March 3, 2025

OR State Legislature
House Committee on Housing & Homelessness

I am writing to provide testimony on House Bill 2138-1. At the Architectural Heritage Center and Bosco-Milligan Foundation, we support the intent to create more "missing middle" housing, however we are in the unfortunate position of having to **oppose the bill because of because of one line - Section 22(1) f – which unrelatedly removes Demolition Review for Contributing structures in National Register historic districts.**

Our position is simple: remove this one sentence during the bill amendment process. As written, Section 22(1)(f) has no requirement that middle housing or affordable housing replace the demolished historic structure. It has NO connection to the bill's goal.

We know that our existing older homes are NOT an impediment to adding housing, nor does the balanced process of demolition review. Retaining Demolition Review does not remove the potential of a building demolition, it ensures a reasonable review process and a chance for the public to have a voice prior to doing so.

Why this matters:

- National Register districts often represent the collective cultural heritage of a community. Contributing structures are integral to understanding a district's social, economic, and architectural history. Retaining them allows future generations to appreciate and learn from the past.
- Contributing structures play a vital role in maintaining the historical integrity and character of a district. Removing or altering them can change the district's historical narrative and erode its authenticity.
- **Demolition review is the ONLY protection Oregon provides for these resources.**
- Historic designation requires rigorous research and vetting to prove cultural significance. They should not be erased without careful consideration.
- Demolition is forever and **more demolition works against our climate goals.**
- No protection + no restoration and reuse incentives mean **Oregon is dead last in the U.S. for stewardship of its heritage places. We can do better.**

Oregon needs to prioritize low-carbon housing strategies that add affordable options in existing buildings over impactful demolition and resource-intensive costly new construction whenever possible.

- New construction is incredibly carbon intensive. Building materials represent 90% of carbon emissions compared to operations. Consider the high carbon impact of extraction, refinement, and transport of new construction materials.
- According to Preservation Green Lab, it can take between 10-80 years to offset the environmental impact of demolition, even when replaced with a new building that is 30% more energy efficient. Translation: it is not just about making buildings more energy efficient, reducing extraction of new construction materials Is critical.
- "**Renovating just one older home vs. demolishing or replacing it, equates to taking 93 cars off the road for an entire year."** (Restore Oregon 2021 Brief based on EcoNorthwest Study)
- It is essential that we leverage our existing resources as much as possible now because what we do in the next ten years will have the greatest impact in mitigating the increasingly harmful effects of climate change.

The attached research brief, highlights: "The City of Portland issued 1,160 demolition permits between 2016 – 2020. Subtracting deconstructions from the demolition total still yields a shocking figure: the CO2 emissions generated in Portland by **823 residential demolitions over a span of five years are roughly equivalent to the burning of 36 million gallons of gasoline or the annual emissions of 76,480 cars**. Over that same timespan, "the City of Portland issued 376 demolition permits for commercial buildings," yielding emissions equivalent to 182 million gallons of gas **or annual emissions from over 380,000 cars.**

Countries like England have just made the shift to prioritize a "Retrofit First" policy. We can and should too. If there is concern about housing in heritage areas, adaptive reuse incentives can help us tap existing buildings for housing - a win-win opportunity with a low-carbon approach to adding density.

Three low-carbon housing strategies Oregon should be using to increase affordable housing:

1. Add a State Rehab Tax Incentive for Commercial Buildings - 39 other states have a Rehab Tax Credit, but this is missing from Oregon's housing toolbox. This could provide an additional 20% more financial resources above the federal incentive (up to 40% benefit in total to address our housing, climate, and resiliency goals). This could provide funding for a) conversion of existing historic commercial properties to residential uses, b) help address unreinforced masonry buildings for enhanced resilience, and c) provide more energy efficiency to address climate goals.
2. Create the Package of Technical Tools & Incentives for Adaptive Density in Existing Dwellings. To increase housing in heritage areas, a more inclusive "both-and" strategy would be to add more units within designated historic areas through a financial incentive package for adapting existing residential to multi-unit housing in non-contributing properties, conversions to duplexes, adapting basements, attics, and garages as ADU's, as well as adding additional square footage. These could include low interest loans, technical assistance, etc. Added housing units are quicker to provide, with less demolition impacts.
3. Retain Existing Affordable Housing within historic districts. Many older buildings provide greater affordability due to their age whereas new construction is inherently more expensive due to high cost of materials, transportation, refinement, and supply chain issues. Older buildings are often well-built of solid construction and provide naturally occurring affordable housing ("NOAH") construction due to their age within historic areas. Frequently, these naturally affordable units are demolished and replaced with much more expensive single units or duplexes without any affordability requirement, with far greater price tags, spurring higher real estate prices, increased gentrification, and displacement of lower-income renters.

Oregonians care about both housing affordability, climate, and cultural preservation. Many communities understand that vital, livable cities require balancing economic health, housing, livability, and environmental sustainability, and that there are many ways to achieve our goals. The adaptive approaches above are likely to garner greater support from communities across Oregon because they retain our heritage and support more housing with lower impact. A successful housing policy needs a broader spectrum of performance and impact criteria for evaluating "good" housing – not just fast, cheap, and plentiful – we need to ensure this includes climate, quality, affordability, cultural sensitivity, and making housing well-tuned to those that need it most.

Removing Demolition Review is counter to Statewide planning goals. Ensuring communities retain a voice is a key tenet of State Goals 1 and 5. Retaining Demolition Review does not remove the potential for demolition, it simply ensures an equitable voice.

The Oregon Legislature's Citizen Engagement website[1] *highlights boldly: "**The connection between people and their government is strengthened when the public has ample opportunity to have their concerns heard**…"* This is a value held dear to Oregonians, and we would hope that our state legislators would support retaining the long-standing best practice of Demolition Review that ensures exactly this – a public process that gives everyone a voice in shaping their community. Please remove Section 22(1)(f) from the bill and push for more climate responsive housing strategies for adaptive density.

Thank you,
Heather Flint Chatto, Executive Director
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[1] *Source: www.oregonlegislature.gov/citizen_engagement*

Hidden Cost of Demolition & Reconstruction

Excerpts from P. Moretti's Oregon Field Notes article, 2021

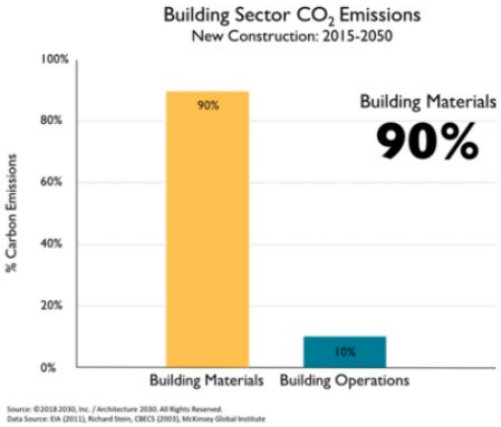
"It is often assumed that the CO2-reduction benefits gained by a new, energy efficient building outweigh any negative climate change impacts associated with the construction of that building." This is untrue.

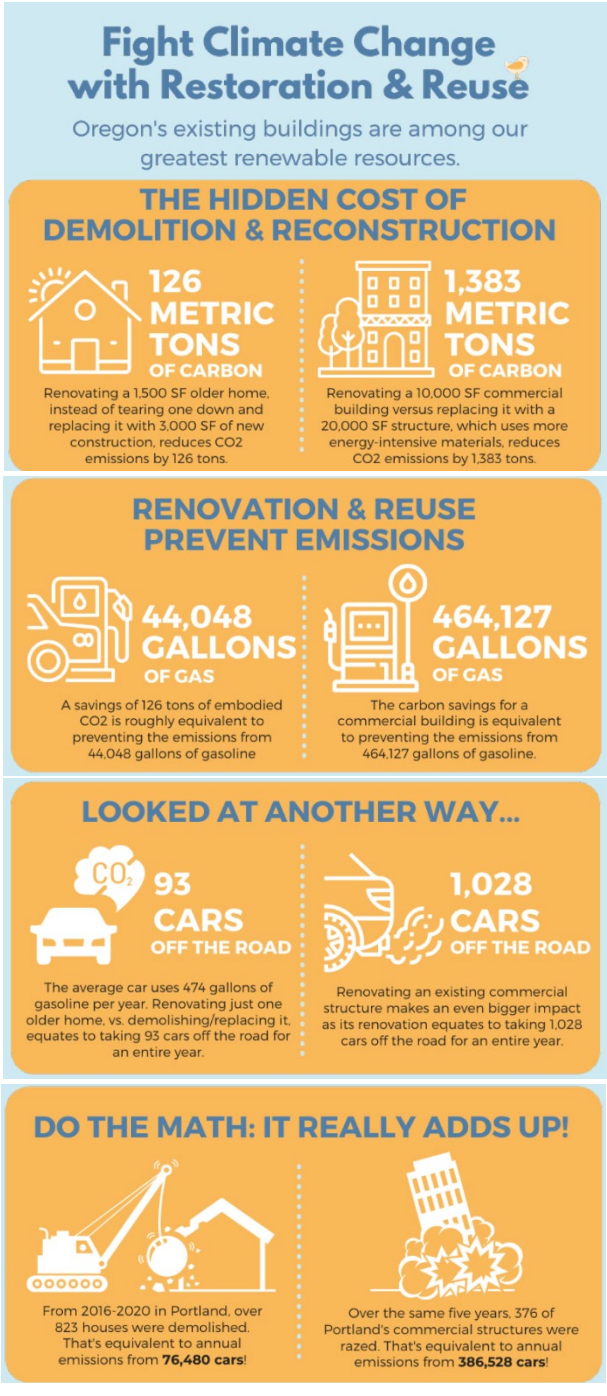
A 2016 GreenLab study finds that "it takes 10 to 80 years for a new building that is 30 percent more efficient than an average-performing existing building **to overcome**… **the negative climate change impacts** related to the construction process.**"**

Renovating just one older home vs. demolishing or replacing it, equates to taking 93 cars off the road for an entire year.[2]

Renovating a 1500 square foot older home, instead of tearing one down replacing it with 3,000 square feet of new construction, **reduces CO2 emissions by 126 metric tons of carbon**. A savings of 126 tons of embodied CO2 is roughly equivalent to **preventing emissions from 44,048 gallons of gasoline.**

The City of Portland issued 1,160 demolition permits between 2016 – 2020. "Subtracting deconstructions from the demolition total still yields a shocking figure: the CO2 emissions generated in Portland by **823 residential demolitions over a span of five years are roughly equivalent to the burning of 36,251,504 gallons of gasoline or the annual emissions of 76,480 cars" equivalent to annual emissions from 76,480 cars.** "Over that same five-year period, the City of Portland issued 376 demolition permits for commercial buildings, yielding emissions equivalent to **182,031,752 gallons of gas" or annual emissions from over 380,000 cars.**





[2] The average car uses 474 gallons of gasoline per year.

Understanding the Carbon Cost of Demolition

By Peggy Moretti

While championing the role that preservation and reuse can play in meeting Oregon's goals for protecting the environment, Restore Oregon has often quoted Carl Elefante, former president of the American Institute of Architects, who famously said "The greenest building is the one that already exists." Recently, we enlisted independent research firm ECONorthwest to better quantify that greenness.

ECONorthwest was charged with analyzing dozens of studies evaluating the environmental impacts associated with building demolition, including one study from the Carbon Leadership Forum at the University of Washington which measured emissions from over 1,000 construction projects across the United States. They then crunched the numbers to estimate the average CO2 emission reductions realized by renovating existing structures rather than demolishing and replacing them. Finally, ECONorthwest presented their analysis using relatable real-world examples which policymakers and property owners can use to guide decisions about construction, land-use and density.

Because modern development practices almost always involve replacing historic buildings with significantly larger structures, ECONorthwest calculated emissions by assuming replacement buildings would be twice the size of their predecessors. We acknowledge that in some circumstances -- like when a modest single-story structure is replaced with a multi-story building -- this assumption may be conservative.

According to ECONorthwest's calculations, renovating a 1,500 SF older home reduces embedded CO2 emissions by 126 metric tons, versus tearing down the same structure and replacing it with a new 3,000 SF residential building. Such savings may be better understood this way: a savings of 126 metric tons of embedded CO2 is roughly equivalent to the prevention of 44,048 gallons of gasoline emissions being released into the atmosphere. In the case of a 10,000 SF commercial building, which would typically utilize more energy-intensive materials and construction techniques than residential construction, the CO2 emissions savings would be 1,383 metric tons, or the equivalent of 484,127 gallons of gasoline burned.

According to the Monthly Energy Review published by the U.S. Energy Information Service, the average American car uses 474 gallons of gasoline per year. Thus, renovating an older home, rather than demolishing and replacing it, equates to removing 93 cars from the road for an entire year, while a single commercial renovation equates to removing 1,028 cars from the road for the same period of time.

While no official statewide tally of demolitions exists, Portland does track demolition permit applications. According to Shawn Wood, Construction Waste Specialist for the City of Portland, 1,160 demolition permits were issued between 2016 – 2020. Of those, 337 homes were ultimately deconstructed, not demolished. Subtracting deconstructions from the demolition total still yields a shocking figure: the CO2 emissions generated in Portland by 823 residential demolitions over a span of five years are roughly equivalent to the burning of **36,251,504 gallons of gasoline** or the **annual emissions of 76,480 cars**. Over that same five year period, the City of Portland issued 376 demolition permits for commercial buildings, yielding emissions equivalent to **182,031,752 gallons of gas or annual emissions from 384,033 cars**.

Based on figures provided by ECONorthwest and the Bureau of Development Services, for the City of Portland to reach its stated CO2 emissions reduction goal, they would need to reduce annual CO2 emissions by 2,798,500 metric tons over 2018 levels. Conservatively speaking, residential and commercial demolitions in the City of Portland are responsible for 124,741 metric tons of C02 emissions per year, which amounts to approximately 4.5 percent of the City's total annual reduction goal. That is significant.

We know what you're thinking. Surely those thousands of tons of squandered carbon emissions are offset by the overall energy-efficiency of new construction. Not necessarily. Per a 2016 GreenLab report produced by the National Trust for Historic Preservation:

"It is often assumed that the CO2-reduction benefits gained by a new, energy efficient building outweigh any negative climate change impacts associated with the construction of that building. This study finds that it takes 10 to 80 years for a new building that is 30 percent more efficient than an average-performing existing building to overcome, through efficient operations, the negative climate change impacts related to the construction process."

Also worth considering is the fact that most historic buildings were built to meet their energy needs passively. Lighting, heating, cooling and ventilation were addressed via practical design elements such as transom windows, double-hung windows, awnings, recessed entryways, bulkhead grates, ceiling fans and tall, reflective ceilings. Larger structures tended to also utilize skylights and light wells, as well as shared walls which allowed individual buildings to serve as thermal walls for neighboring structures. Over time, alterations to these clever features can reduce or destroy a building's ability to function as intended.

Reversing such alterations, while addressing energy-wasting leaks in building envelopes, embracing renewable energy sources, and employing newer technologies such as energy-efficient lighting, floor and attic insulation, and updated HVAC systems, can make existing buildings as energy efficient as new construction – or more so – as evidenced by the many restoration and adaptive reuse projects which have received LEED certification.

Fight Climate Change with Restoration & Reuse

Oregon's existing buildings are among our greatest renewable resources.

What should be done?

Existing homes and buildings are among Oregon's greatest renewable resources. As such, their restoration and reuse should be promoted as an effective strategy for meeting carbon reduction goals statewide. However, a housing shortfall – combined with escalating land and housing costs – has driven land use planners, elected officials and developers to call for cities to build, baby, build! The more density the better is another common refrain. Some even advocate for removal of demolition protections for historic districts. In many places, affordable older housing stock, which is not designated historic but still retains useful life, is being razed at an alarming rate. And the rezoning of commercial districts to allow for increased heights has incentivized demolition of numerous pedestrian-scale buildings. As demonstrated above, all of this demolition comes at a big environmental cost.

As part of our advocacy agenda, Restore Oregon will be calling upon policy makers to acknowledge the environmental impact of sending usable buildings to landfills; strive for density without demolition; provide meaningful incentives for retention and reuse; and maintain or strengthen demolition review requirements for designated historic properties.

Certainly there are times when the public benefit of replacing an existing building outweighs the value of retaining it, such as when multiple units of new affordable housing can be created. But we urge government officials and private property owners to carefully consider the impact of demolitions on the sustainability and health of our communities, environment and planet.

Visit RestoreOregon.org for more information and to find links to source documentation for further reading.

THE HIDDEN COST OF DEMOLITION & RECONSTRUCTION

126 METRIC TONS OF CARBON

Renovating a 1,500 SF older home, instead of tearing one down and replacing it with 3,000 SF of new construction, reduces CO2 emissions by 126 tons.

1,383 METRIC TONS OF CARBON

Renovating a 10,000 SF commercial building versus replacing it with a 20,000 SF structure, which uses more energy-intensive materials, reduces CO2 emissions by 1,383 tons.

RENOVATION & REUSE PREVENT EMISSIONS

44,048 GALLONS OF GAS

A savings of 126 tons of embodied CO2 is roughly equivalent to preventing the emissions from 44,048 gallons of gasoline

464,127 GALLONS OF GAS

The carbon savings for a commercial building is equivalent to preventing the emissions from 464,127 gallons of gasoline.

LOOKED AT ANOTHER WAY...

93 CARS OFF THE ROAD

The average car uses 474 gallons of gasoline per year. Renovating just one older home, vs. demolishing/replacing it, equates to taking 93 cars off the road for an entire year.

1,028 CARS OFF THE ROAD

Renovating an existing commercial structure makes an even bigger impact as its renovation equates to taking 1,028 cars off the road for an entire year.

DO THE MATH: IT REALLY ADDS UP!

From 2016-2020 in Portland, over 823 houses were demolished. That's equivalent to annual emissions from **76,480 cars**!

Over the same five years, 376 of Portland's commercial structures were razed. That's equivalent to annual emissions from **386,528 cars**!

Embodied energy is all the energy used constructing a building, including the creation of materials and building components as well as their transportation of the site.

Sources

ECONorthwest Report: Value of CO2 emissions reduction through building restoration, 2020.

Strain, Larry. "Time Value of Carbon." Seattle, WA: Report prepared for Carbon Leadership Forum at the University of Washington, 2017.

Historic Preservation And Energy Efficiency: A guide for historic commercial buildings. Published by Pacific Power, in collaboration with Energy Trust of Oregon, Clatsop Community College, and Oregon Main Street, 2015.

The Greenest Building: Quantifying the Environmental Value of Building Reuse. Published by The National Trust for Historic Preservation/Preservation GreenLab in partnership with Cascadia Green Building Council, Skanska, Green Buildings Services and Quantis.

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