

House – How Much is Enough?

2018 PIELC Conference

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Various Small Home Motivations -in addressing Oregon code issues-

- Homelessness solutions
- Resource Conservation
- Economic opportunity
- Building locally rather than out-of-state
- Personal Choice – “my right to choose my home size”
- Freedom from possessions
- Affordability & accessibility in ownership
- Resetting cultural norms: ‘bigger is better’

WHY IS HOUSING IMPORTANT:

Notwithstanding current best code required specifications, the Average **2400 sq.ft. U.S. S.F. home** has lifecycle carbon emission of **7.4 tons CO₂e / year over 50 year lifecycle analysis**

Blanchard, S. and P. Reppe (1998) Life Cycle Analysis of a Residential Home in Michigan.
CSS98-05



Increased average area per person in a new U.S. single-family house: (Census Data)

- 1950: 292 sq ft per person
- 1970: 478 sq ft per person
- 2000: 840 sq ft per person
- 2015: 1,059 sq ft per person
- 263% increase from 1950.

- **The average U.S. single-family home built in 2000 required 19 tons of concrete, 13,837 board-feet of lumber, and 3,061 square feet of insulation.¹**
- **In 2012, around 24% of all wood products consumed in the U.S. were used for residential construction.²**
- **Approximately 4.5 pounds per square foot of waste from construction of a new house, 5 tons per average size home³**

1. U.S. EPA (2013) Analysis of the Life Cycle Impacts and Potential for Avoided Impacts Associated with Single-Family Homes.
2. World Resources Institute (2008) Material Flows in the United States: A Physical Accounting of the U.S. Industrial Economy.
3. U.S. EPA (2009) Estimating 2003 Building-Related Construction and Demolition Materials Amounts.



Quick Overview

Three Centuries of Tiny Homes

- 18th: Thomas Jefferson (1770)
- 19th: Western Frontier House (c. 1800)
- 20th: SF Earthquake Houses (1906)

(Credit: Lester Walker, Tiny Tiny Houses 1987)

- : Contemporary (1972 - 2017)

(Personal experiences with tiny or very small homes)

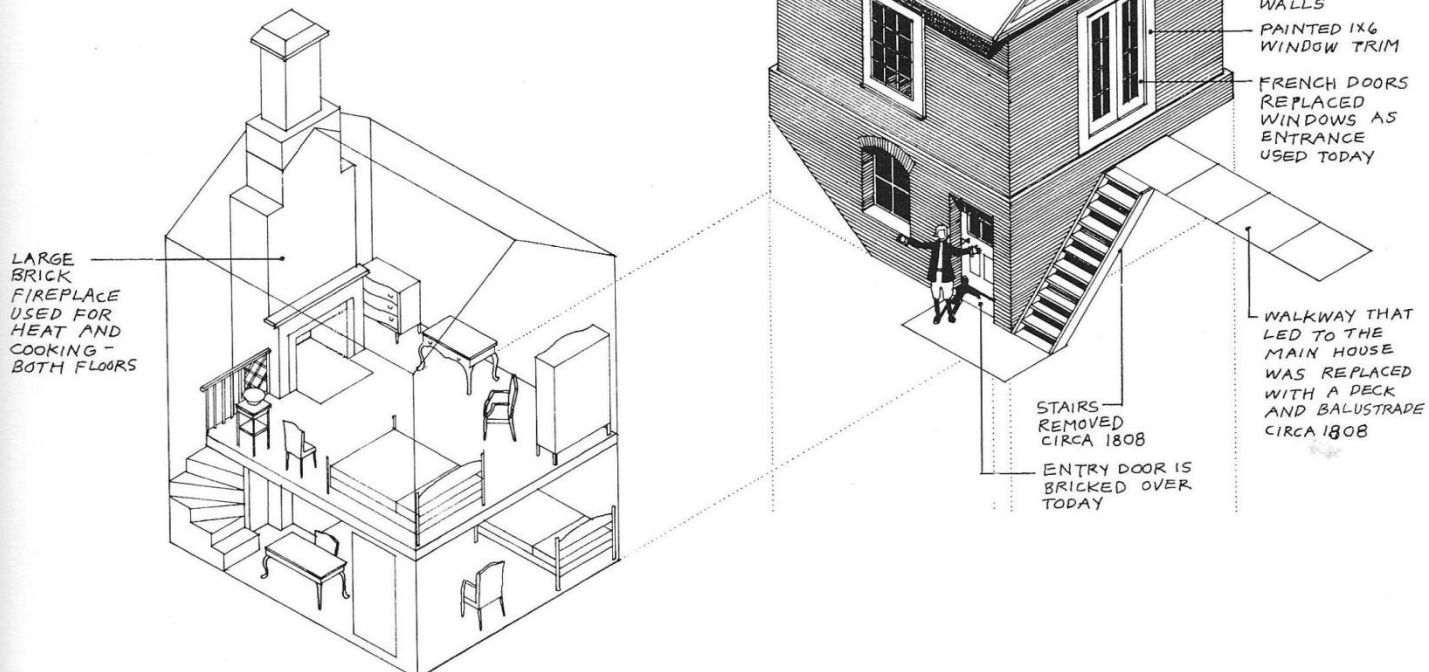
Thomas Jefferson's Honeymoon Cottage

15' x 14' plus unused second floor

210 square feet

During the thirteen years that it took Thomas Jefferson to build his famous Virginia home Monticello, he lived in a small brick building at the end of the south pavilion. Jefferson specifically had this part of Monticello completed first so that he would have a place to live while he supervised the construction of his new home.

He moved into his temporary quarters on November 26, 1770, and described it then in a letter to James Ogilvie: "I have here but one room, which, like the cobbler's, serves me for parlour, for





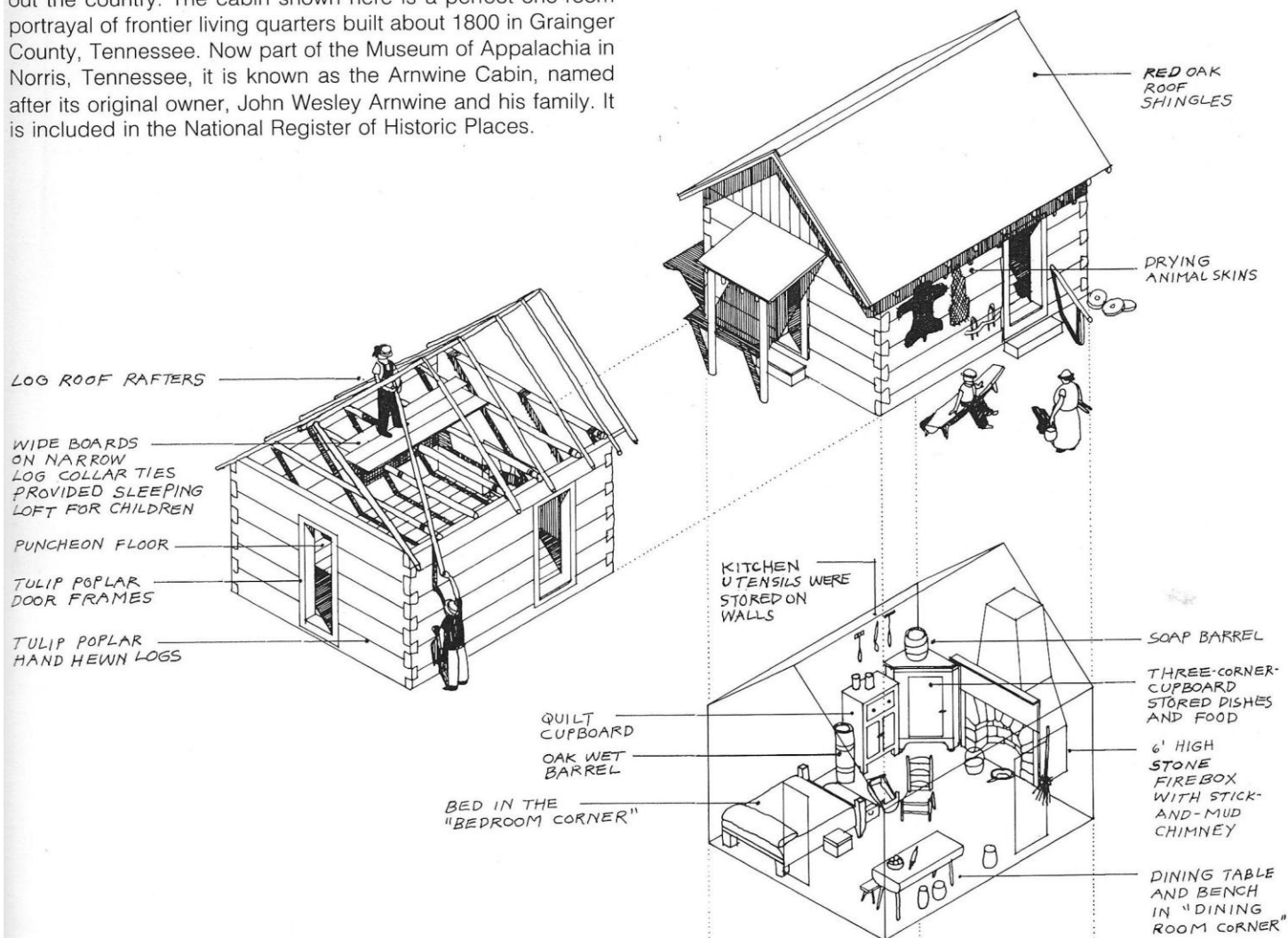
Monticello, Virginia

Frontier Cabin

16' x 14' plus sleeping attic

224 square feet

Among America's most interesting tiny houses from an anthropological point of view are the log cabins built first by Swedish settlers and later by frontiersmen and traders throughout the country. The cabin shown here is a perfect one-room portrayal of frontier living quarters built about 1800 in Grainger County, Tennessee. Now part of the Museum of Appalachia in Norris, Tennessee, it is known as the Arnwine Cabin, named after its original owner, John Wesley Arnwine and his family. It is included in the National Register of Historic Places.



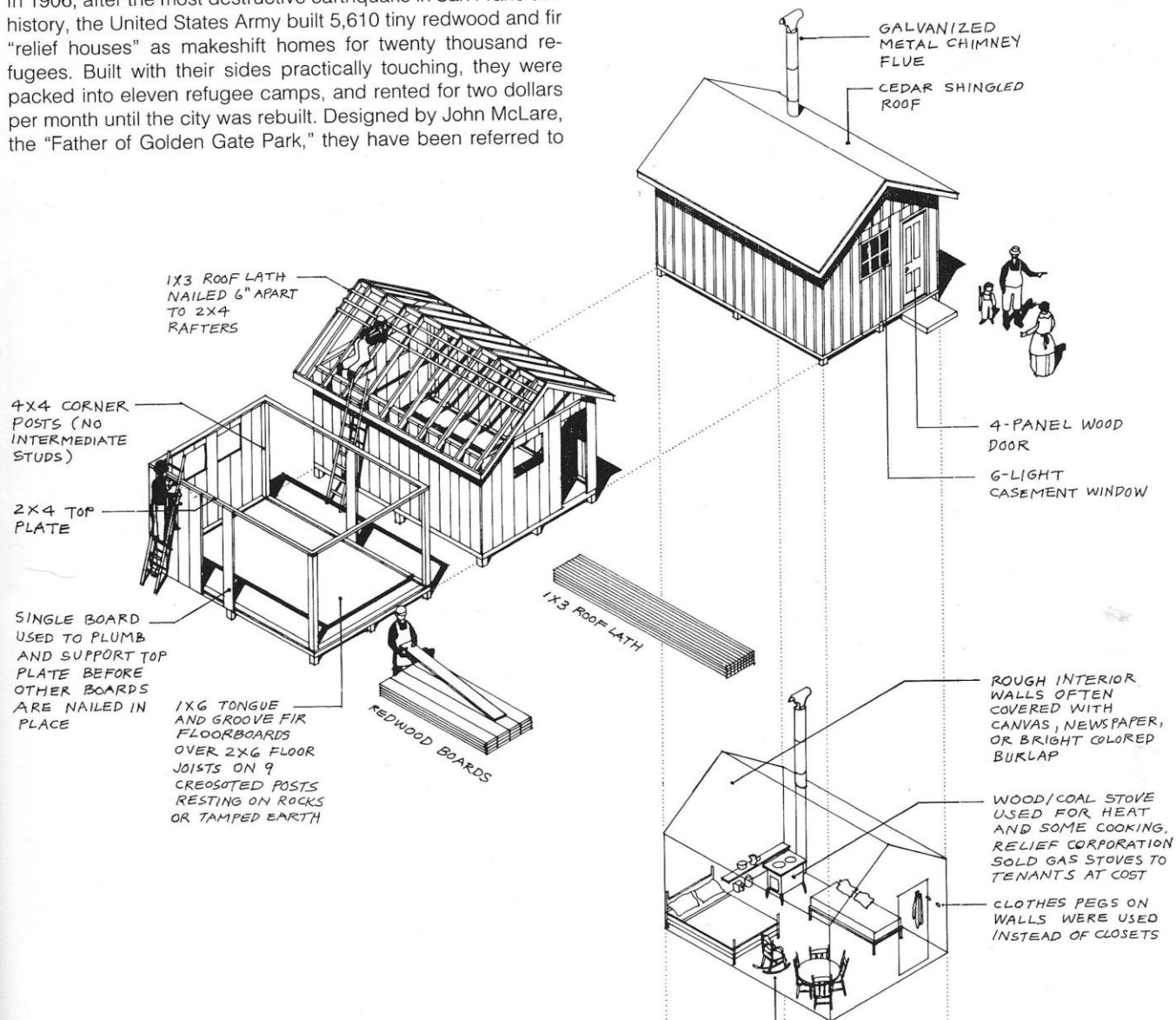


Earthquake Refugee Shack

14' x 10'

140 square feet

In 1906, after the most destructive earthquake in San Francisco history, the United States Army built 5,610 tiny redwood and fir "relief houses" as makeshift homes for twenty thousand refugees. Built with their sides practically touching, they were packed into eleven refugee camps, and rented for two dollars per month until the city was rebuilt. Designed by John McLare, the "Father of Golden Gate Park," they have been referred to









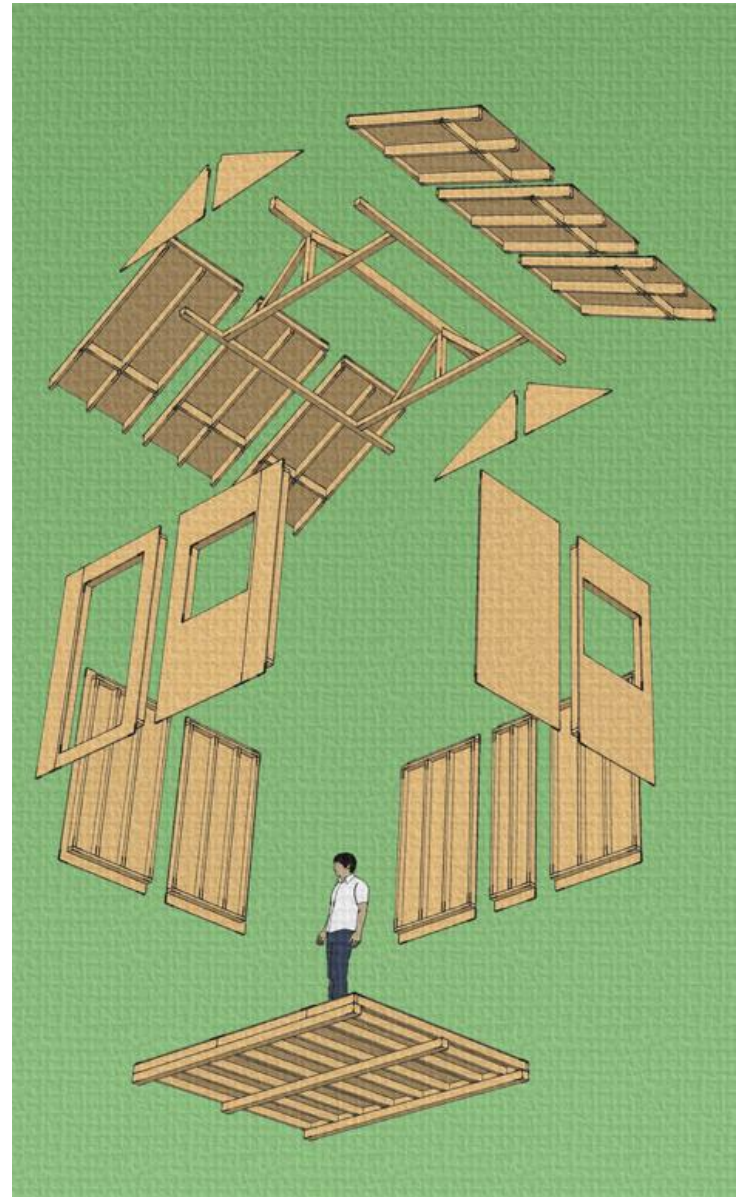
Emerald Village Eugene

Tiny House Design Program:

- 250 Sq. ft. maximum
- \$15,000.00 target budget for materials (retail value)
- Simple structure with 2' / 4' / 8' modules
- Small kitchen including a sink/fridge/microwave/hot plate
- Full bath including shower/toilet



Opportunity Village Eugene





Emerald Village Eugene



Tiny House Building Code

- Tiny House Appendix Q adopted in 2018 International Residential code
- Defines and permits sleeping loft access by ladder
- Lowers minimum ceiling height
- Oregon House Bill 2737



Before, during and after HB2737 – Story in Brevity

Goal: Maximizing space utility – Sleeping Lofts.

Problem: Oregon Building Codes do not allow.

Solution: Change building codes.

Problem: Oregon BCD prejudiced against micros

Solution: Adopt model code Amendment Q

Problem: Oregon BCD objects condemns Am.Q

Solution: Legislature directs BCD to adopt Am.Q

Problem: BCD manipulates HB2737 (2017)

Solution: Legislation fix or bootleg tiny homes

Taking it one step at a time:

What Does Oregon State Law Actually Say:

455.015 Legislative findings. The Legislative Assembly finds and declares that:

(1)(a) It is in the best interests of this state that construction-related development activities proceed in a manner that is as quick and efficient as practicable;

(b) Ensuring that construction-related development activities proceed quickly and efficiently requires a flexible and responsive system for state building code administration and enforcement; and

(c) Having a flexible and responsive system for state building code administration and enforcement requires that sufficient staff and resources be available to assist the Director of the Department of Consumer and Business Services as needed.

(2) It is in the best interests of this state that state building code regulations encourage economic development, experimentation, innovation and cost effectiveness in construction, especially construction in rural or remote parts of this state. [2013 c.528 §2]

IRC National Model Code

Appendix Q for ladders & lofts in dwellings up to 400 s.f.

- Adopted 2017 by $\frac{3}{4}$ vote : 20,000 voting ICC congress
- Oregon Building Codes Agency not interested
- HB2737 House adopts Appendix Q by 43-16 vote
- Senate amends 2737 to refer to BCD to adopt by OAR
- BCD considers IRC process flawed.
- BCD makes lofts and ladders functionally impractical for most tiny homes.
- Legislature 2018 looks slim, stay tuned.

Legislature Passes HB2737 2017

- House vote passes Appendix Q by statute bipartisan 43 – 16
- Senate vote amends to refer to BCD, passes
- BCD gets HB2737 amended: delays, truncates public process, passes rules which functionally limit the letter of Appendix Q and spirit of HB2737.

What does Oregon BCD do to HB2737?

HABITABLE LOFTED DWELLINGS MUST HAVE:

- fire sprinklers thorough-out dwelling **\$
- Min. loft size : floor area ratio *-impossible for <300 sf
- Fire resistive materials throughout dwelling **\$
- Not more than one loft *
- Kitchen appliance setbacks from loft *
- Additional dimension clearance requirements *

*Not in IRC Appendix Q

*Not in Oregon Detached Dwelling Residential Code

\$ Dollar busters

BCD rationale & critique

- BCD opposed: “creates second class citizens and slums”
- BCD Administrator lobbies legislature in opposition to 2737
- BCD: “HB2737 eliminates building code safety provisions”
- BCD does news report study US & Canada, finds more mentions of fires in mfg. houses and RV’s
- BCD contracts with ARUP, Wash.DC Engineer “Fire Hazards associated with Small Houses”.
- ARUP finds: “...there does not appear to have been any evidence based studies of fire hazards in small homes”; “Even with the growing number of people living in small homes, there does not appear to be any current studies to understand the extent of changes to occupant fire safety or impact (if any).”; “...this document does not mean that small houses are a danger to their occupants and should not be permitted for construction”. The reduced cost of these houses is a significant benefit to the community in that they provide affordable housing.”
- BCD deduces a 20% increase in fire risk based on inhouse newspaper analysis across 7 months 2016-17 studying how frequently RV or Mfg. Home is mentioned.
- Drawing on BCD study analysis we deduce one additional fatality every 2500 years from small home occupancy if the current 20,000 homeless on waiting lists were immediately housed in tiny homes – this must be compared to the 11 explosion deaths reported by the Oregonian and Register Guard in the first 10 days of 2017 in Eugene & Portland alone.

Proposed 2018 Oregon Legislation Amendment Abstract

1. Allow any jurisdiction in Oregon, which has a Building Official, to adopt by ordinance, Appendix Q of the 2018 ICC Residential Code, and such law shall sunset at the next full update of the Oregon Residential Specialty Code.
2. All remaining zoning and Oregon RSC conditions not specific to Appendix Q shall remain effective.

Close of 2018 Oregon leg. Short
session.

No Amendment
Appendix Q adoption is dead

Special Interests Prevail over
Democratic Representation

What does the public think?
Oregon Survey Question Dec. 2017

Voter Survey Oregon, Wash., Colo., Calif. Nov-Dec 2017 (Oregon 518)
 PolicyInteractive Research – full results and method: info@policyinteractive.org

Q32. Homeless housing: Which do you agree with more even if neither represents your view exactly, Statement A or B	OR, CO, CA, WA 1103	Oregon 518	Oregon 518 combined strength
A. FEEL STRONGLY: Building codes which discourage tiny homes should be reformed.	34%	31%	78%
LEAN TOWARDS A.	44%	47%	
LEAN TOWARDS B.	15%	16%	22%
B. FEEL STRONGLY: Tiny homes promote second class citizens and slums.	7%	6%	

PolicyInteractive

Let us know what you think

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