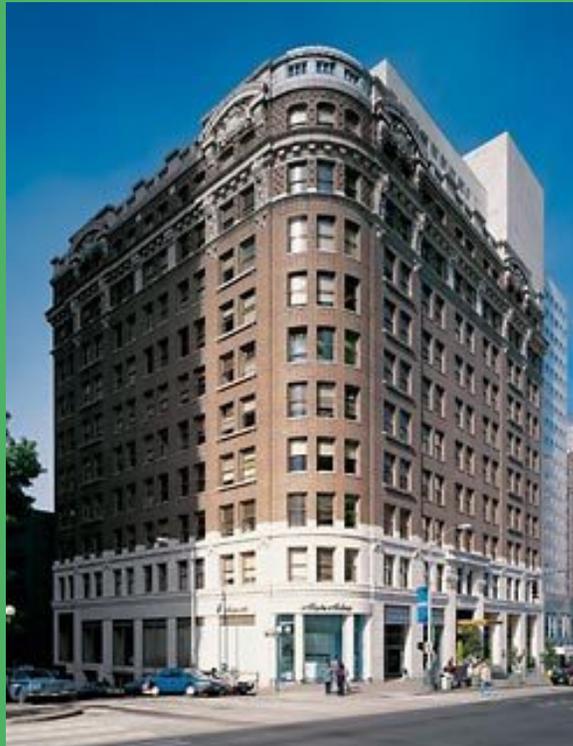
- Improve ability to rate historic preservation accurately in green standards
- Improve life-cycle analysis calculations
- Build buildings with 80-120 year life spans
- Expand historic rehab tax credit to incentivize appropriate green technologies

Preservation LEED Projects



Portland Armory
(Platinum)

Cobb Building
(Silver)



EcoTrust Building
(Gold)



The greenest building is
the one that's already
built.

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