

ADUs, Energy Efficiency, Conservation and Waste Prevention

How DEQ Helped Kick off the ADU Movement in Oregon

Presenter: Kol Peterson

Author of **Backdoor Revolution: The Definitive
Guide to ADU Development**

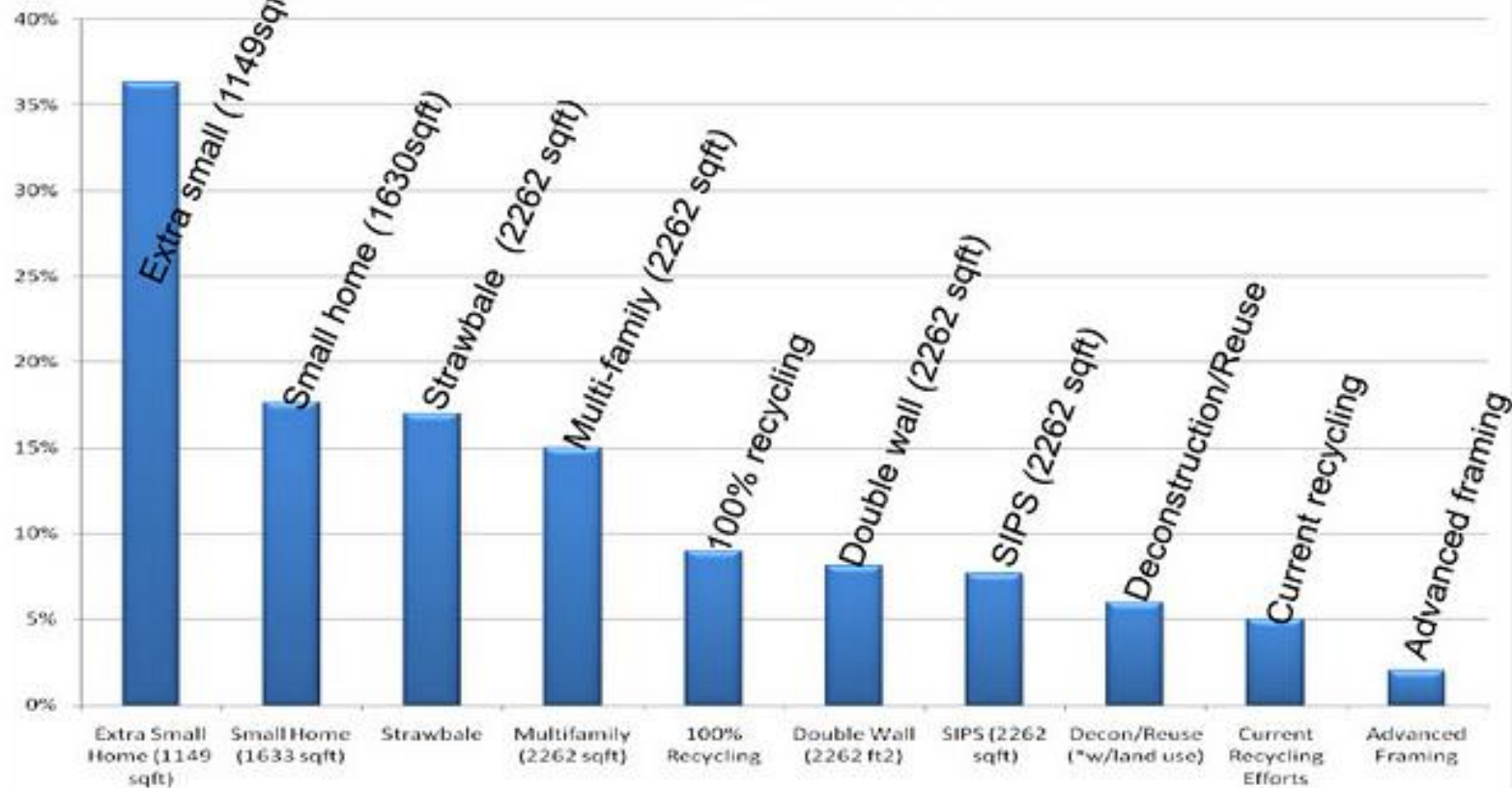
BuildinganADU.com

Practices evaluated against the Standard Oregon home

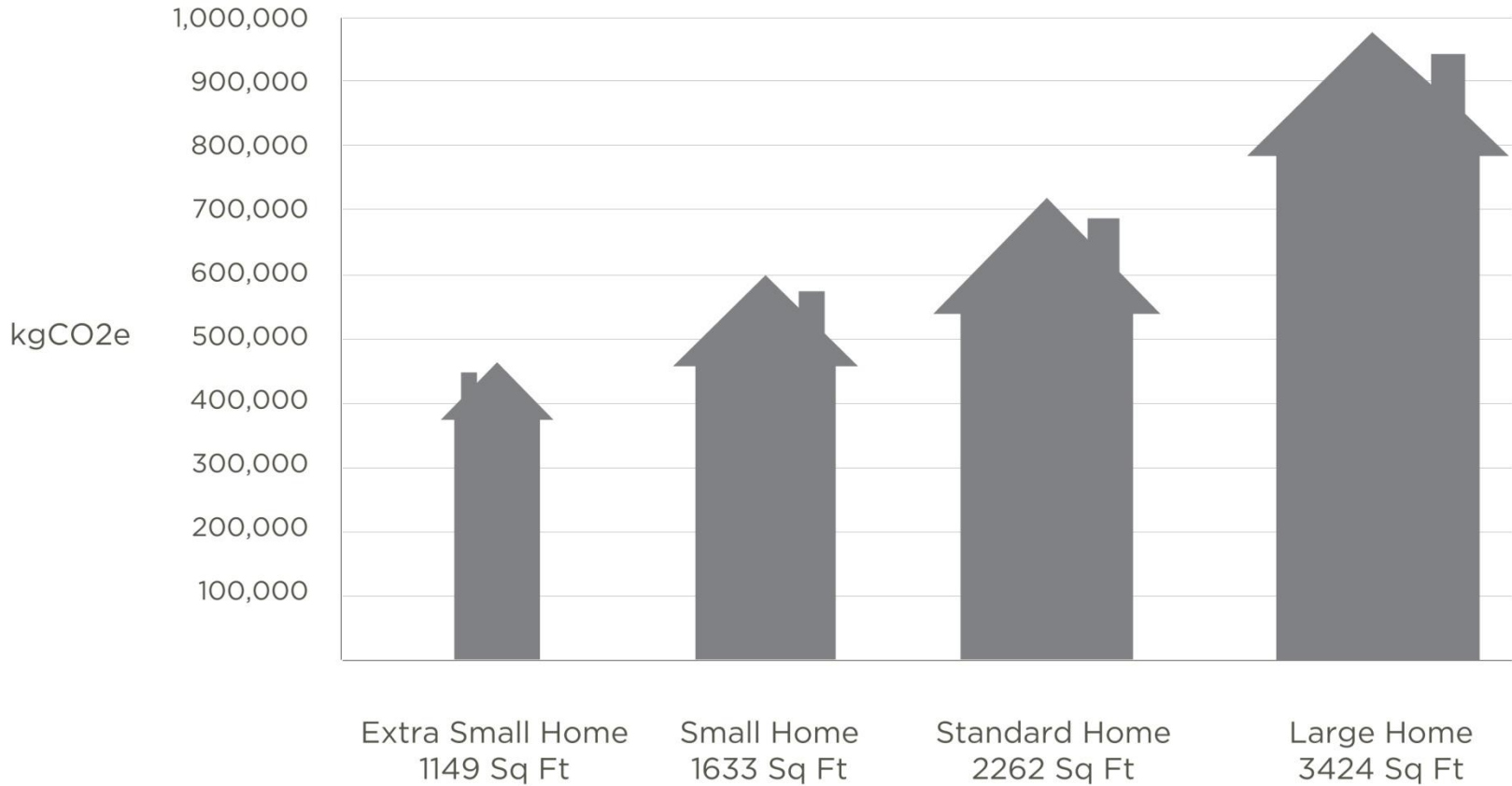


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Reduction in Lifecycle GHG Emissions Compared to the Standard OR Home (2262 sqft)

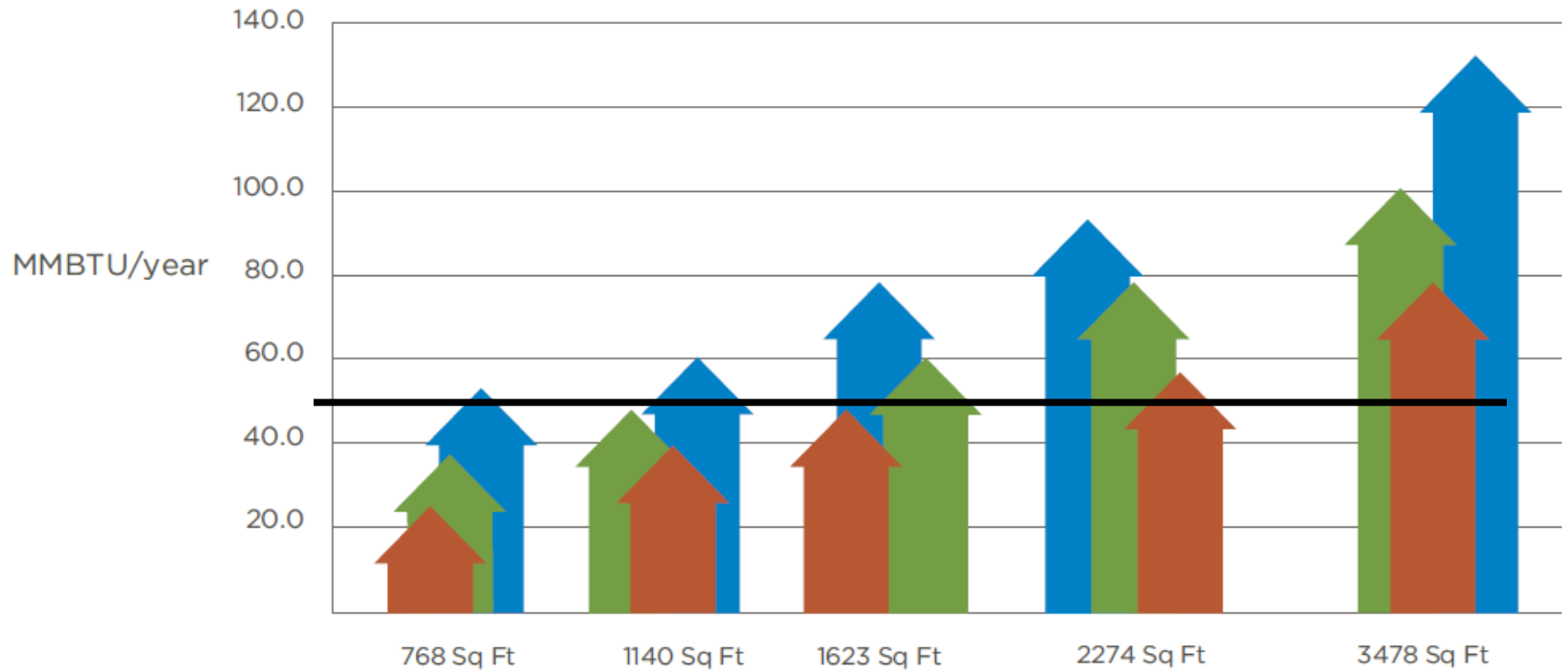


LIFECYCLE GHG EMISSIONS



DATA SOURCE: OREGON DEQ
IMAGE: LIVING FUTURE INSTITUTE

ANNUAL ENERGY USE



DATA SOURCE: OREGON DEQ
IMAGE: LIVING FUTURE INSTITUTE

Green Building

- Materials Management Home
- Production And Design Home
- Materials And Products
 - Environmental Footprinting Of Products And Materials
 - Product Environmental Footprint Case Studies
 - Green Building**
 - Deconstruction
- Packaging
- Learn More

DEQ's Green Building Program focuses on reducing the environmental impacts of building material consumption over the lifecycle of residential homes. This page summarizes DEQ's current and recent work in this field.

Accessory Dwelling Unit resources

- [Finance Guide for ADUs](#)
- [ADU Survey Evaluation Report for Portland ADU Owners](#)
- [ADU Survey Results for Portland, Eugene, and Ashland, Oregon](#)
- [Guide to Appraising ADUs](#)
produced jointly by DEQ, AccessoryDwellings.org, and Earth Advantage
- [AccessoryDwellings.org](#)
Visit the site and share your story
Video: [Accessory Dwelling Units - Take the First Step](#)
- [ADU Zoning Code Matrix](#)

Additional actions on space-efficient housing

DEQ research shows that reducing house size is the most effective way to reduce both material and energy-related impacts of residential homes. The work below represents DEQ's efforts toward having the residential construction field recognize home size reduction as an effective green building strategy.

- [Energy Trust of Oregon](#)
This non-profit organization provides incentives for energy-efficient new construction practices as well as retrofits on existing homes. It recently recognized the energy saving benefits of detached accessory dwelling units by allowing full-scale "new home" incentives to be applied to units.
- [GreenPoint Rated](#)
This California based nonprofit administers a labeling and certification program for new and existing homes. Its program already accounts for home size as a function of operational energy consumption. The group is now using DEQ research to inform the material-related impacts of different size homes based on embodied energy and greenhouse gas emissions from material production.

Reports

A Life Cycle Approach to Prioritizing Methods of Preventing Waste from the Residential Construction Sector in the State of Oregon

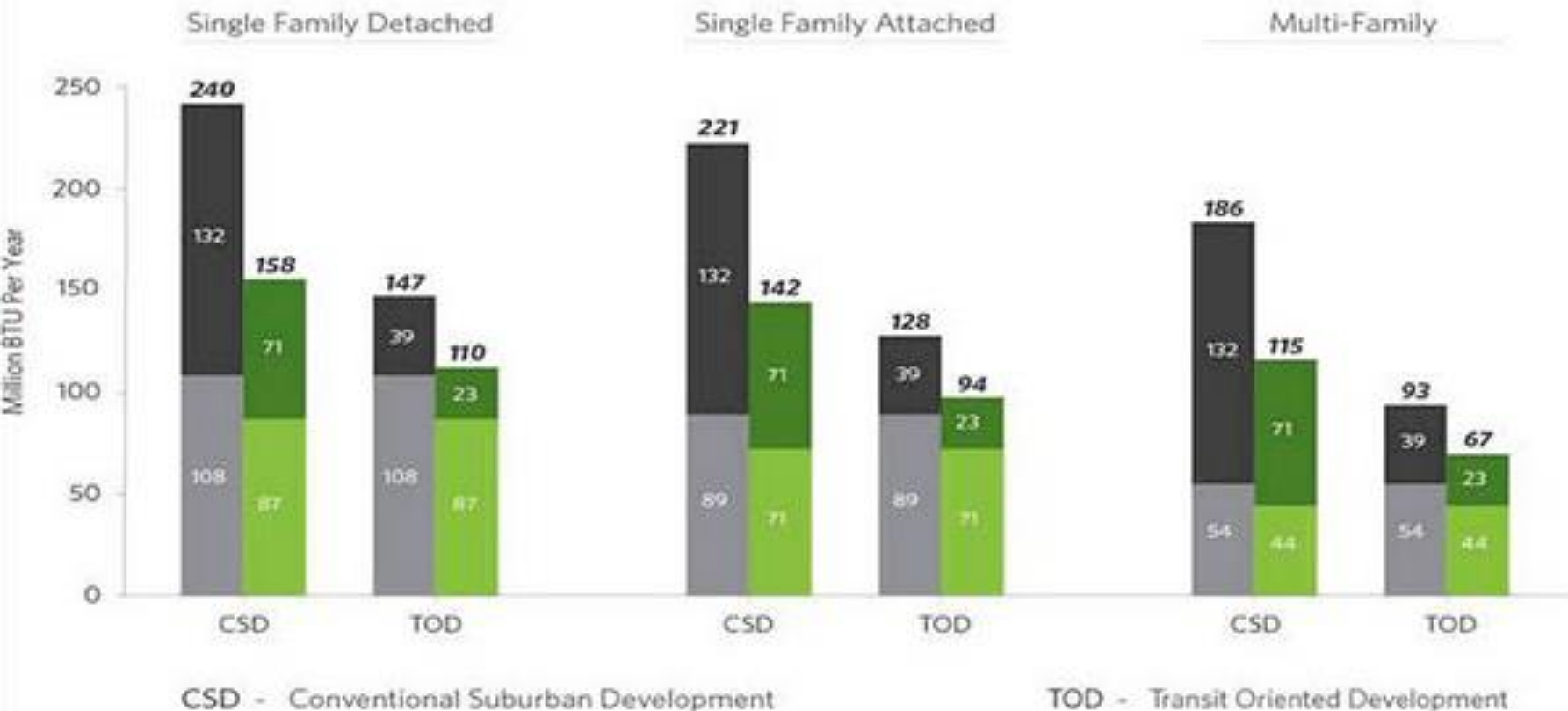
- **Final Report (Phase 2)**
 - [Executive Summary and Report](#)
 - [Appendices \(3-14\)](#)
 - [Appendix 17](#)
- **Phase 1 Report**
 - [Report only](#)
 - [Appendix 2: Report Cards only](#)
 - [Appendices \(7-16\) only](#)

Oregon DEQ Report

<https://www.oregon.gov/deq/mm/production/Pages/Green-Building.aspx>

Location Efficiency: Household and Transportation Energy Use by Location

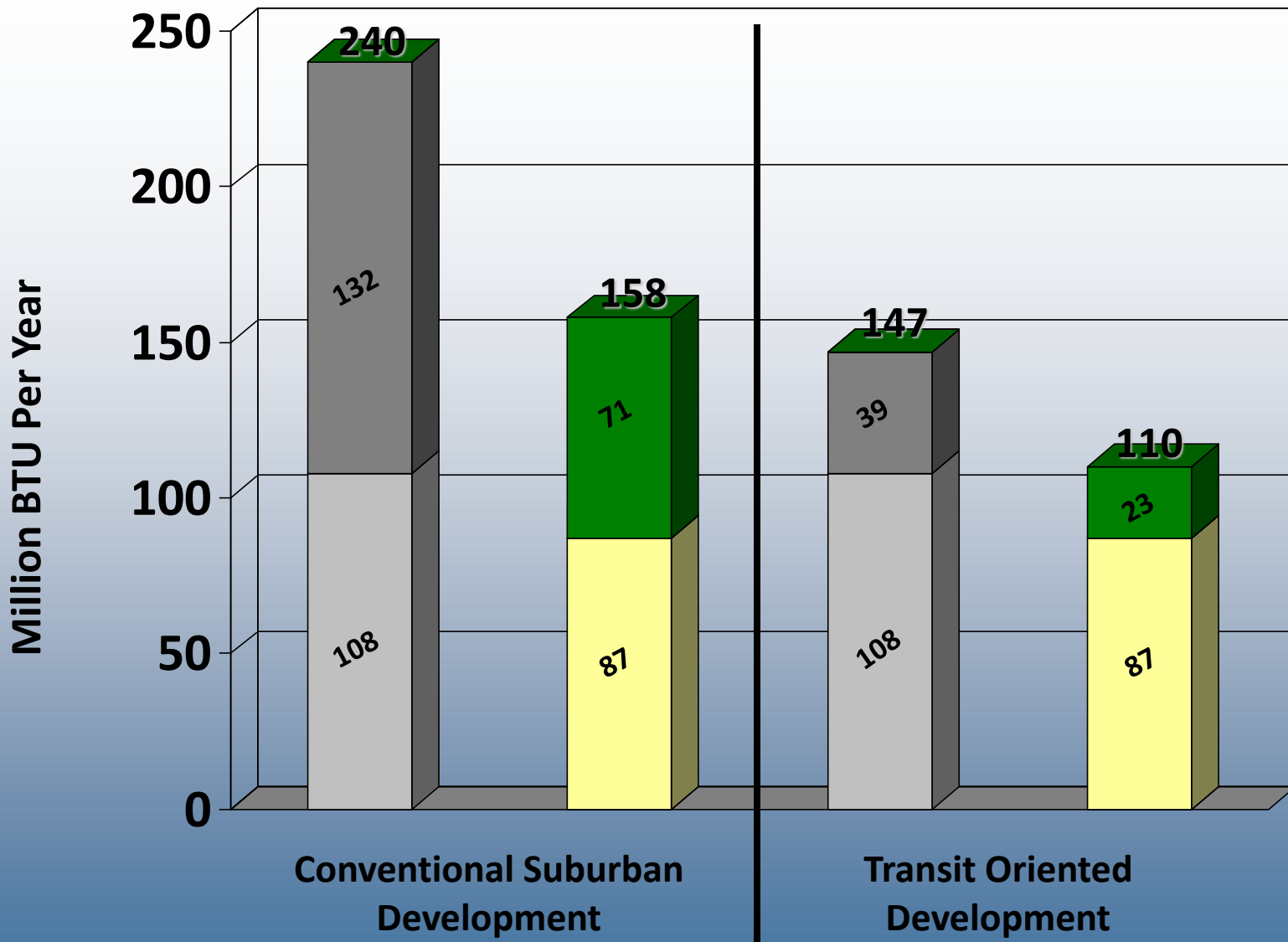
Transportation Energy Use
 W/ Green Automobiles
 Home Energy Use
 W/ Green Buildings



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www.epa.gov/smartgrowth/location_efficiency_BTU.htm

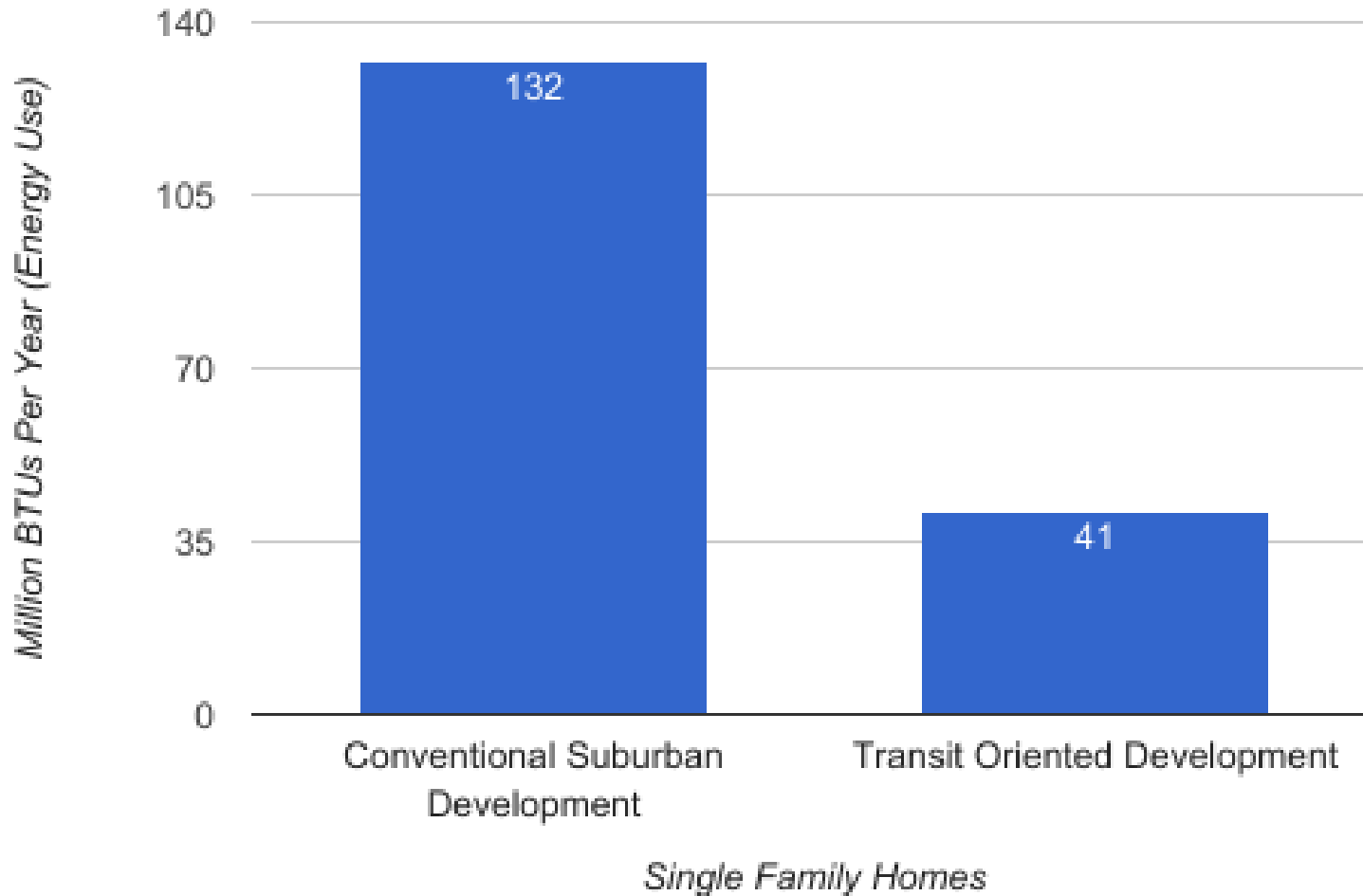
Energy Use for a Resident of a Single Family Detached House



Transportation Energy Use w/ Green Automobiles
Home Energy Use w/ Green Buildings

Accessory Dwelling Strategies LLC

Location Efficiency: Transportation Energy Use by Location



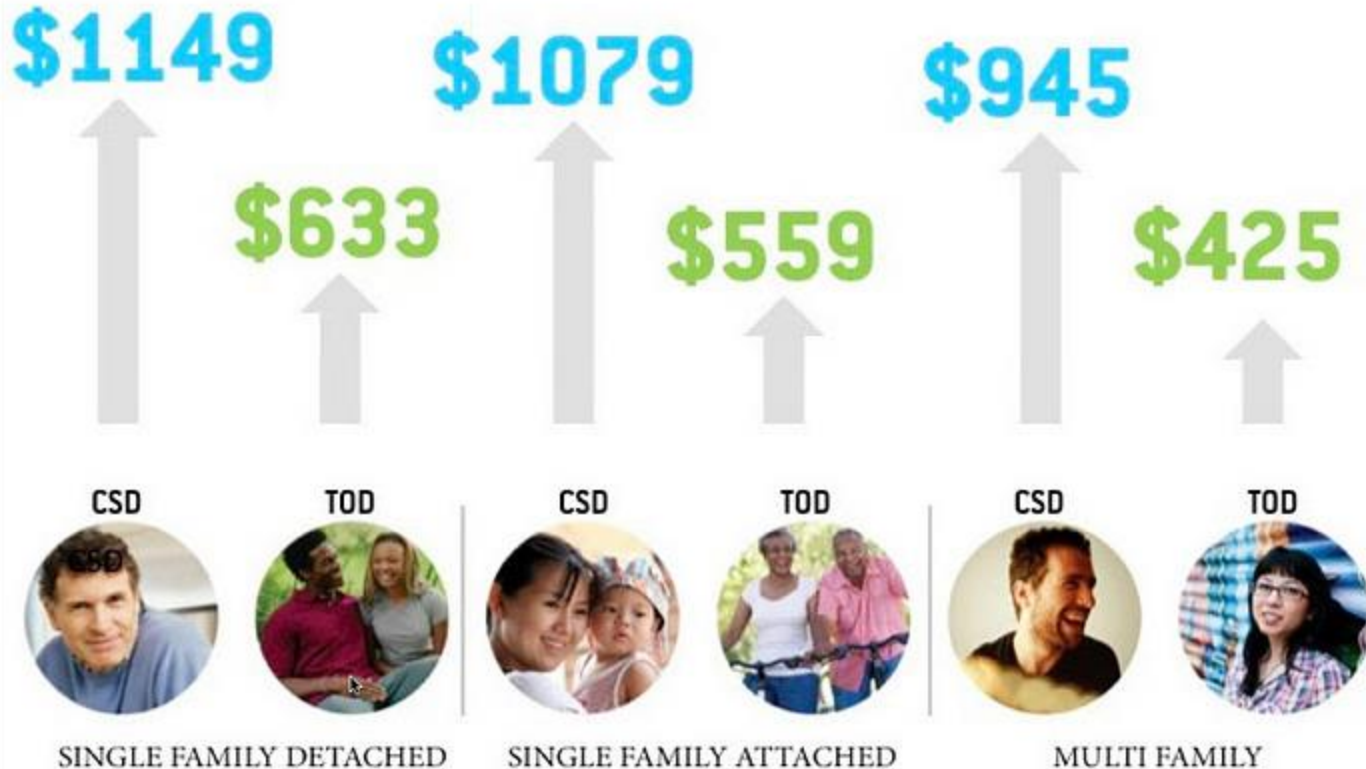
Location Efficiency and Housing Type Boiling it Down to BTUs

https://www.epa.gov/sites/production/files/2014-03/documents/location_efficiency_btu.pdf

Accessory Dwelling
Strategies LLC

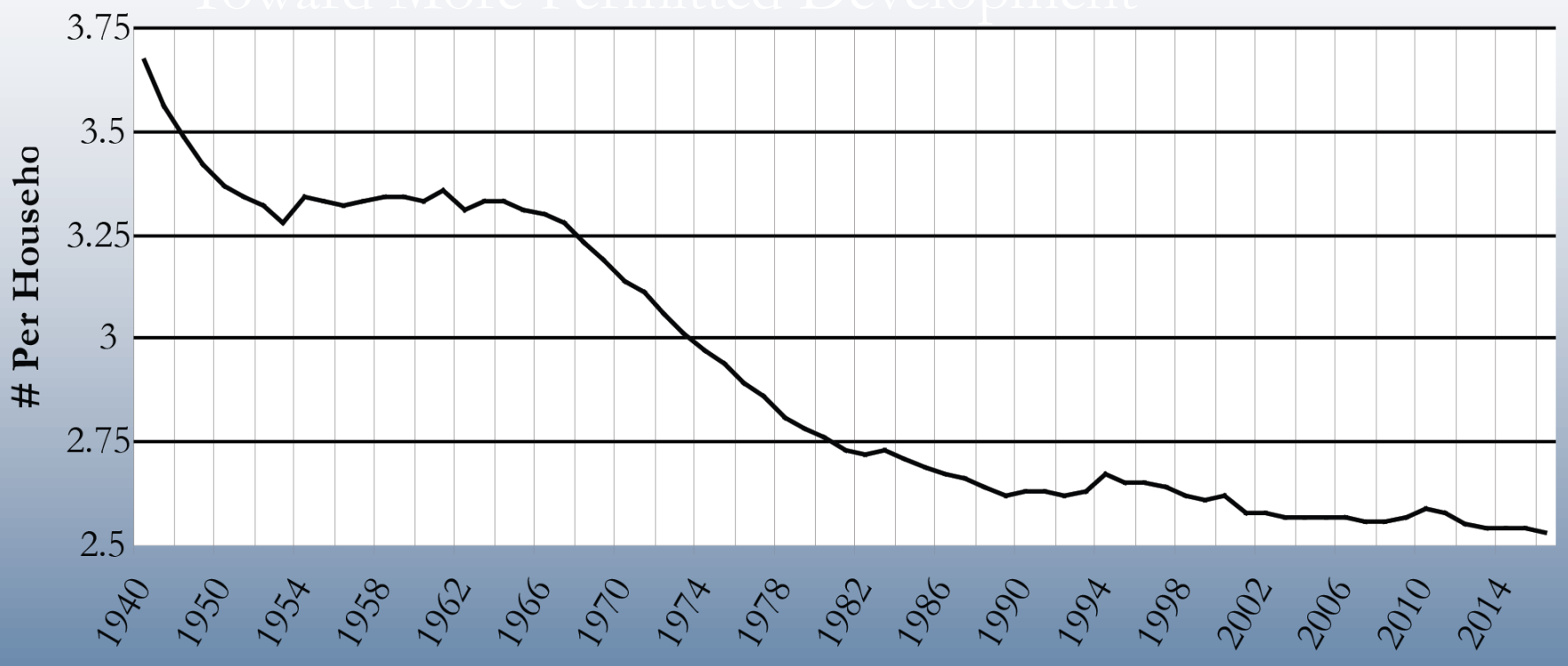
Energy use depends mostly on where you live

TOTAL ENERGY COSTS PER YEAR INCREASE:



11) A Pathway for Planners and Advocates Toward More Permitted Development

Change In Household Size from 1940 to 2016

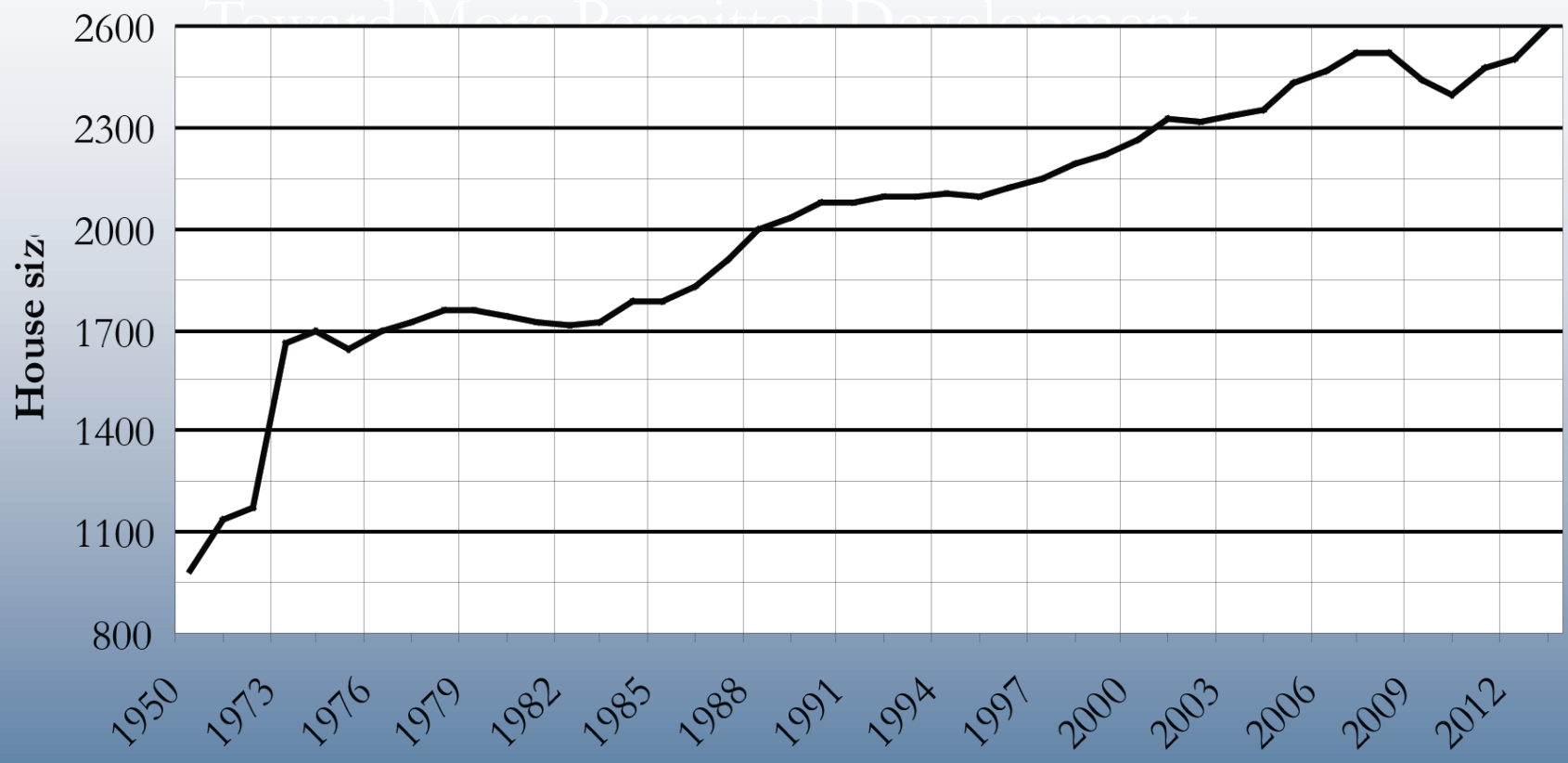


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11) A Pathway for Planners and Advocates Toward More Densitized Development

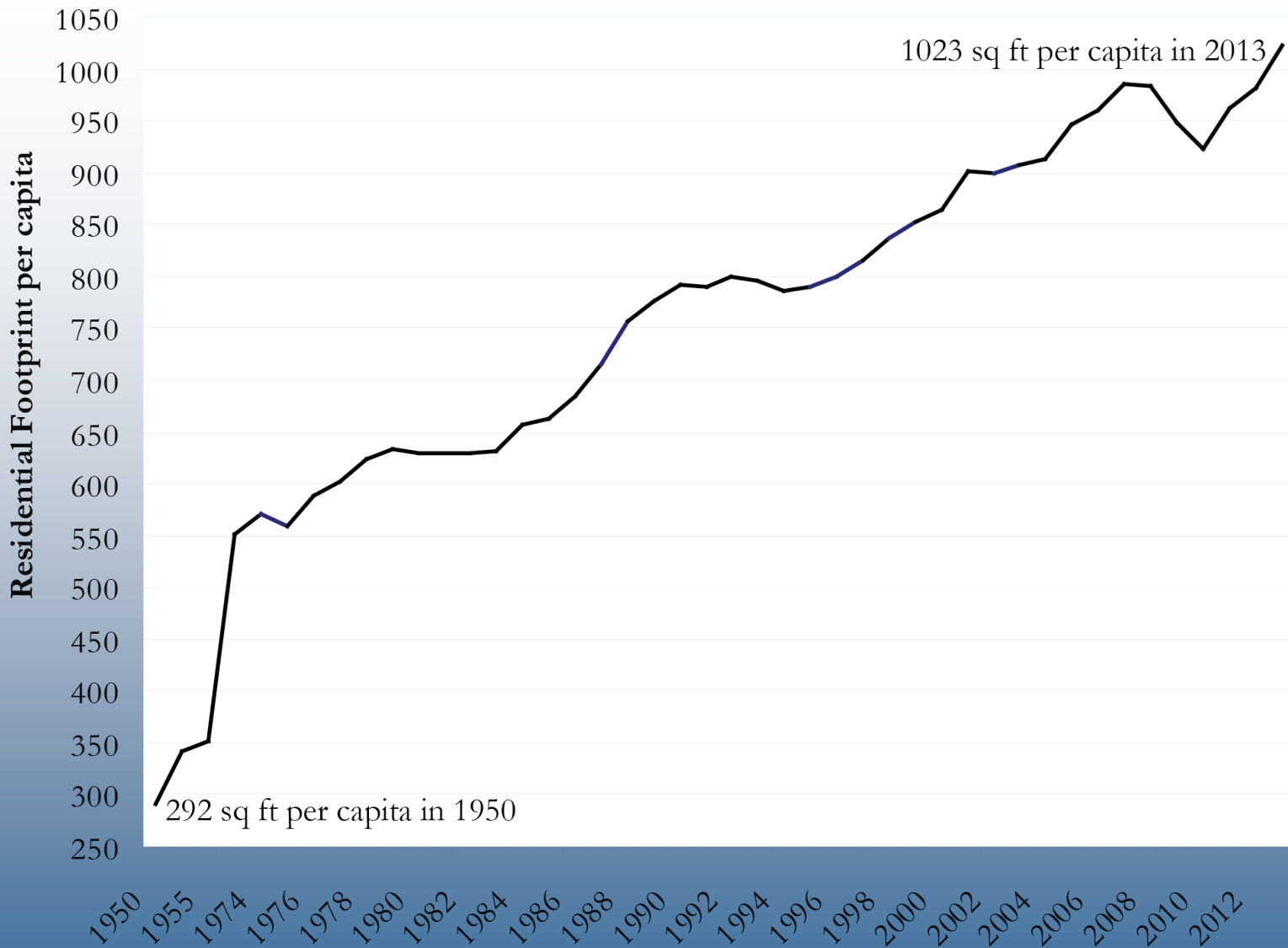
Average US Single Family House Size from 1950-2013



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Residential Footprint Per capita from 1950 to 2013



“Over the last seven years, I’ve witnessed Kol’s leadership in the small house movement first-hand, from starting the first tiny house hotel, to educating thousands of homeowners on how to develop ADUs, to his advocacy work on small housing policy.”

—DEE WILLIAMS, author of *The Big Tiny*

“*Backdoor Revolution* is an A–Z manual on how to create ADUs, written by one of the most passionate, knowledgeable and experienced people in this burgeoning movement. Kol leads the reader through the challenges of permitting, financing and building ADUs, and lays out the opportunities for bringing this grassroots phenomenon into a viable housing option.”

—ROSS CHAPIN, author of *Pocket Neighborhoods*

ACCESSORY DWELLING UNITS are a form of residential infill housing that are poised to revolutionize housing in the U.S. Unlike other urban development trends, this one is being driven by homeowners, not professional developers.

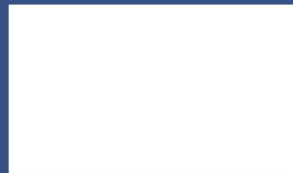
Through case studies, expert interviews, first-hand anecdotes, images, and data analysis, *Backdoor Revolution* reveals the opportunities, challenges and best practices of ADU development for homeowners, including costs, financing, design, zoning barriers, and regulatory loopholes.

With sections written for policymakers and small housing advocates, *Backdoor Revolution* offers insightful analysis and succinct prescription for solutions to municipal and institutional barriers for ADU development.



KOL PETERSON is an ADU expert based in Portland, Oregon, who has helped catalyze the exponential growth of ADUs over the last decade through advocacy, education, consulting, and policy work. He owns Caravan - The Tiny House Hotel, organizes Portland’s popular ADU Tour, co-edits AccessoryDwellings.org, and has taught ADU classes to thousands of homeowners and realtors. Kol has a master’s degree in environmental planning from Harvard’s Graduate School of Design.

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The Definitive Guide to ADU Development

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