



Economic Benefits of Preserving Existing Buildings

Prepared by the London Region Branch of Architectural Conservancy Ontario for Members of London City Council – February 2019

Evidence tells us that renovating, retrofitting, and reusing a building can generate more economic benefit to a community than demolition and new construction.

From the *Atlas of ReUrbanization* (US National Trust for Historic Preservation, 2016):

- For 50 US cities, researchers objectively assigned “Character Scores” to each city block based on an equal weighting of median building age, diversity of building age, and size of building. Blocks with high Character Scores (HCS) have building stock that is generally older, smaller in scale, and more diverse in age than blocks with low Character scores (LCS).
- The findings: In the 50 cities studied, there are **46% more jobs in small businesses** in the HCS areas than in the LCS areas. There are **33% more jobs in new businesses** in the HCS areas than in the LCS areas.
- When compared to the cost of the subsidies and incentives that are often used to attract large employers seeking to relocate to a city, preserving HCS areas can be an **inexpensive** way for a community to support business growth and job creation.
- According to the study, **older commercial districts are the incubators of the next big business**, and “must not be forgotten or overlooked”.

In addition, areas with High Character Scores have – in the 50 cities studied – **27% more affordable housing units**. HCS areas, by their nature, contain large numbers of “**unsubsidized**, naturally affordable housing” units. When the private sector provides affordable housing (which occurs more frequently in HCS areas than in LCS areas), there is **less pressure on the public sector** to do so.

Rehabilitation of an existing building will generate more employment than construction of a new building. According to Donovan Rypkema (in a presentation given at the Historic Districts Council Annual Conference in New York City on March 10, 2007):

“Across America **for every million dollars** of production, the average **manufacturing** firm **creates 23.9 jobs**. A million dollars spent in **new construction** generates **30.6 jobs**. But that same million dollars in the **rehabilitation of an historic building?** **35.4 jobs.**”

Others have come to similar conclusions. According to 2009 research by the Political Economy Research Institute (University of Massachusetts at Amherst), **50% more jobs** are created by **repairing** existing residential buildings **than** are created by **building new** ones.

Recent research confirms previous findings that more local employment is generated by the rehabilitation of existing buildings than by new construction. According to *State Historic Tax Credits: Maximizing Preservation, Community Revitalization, and Economic Impact* (US National Trust for Historic Preservation, **2018**):

- The costs of a **rehabilitation** project are made up of **60% labour and 40% material**, whereas the costs of a **new construction** project are made up of **40% labour and 60% material**.



Although the proportions differ, the **2009** University of Massachusetts research came to a similar conclusion. It found that **41% of residential repair costs are for labour**, whereas only **28% of new construction costs are for labour**.

Higher proportional labour costs yield greater economic benefits to a community due to the multiplier effect. An employed worker spends money in the community, which generates additional employment and economic activity. Unless material is harvested or manufactured locally, the material costs of a project do not generate comparable economic benefits.

Rehabilitation of existing buildings can be less expensive than new construction. According to the Los Angeles Conservancy:

- The **Chicago public school system** embarked on a major upgrade project several years ago. It determined that the cost of bare-bones new construction was \$155US per square foot while the cost of renovations was \$130US per square foot, a **savings of about 16%**.
- A Los Angeles **department store built in 1914, vacant for 20 years** and subject to significant **vandalism** damage during that period, was renovated to house 1,700 state employees – an “**adaptive re-use**”. The project was completed in 1999 at a **cost-per-square-foot of approximately one-half** that of a nearby, **similar-sized new state-owned office building** that had been completed in 1989 (ten years earlier).

Old buildings aren't always less energy-efficient than newer buildings. From the National Trust for Historic Preservation:

- Data from the US Energy Information Agency finds that buildings constructed before 1920 are more energy-efficient than those built later in the 20th century.
- “In 1999, the General Services Administration examined its building inventory and found that utility costs for historic buildings were 27% less than for more modern buildings.”

Formed in 1966 in response to the threatened destruction of London's original financial district on Ridout Street, the **London Region branch of Architectural Conservancy Ontario** (ACO) is a charitable organization dedicated to promoting, conserving, and interpreting the architectural heritage of the London area. Members of ACO London, through education and advocacy, encourage the conservation and reuse of structures, districts and landscapes of architectural, historic and cultural significance, to inspire and benefit the city and people of London, Ontario and region.

Let's talk. For further discussion regarding the economic, environmental, and cultural benefits of heritage preservation, please contact us at info@acolondon.ca or the president of ACO London Region directly (president@acolondon.ca).



Environmental Benefits of Preserving Existing Buildings

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A growing body of evidence tells us that renovating, retrofitting, and reusing a building is almost always preferable – from a climate change mitigation perspective – than demolition and new construction. Some highlights from *The Greenest Building: Quantifying the Environmental Value of Building Reuse* (US National Trust for Historic Preservation, 2011)

- “It can take between 10 and 80 years for a new building that is 30 percent more efficient than an average-performing existing building to overcome, through more efficient operations, the negative climate change impacts related to the construction process.”
- In 5 of 6 conversion types analysed, “savings from reuse are between 4 and 46 percent over new construction when comparing buildings with the same energy performance level.”
- “The absolute carbon-related impact reductions can be substantial when these results are scaled across the building stock of a city.”
- “In general, renovation projects that require many new materials ... offer less significant environmental benefits than scenarios in which the footprints or uses of the building remain unchanged.”
- “Reusing existing buildings can offer an important means of avoiding unnecessary carbon outlays and help communities achieve their carbon reduction goals in the near term.”

However, some retrofitting projects – most specifically: **window replacement** – can represent a poor decision from an environmental or economic perspective:

- According to 1996 research entitled *Testing the Energy Performance of Wood Windows in Cold Climates* (Brad James, Andrew Shapiro, Steve Flanders, Dr. David Hemenway), the first-year energy savings of a replacement window over a restored wooden window with a good storm window was less than one dollar. **Repairs** to existing windows deliver **more energy efficiency at a lower cost**. This research was conducted by the Vermont Energy Investment Corporation, the University of Vermont School of Civil and Environmental Engineering, and the US Army Cold Regions Research and Engineering Laboratory.
- **Wooden windows** can be repaired and will last **indefinitely**. **Replacement windows** will almost certainly have to be replaced – yet again – in about **20 to 25 years**. The reason for this is that, while the glass and aluminum components will last indefinitely, edge seals – which cannot be repaired – are likely to fail in about 20 years. (Historic Preservation, Second Edition, by Norman Tyler, Ted J. Ligibel, and Ilene R. Tyler, 2009, pages 304 and 305)
- Some cities provide information to their residents on this subject in order to counter the marketing efforts of the replacement window industry. The City of Ithaca (New York) is one example: <https://www.cityofithaca.org/DocumentCenter/View/1601/Historic-Wood-Windows-Tip-Sheet?bidId>.



New construction carries a steep environmental price. More from the National Trust for Historic Preservation:

- “Building a 50,000 square foot commercial building requires the same amount of energy (as is) needed to drive a car 20,000 miles a year for 730 years.”
- “Construction debris accounts for 25% of the waste in the municipal waste stream each year.”
- “A recent study from the United Kingdom’s Empty Home Agency finds that it takes 35 to 50 years for a new, energy efficient home to recover the carbon expended to construct the home.”

With the Manning Drive landfill facility expected to run out of disposal capacity by 2025, there are economic as well as environmental benefits to reducing the amount of construction and demolition debris generated in London. According to the 2017 W12A Annual Report, an estimated 50,000 tonnes (125 kg per resident) of construction, renovation, and demolition waste generated in London could not be recycled and 88% of that waste (44,000 tonnes) went to the Manning Drive landfill. This represents approximately 16% of the total waste sent to that facility in 2017.

Old buildings aren’t always less energy-efficient than newer buildings. Yet more from the National Trust for Historic Preservation:

- Data from the US Energy Information Agency finds that buildings constructed before 1920 are more energy-efficient than those built later in the 20th century.
- “In 1999, the General Services Administration examined its building inventory and found that **utility costs for historic buildings were 27% less** than for more modern buildings.”

“The Greenest Building Is... One That Is Already Built”
Carl Elefante (Architect), 2007

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