



Homes for Tomorrow's Homebuyers

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NHHousing.org





Backyard ADUs
Build Smart. Build Small.



Current ADU Demand



ADU interest based on Search data

Interest over time ⓘ



Interest CA started in 2019



New England is about 2.5 years behind





ADU specific searches up exponentially

Related queries [?](#)

Rising ▾



1 adu netflix

Breakout ⋮

2 mortgage calculator

Breakout ⋮

3 adu housing

+650% ⋮

4 adu meaning

+550% ⋮

5 accessory dwelling unit

+170% ⋮

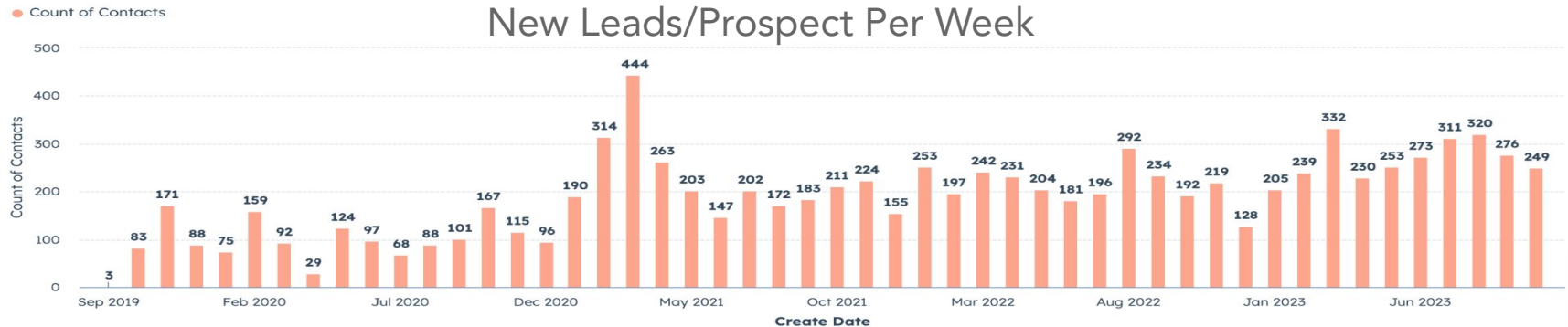


Interest in Backyard confirms the regional trend.

● Users



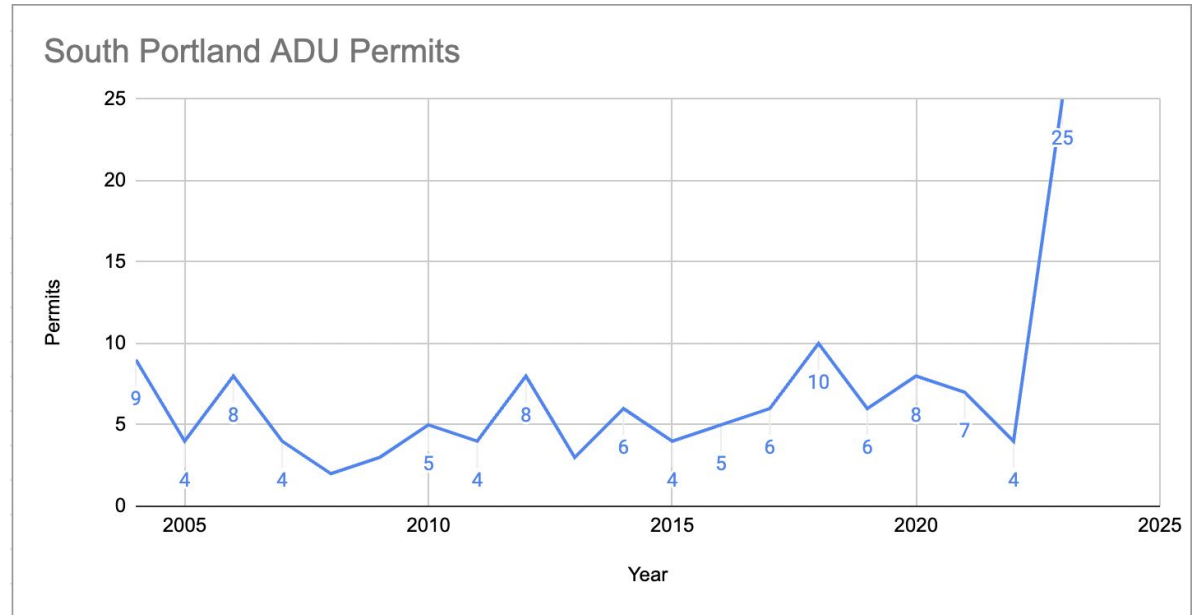
● Count of Contacts





Municipalities that embrace ADUs, will see growth

Cautionary note:
Less than 50% of ADUs permitted in CA get built due to cost and lack of builders.

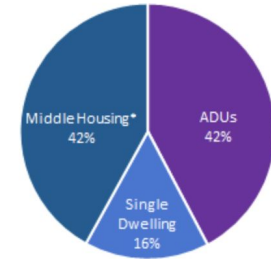




Looking West

Portland, OR in 2021

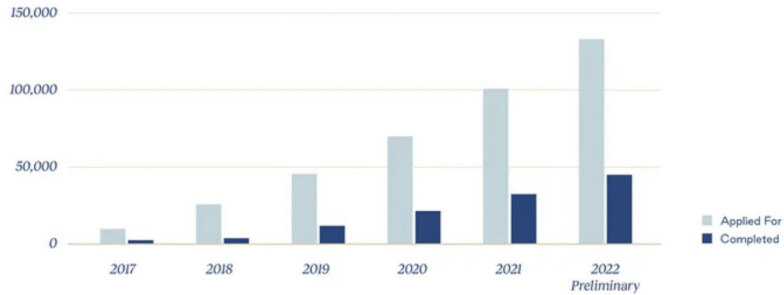
Percent of Units Permitted (SD, ADU, MH)
R2.5, R5, R7



California

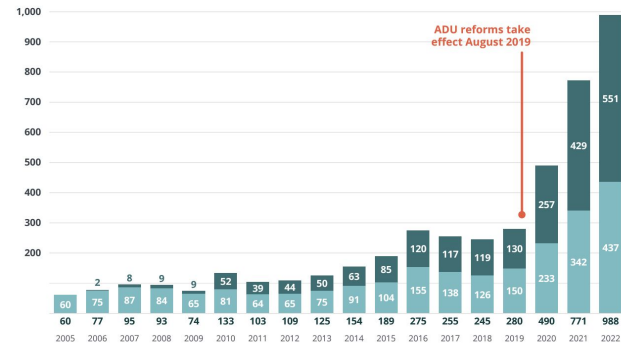
ADU Permits and Completed ADUs

ALL OF CALIFORNIA, CUMULATIVE



Seattle, WA

Exhibit 1 ADUs permitted since 2005





Seattle 2022 ADU Survey

Exhibit 22 Survey responses on ADU use

How is the ADU currently being used? (n=415)	Percentage of respondents
I rent to a long-term tenant that I did not know previously	21.3%
I rent to a family member/acquaintance	10.1%
I offer it as a short-term rental through a platform like Airbnb or Vrbo	11.0%
I make it available for free to a family member or friend	11.9%
I live in the ADU	14.6%
I live in the ADU and own it as a condo	5.0%
It is the residence for a caregiver	0.0%
I use it as space for occasional house guests or visitors	6.2%
I use it as additional living space or something other than a residence	6.9%
Not currently being used for anything	1.4%
I am currently building the ADU and it is not in use yet	11.2%
Other (please describe)	5.3%

~25% are Rented. Rents tend to be relatively affordable Without Restrictions

Current cost will lower this percentage significantly.



Construction cost are untenable

740SF, 2 bedroom ADU in Scarborough

•Summer 2019: \$175,000

•Now: \$270,000

•+54% (\$95,000) 😞

Alternatives to ADUs, start at even more...

Multifamily construction, single family homes,
apartments





ADUs Address Costs:

3 Sources of Excessive Construction Cost:

- Housing is an investment for *someone*
- Land & prime locations are scarce
- Overly protective construction regulations

ADUs address these



The Numbers @ \$2100 Per Month

@ \$1,800/Month construction
must be <\$200,000

	\$150,000	\$200,000	\$250,000
Payback period on cash invested (years)	3	7	30
Payback period of full cost assuming no mortgage (years)	7.23	9.96	12.88
Cash on Cash Yield	34%	15%	3%
Debt Coverage (80% rent) *>1.2 for multi-family financing	1.03	1.00	0.96
Annual Cash Flow Post Mortgage Payment	\$10,118	\$5,895	\$1,673
Net Operating Income	\$20,084	\$20,084	\$20,084

\$2,100/m | Loan, 7.5% over 25y | No managment fees, owner does yard, plowing, & minor maintenance



What Works

Make it easier/cheaper for families to consolidate households

Large deferred payment or forgivable loan that eliminates or minimizes use of debt by a homeowner

Inviting investors in (multiple units, condoization)

Incentives to include ADUs in new construction

Pre-approved municipal plans as a marketing tool

Appendix



Our Construction Methodology



A House in 10 Active Weeks

(~24w from Contract)

Site work started

Backfill &
Rough
Grade

Occupancy

Foundation
Built

Utilities
Stubbed

Electrical/Plumbing
& HVAC Connected

Interior/Exterior
Finishing

Week

1

2

3

4

5

6

7

8

9

10

Factory Builds 90%
Complete Home
(4 weeks)

Home installed in ~8 hours

**90% Complete
Home Delivered**



ADUs as Employer Housing

Backyard ADU's program allows employers to sponsor ADU production and offer a new Employee Benefits package.

Benefits:

- Removes investment speculation from rents and costs
- Converts ADUs into lendable asset to create new sources of capital
- **Directs ALL speculative returns to Homeowners without allocating risk to them.**



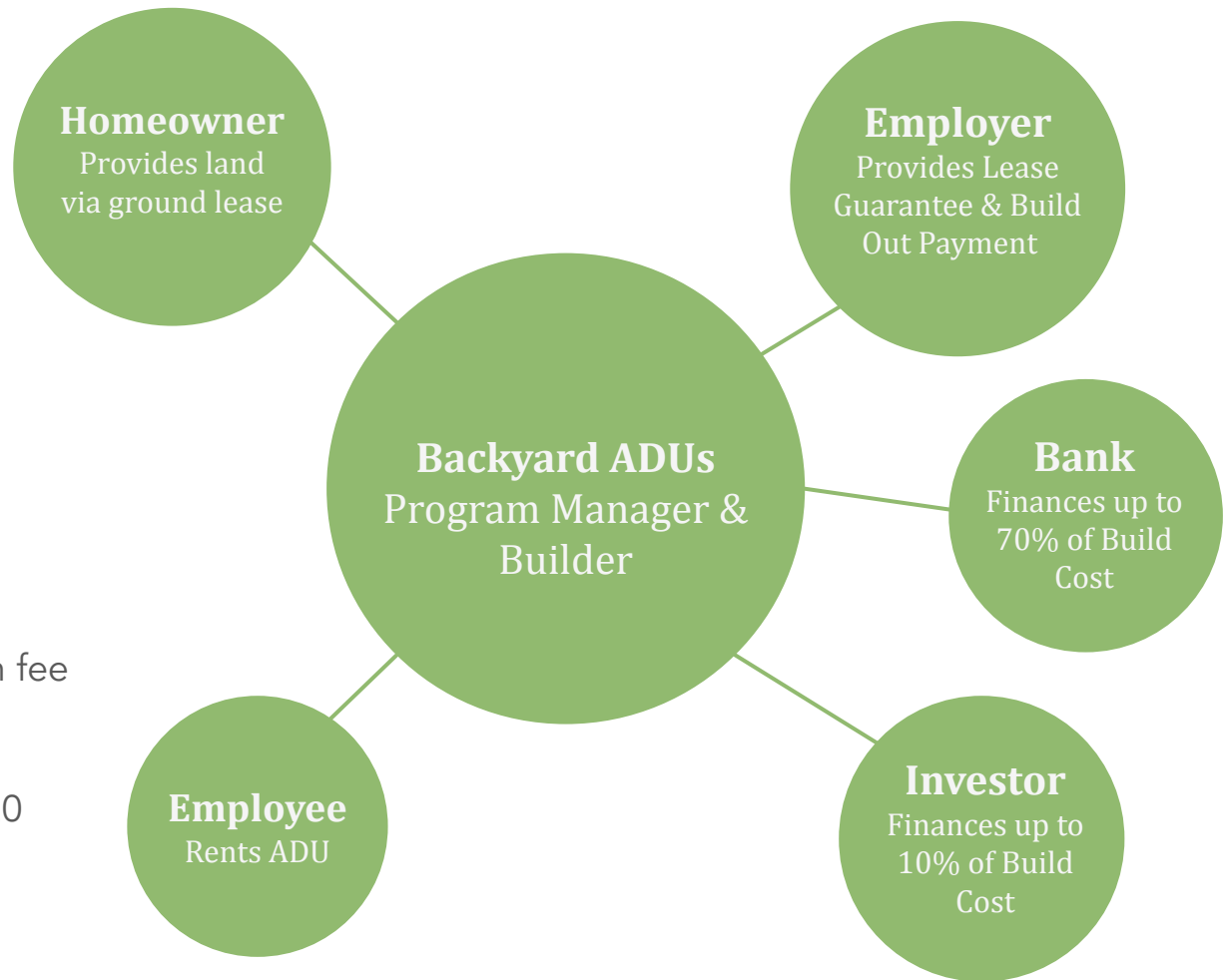
How it Works

Employer's Expense:

- 20% - 50% of cost of construction as build out payment/loan
- Average monthly program fee of ~\$100 – \$300

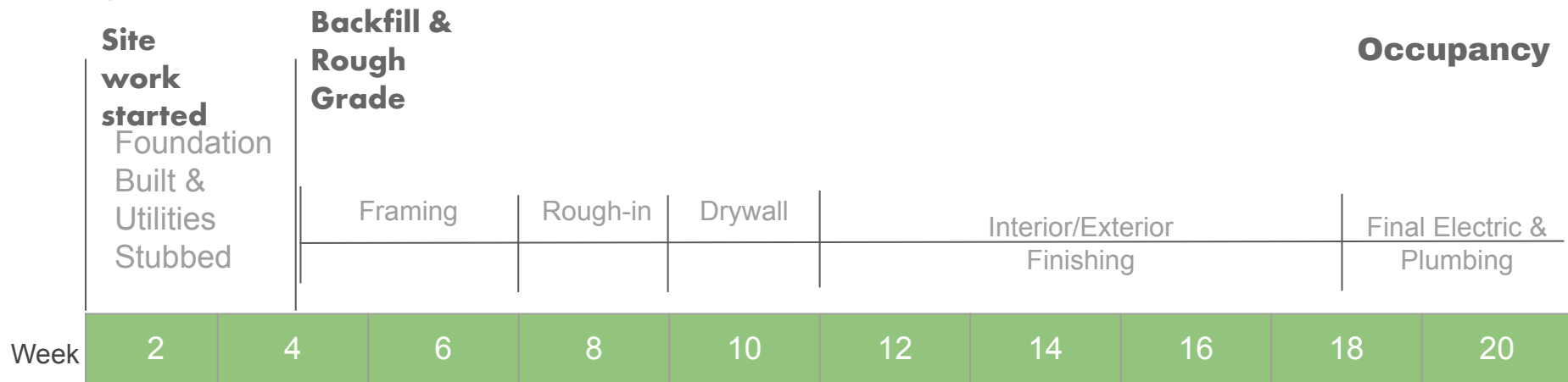
HomeOwner:

- Gets the ADU for free in 20 years
- A monthly payment
- Gets discounted buyout options at 5, 10 and 15 years.





Site Built in 20 Active Weeks



Site-Built requires 200% more on-site inspections which creates additional variables and time
 (In Portland each inspection schedules 1-3 weeks out)

Building on-site is weather dependent, where modular only requires 1 clear day to set and waterproof the shell.



Blending Factory and Field

Building in a factory is not a solution in and of itself.

It is crucial to design dwellings that best utilize the benefits of offsite construction with onsite constraints and client desires.

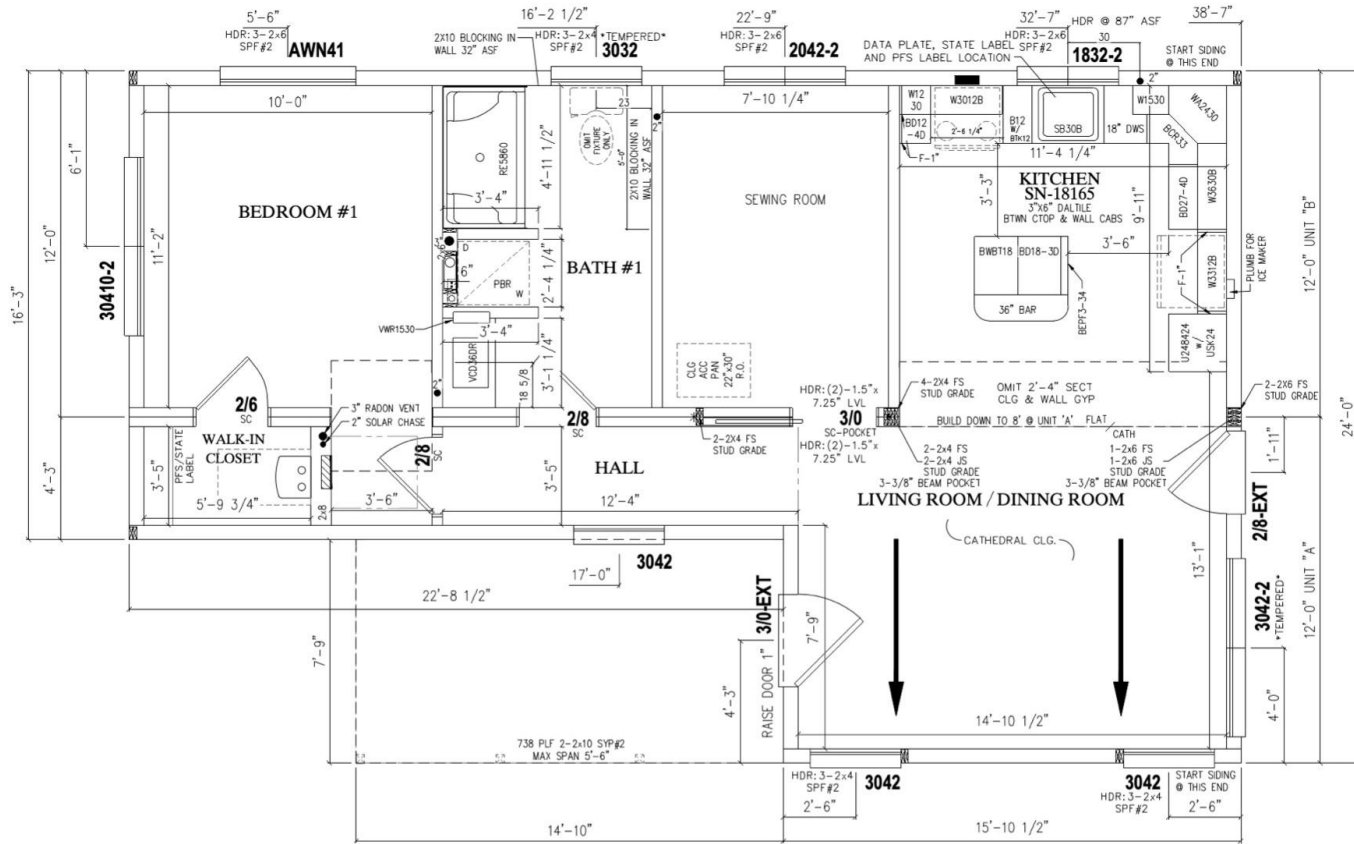
If offsite building does not significantly decrease onsite labor hours it does not make sense.



12
7

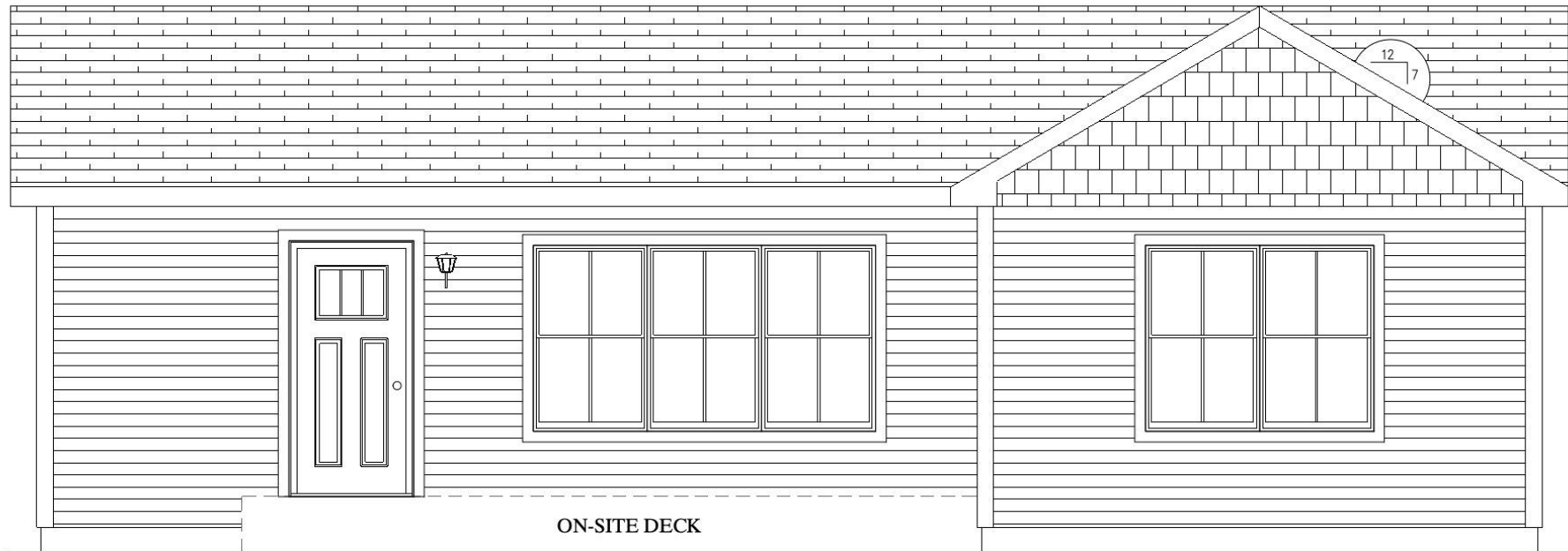
13'-8 1/8"

17'-5 1/16"

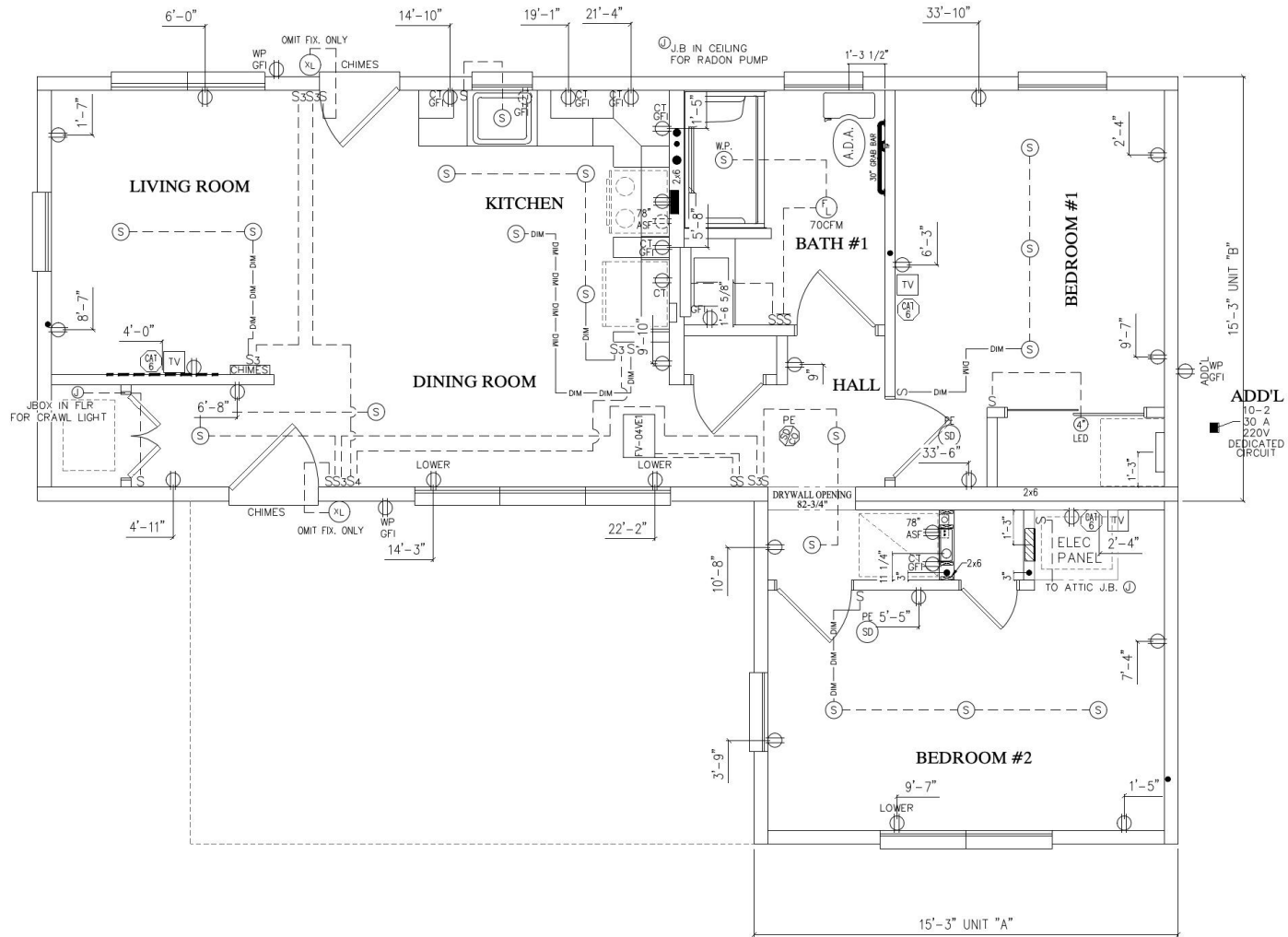


PORCH OVERHANG, TREATED FRAMING W/5/4 TREK DECKING & 4X4 TREATED POSTS SUPPLIED BY MANUFACTURER. RAILINGS FOR PORCH TO BE SUPPLIED AND INSTALLED ON-SITE BY BUILDER.

PORCH POST MUST MEET FOLLOWING REQUIREMENTS LBS. OF UPLIFT FORCE PER POST 952 RESISTANCE TO LBS. OF GRAVITY LOAD PER POST 4059 AND SUPPORT FOR POSTS TO MEET REQUIREMENTS SUPPLIED AND INSTALLED ON-SITE BY OTHERS.

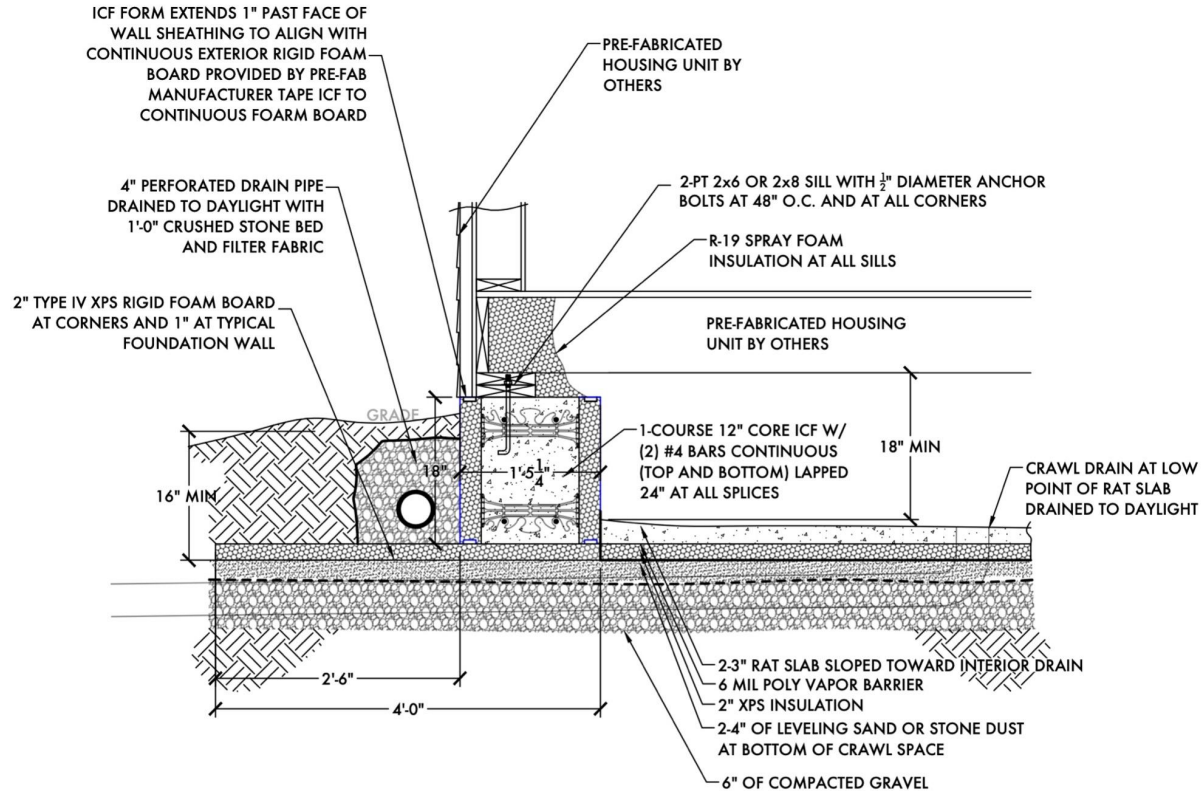


ON-SITE DECK





A Revived, Prescriptive foundation





A Revived, Prescriptive foundation

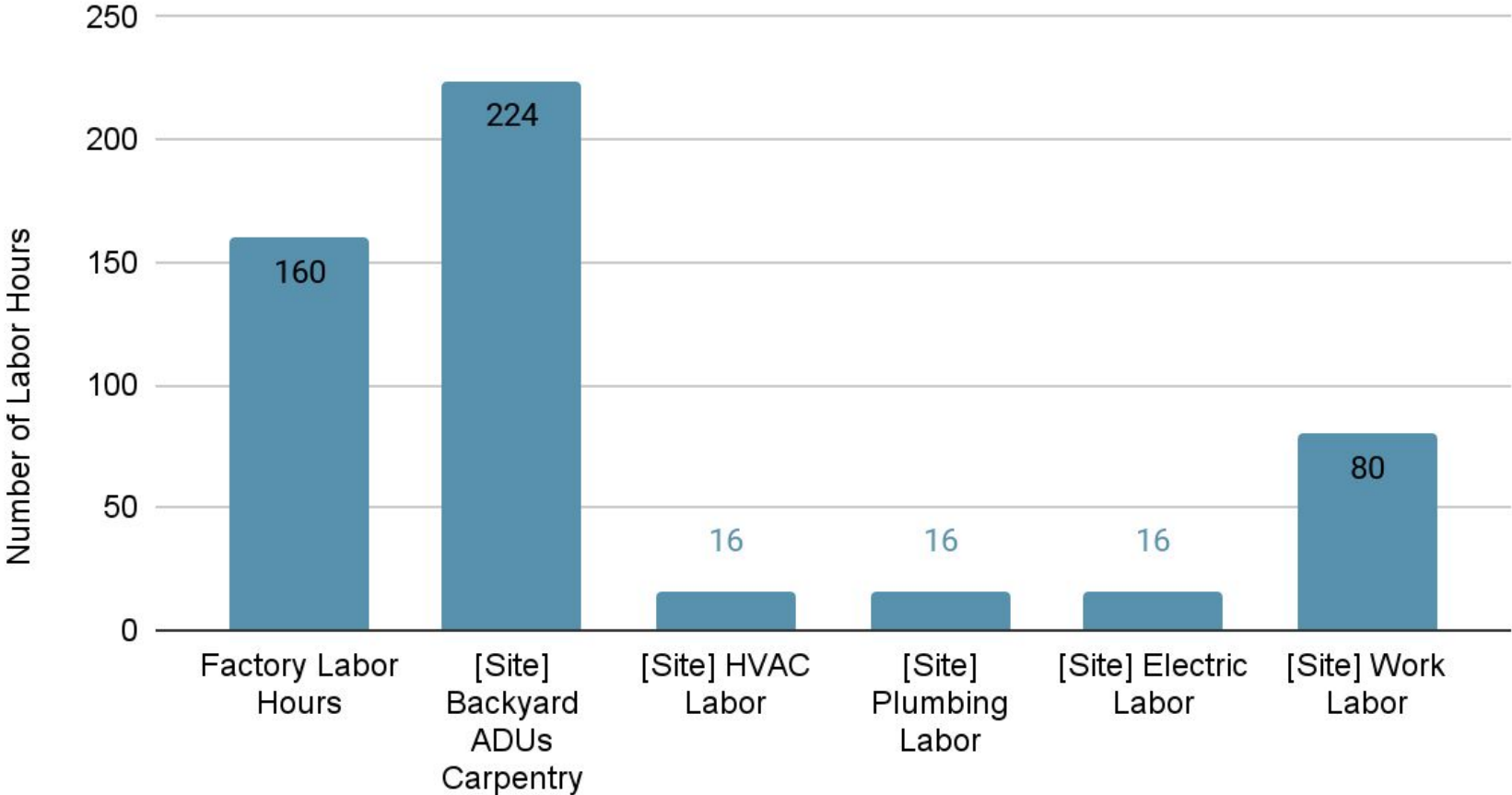
- Saves Foundation Cost
- Saves Concrete
- Saves Excavation Labor time
- Reduces uncertainty (single pour, 2 consecutive days of work)
- Reduces conditioned volume saving Lifetime energy costs



Stick-Built and Modular Have Similar Cost

Costs are comparable between offsite and onsite right now at least in new england, but modular presents an opportunity to better utilize a dwindling construction workforce.

Modular Built ADU Labor Breakdown (512 Hours Total)



Modular ADU Hours (512 Total)

[Site] Work Labor

15.6%

[Site] Electric Labor

3.1%

[Site] Plumbing Labor

3.1%

[Site] HVAC Labor

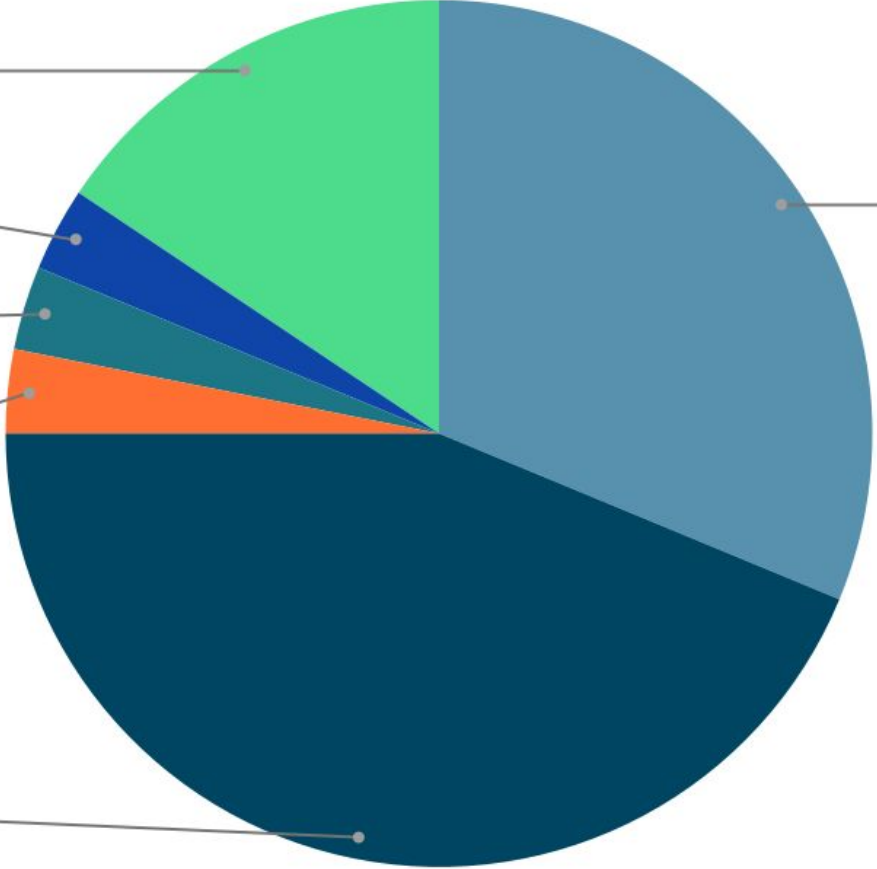
3.1%

[Site] Backyard ADUs

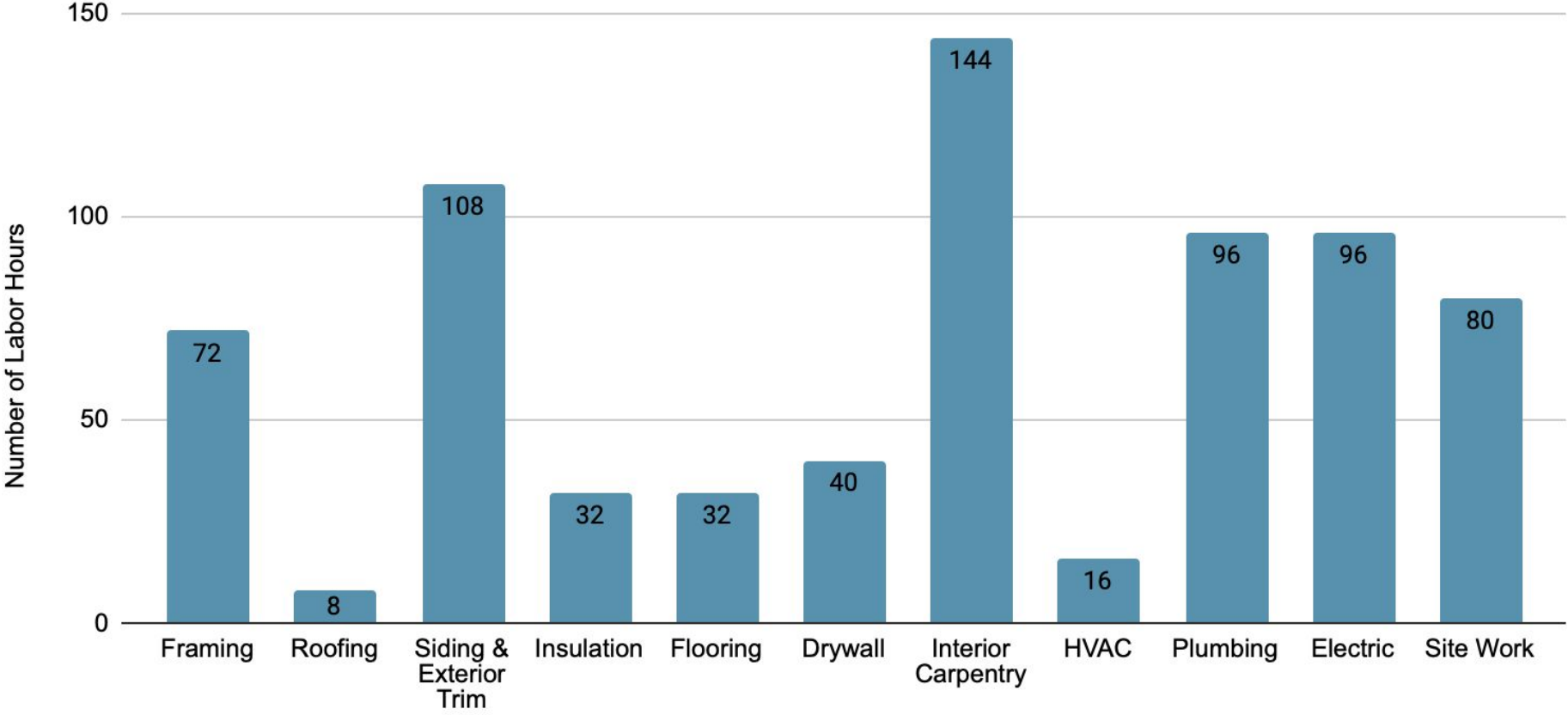
43.8%

Factory Labor Hours

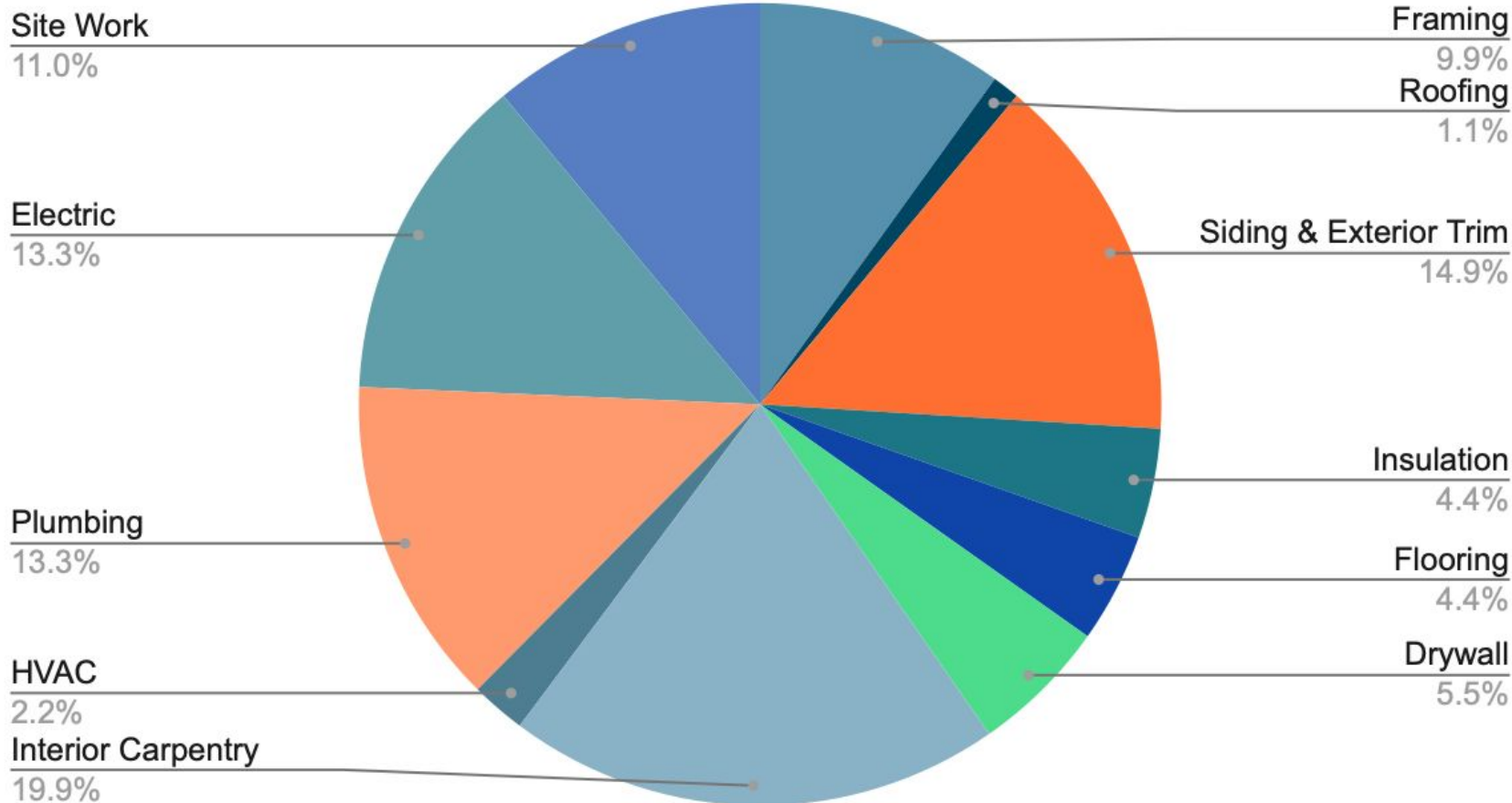
31.3%



Site-Built ADU Labor Breakdown (724 Hours Total)



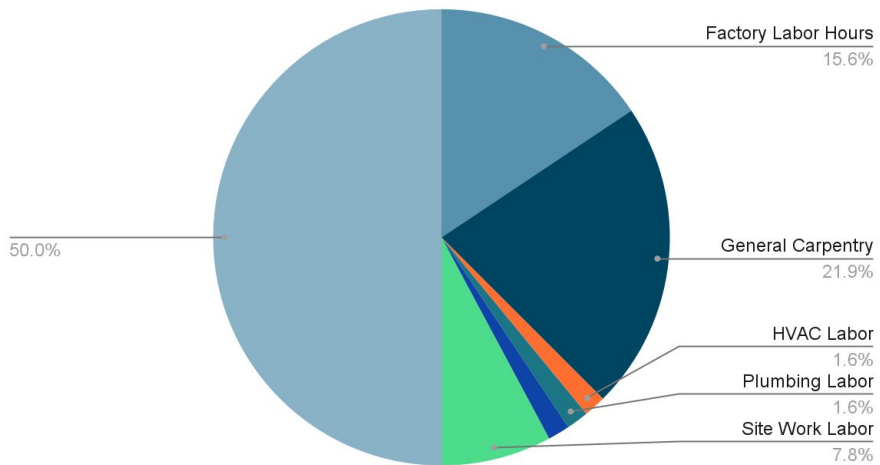
Site-Built ADU Hours (724 Total)





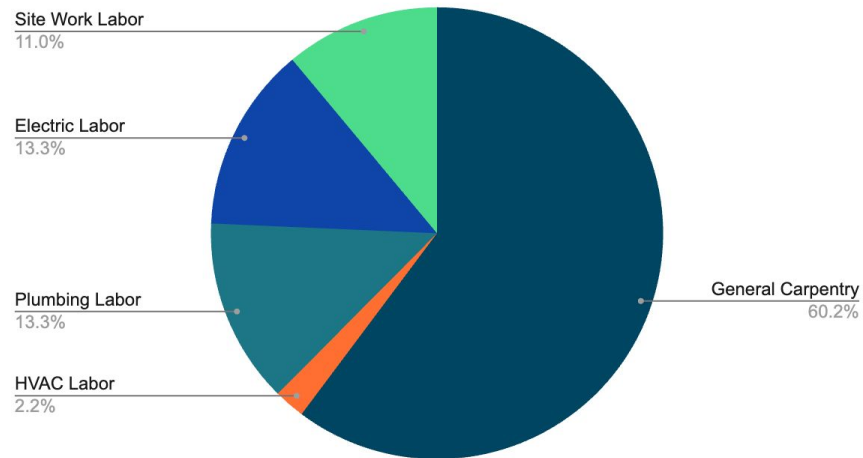
Doing More With Less (People and Material)

Modular Labor Distribution



Total Hours 512
(30% reduction)

Site Built Labor Allocation

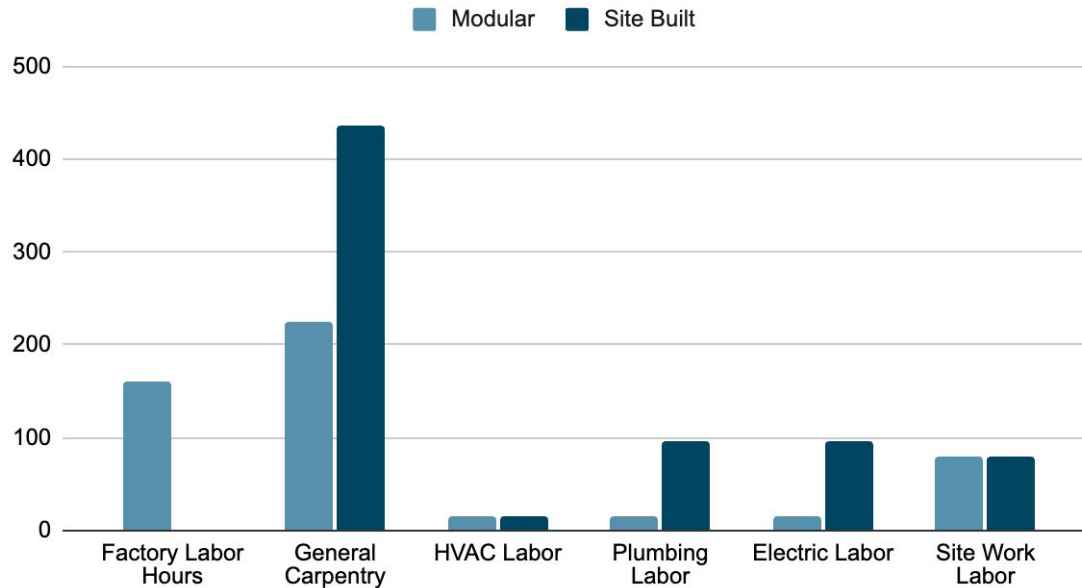


Total Hours 724



Comparing Labor Allocations

Modular and Site Built





Current Barriers



Costs Have Become a Barrier

Cost are up over 40% since 2019

Tailwinds

- ADUs for Elderly Parents are financed with a home sale
- 40% of homes are owned mortgage free (retirees make up the majority of these)
- In Southern Maine, an ADU is still cheaper than an existing house or condo

Headwinds

- Interest rates for financed ADUs
- Bank DTI ratios make ADUs non-financeable in most market without borrower income contributions
- A newly constructed ~850SF ADU will cost more than an existing standalone house in many areas
- Lower income households are less likely to have paid their mortgages and/or have lower value homes to contribute to ADU construction cost



Financing Blocks ADUs as Rentals

Assumptions	
Construction Cost	\$250,000.00
Construction Cost FOR ADU	\$250,000.00
Mortgage Rate	7.5%
Down Payment	20%
Mortgage Amount	\$200,000.00
Mortgage Period	360
Mortgage payment	\$1,398.43
Incremental House Insurance	\$400.00
Charged Monthly Rent	\$2,100.00

Rental P&L		
	Monthly	Annual
Rent Roll	\$2,100.00	\$25,200.00
<i>Vacancy</i>	3.00%	3.00%
Effective Rent	\$2,099.97	\$25,199.97
Rent accepted by Conventional Loans (80%)	\$1,680.00	\$20,160.00
Expenses		
<i>Incremental Taxes</i>	\$281.25	\$3,375.00
<i>Insurance</i>	\$33.33	\$400.00
<i>Management</i>		
<i>*self managed</i>		
<i>Maintenance/Reserve</i>		
<i>*5%</i>	\$105.00	\$1,260.00
Total Cost	\$419.58	\$5,035.00
Net Operating Income	\$1,680.39	\$20,164.64
Debt Payment	\$1,398.43	\$16,781.15
Cash Flow (post mortgage)	\$281.96	\$3,383.49

FORECASTED RETURN ON TOTAL PROJECT COST	
Cap Rate	
*this is the yield if construction was financed with cash and no debt was used	8%
Payback period on cash invested (years)	14.8
Payback period of full cost assuming no mortgage (years)	12.40
Cash on Cash Yield	6.77%
Debt Coverage (100% rent)	
*1.2 minimum for multi-family financing	1.20
Debt Coverage (80% rent)	
*1.2 minimum for multi-family financing	1.00

These ratios create a situation where average homeowners and investors are "OUT"

ADUs are good investments on paper in high rent areas, but they are not conventionally bank financeable as rentals to non-experience real estate owners



Sprinklers

Maine is leading New England (and possible the nation) in sprinkler requirements.

Sprinklers increase the likelihood of survival in a house fire from 50% to 97% BUT house fires are extremely unlikely especially in new homes.

Probability of a 1 or 2 Family Home Burning Each year: .0015%

In that context keep in mind:

- Sprinklers can easily add 15-20k to an ADU
- There are only ~28 Licensed installers in Maine
- People moving into an ADU are overwhelming moving from a house with fewer fire safety precautions AND the safer ADU is unlikely to get built if sprinklers are required

Causes of Fires	
Cause	Total
Appliances	6
Cooking	13
Electrical malfunction	40
Equipment malfunction	5
Heating	33
Natural	1
Open flame	5
Other equipment	1
Other heat	9
Other unintentional/Careless	11
Playing with heat source	1
Smoking	23
Under investigation	1258
(blank)	
Grand Total	1406

Arc Fault Breakers reduce electrical-related fires by 50%

Minisplits eliminate the source of these fires

**We acknowledge Sprinklers have other benefits like reducing firefighter injuries



DPW Utility Requirements

- Separate water service: +\$10,000 – 15,000
- Separate sewer service: +\$10,000 – 15,000

Unfortunately, we don't have good data on how this improves public safety, infrastructure or reduces DPWs operating cost.

However, it does prevent ADU's from being build due to complexity, hiring additional specialty subcontractors, and increased cost.



Fragmented enforcement of building code

Illustrating the state of Code Enforcement:

- Portland and South Portland enforce nearly the same building code completely differently
- Boothbay doesn't have a building code
- Winthrop hires a contracted CEO
- Carrabassett Valley only has a plumbing code

The result is small town specific contractors that are unable to scale operations and gain the skills to build homes.



Our Ideas



Idea's from the trenches

- Deferred loan program with reasonable qualifiers & efficient applications

Homeowners do not need grants and deferred loan make funding go further

- Open up the Rural Rental program to Homeowners

This would create hundreds of ADUs overnight and put real money in the pockets of Mainers that need it most.

- Regional building authorities

Many municipalities may give up building code enforcement and fight to keep Zoning.