



# A DUNIVERSE



UNIVERSITY of WASHINGTON

**eScience Institute**  
DATA SCIENCE FOR SOCIAL GOOD



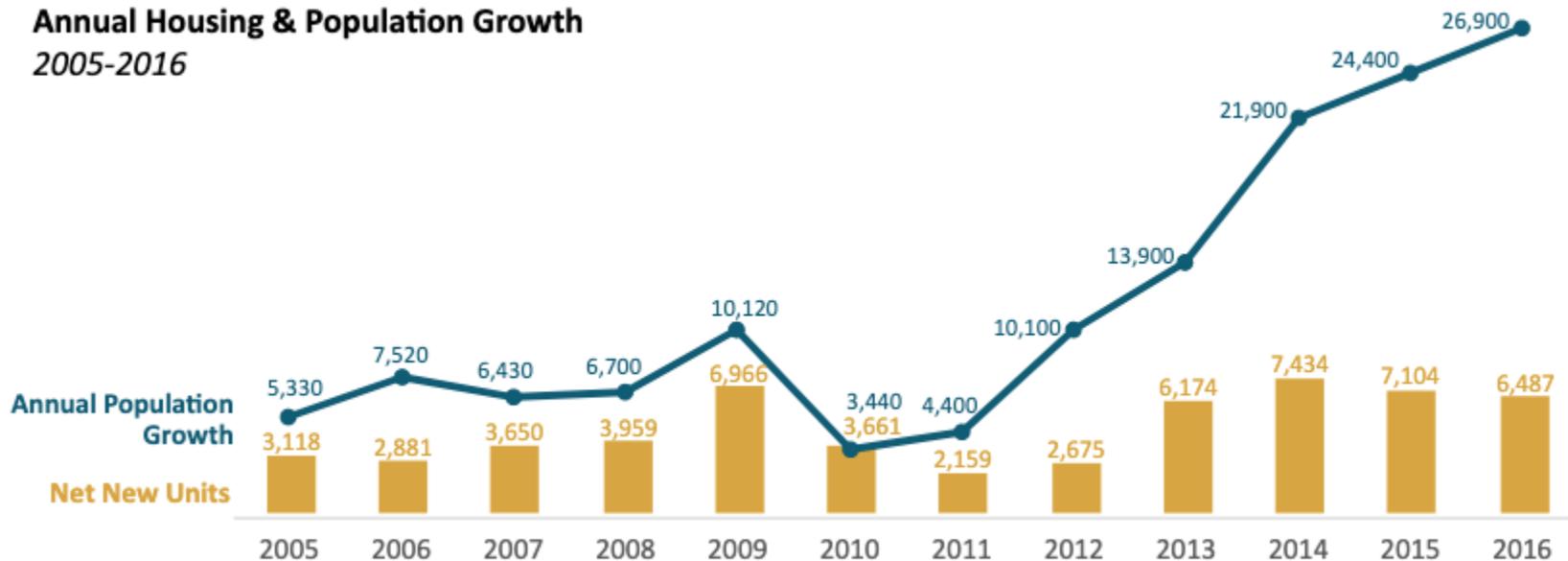
**Seattle**  
Office of Planning &  
Community Development



**Seattle**  
Planning  
Commission

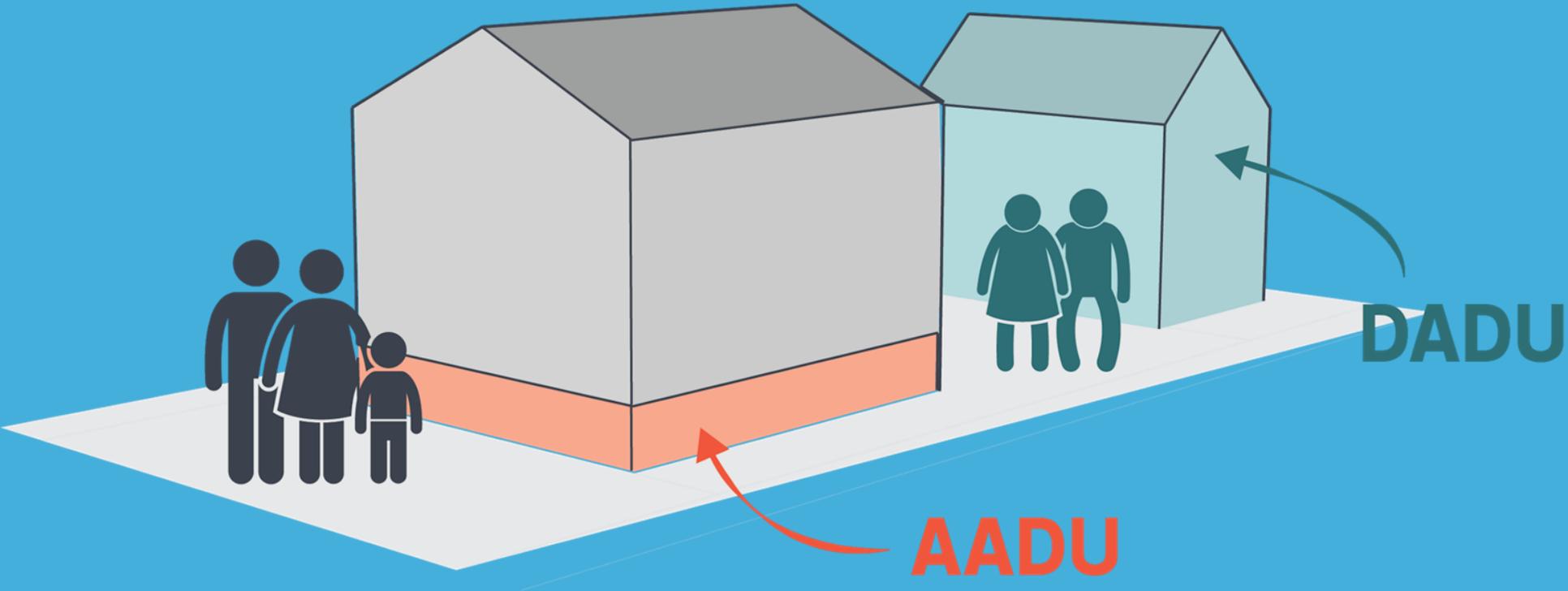
# THE HOUSING CRISIS

**Annual Housing & Population Growth**  
2005-2016



Sources: Washington State Office of Financial Management; SDCI Permit Data

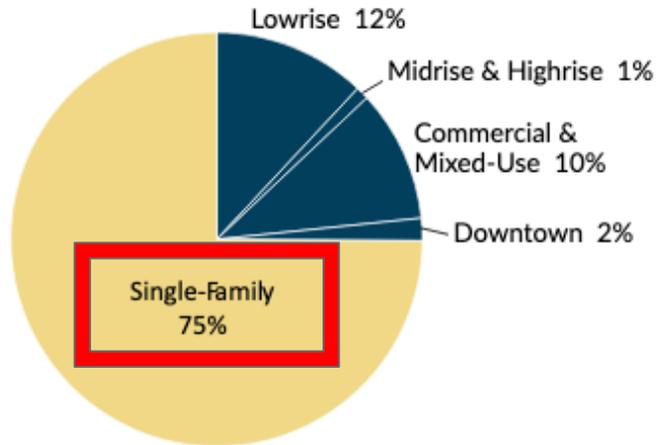
# ■ What is an **Accessory Dwelling Unit**?



# A Solution to the Housing Crisis?

## Distribution of Zoning that Allows Residential Uses

Data: City of Seattle<sup>21</sup>



Three-quarters of all the land that Seattleites can live on is zoned for single-family.

Access to facilities (schools, parks, public amenities)

Possible uses for an ADU:

- Age in place
- House a relative
- Rent for extra income

# ■ CURRENT RELEVANCE

July 9, 2019

## Seattle City Council

- Two ADUs permitted
- No requirement for off-street parking
- Increased max ADU size
- Decreased min lot size
- No requirement for owner to occupy

2%

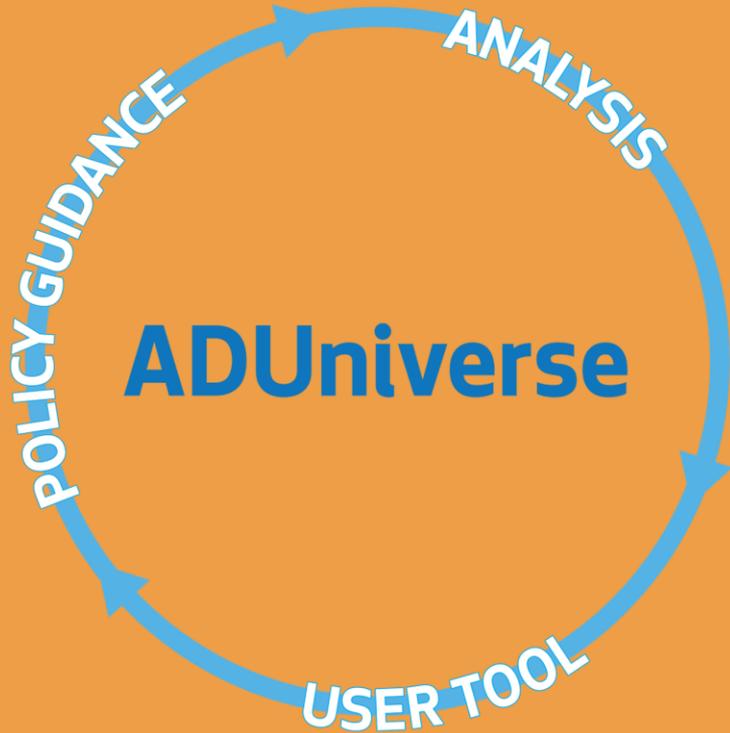


OF SEATTLE'S SINGLE-FAMILY LOTS HAVE AN ADU

0.7%

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OF ALL SINGLE-FAMILY LOTS ELIGIBLE FOR A DADU HAVE ONE



## NEWS



*The website will include a “Can I build an ADU?” service to help homeowners identify and appraise their ADU options by prototyping an ADU feasibility tool through the City’s participation in the UW Data Science for Social Good program.*

- *From the Seattle mayor's Executive Order*

# STAKEHOLDER INVOLVEMENT





**Can I build it?**

Use our map tool to determine if your lot is eligible for an ADU

**Design it**

Choose from the City's pre-approved DADU plans, or hire an architect

**Permit it**

Learn how to start your application for a construction permit

**Rent or occupy it**

Find a tenant, and learn about landlord-tenants laws

**Budget it**

Use our Cost Estimator to evaluate the financial costs and benefits

**Pay for it**

Get financing (HELOC, construction loan) or pull from savings

**Build it**

Begin (and manage) the construction process

# PROTOTYPE TOOL

1.

# PHYSICAL FEASIBILITY

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Let's look at a **map!**

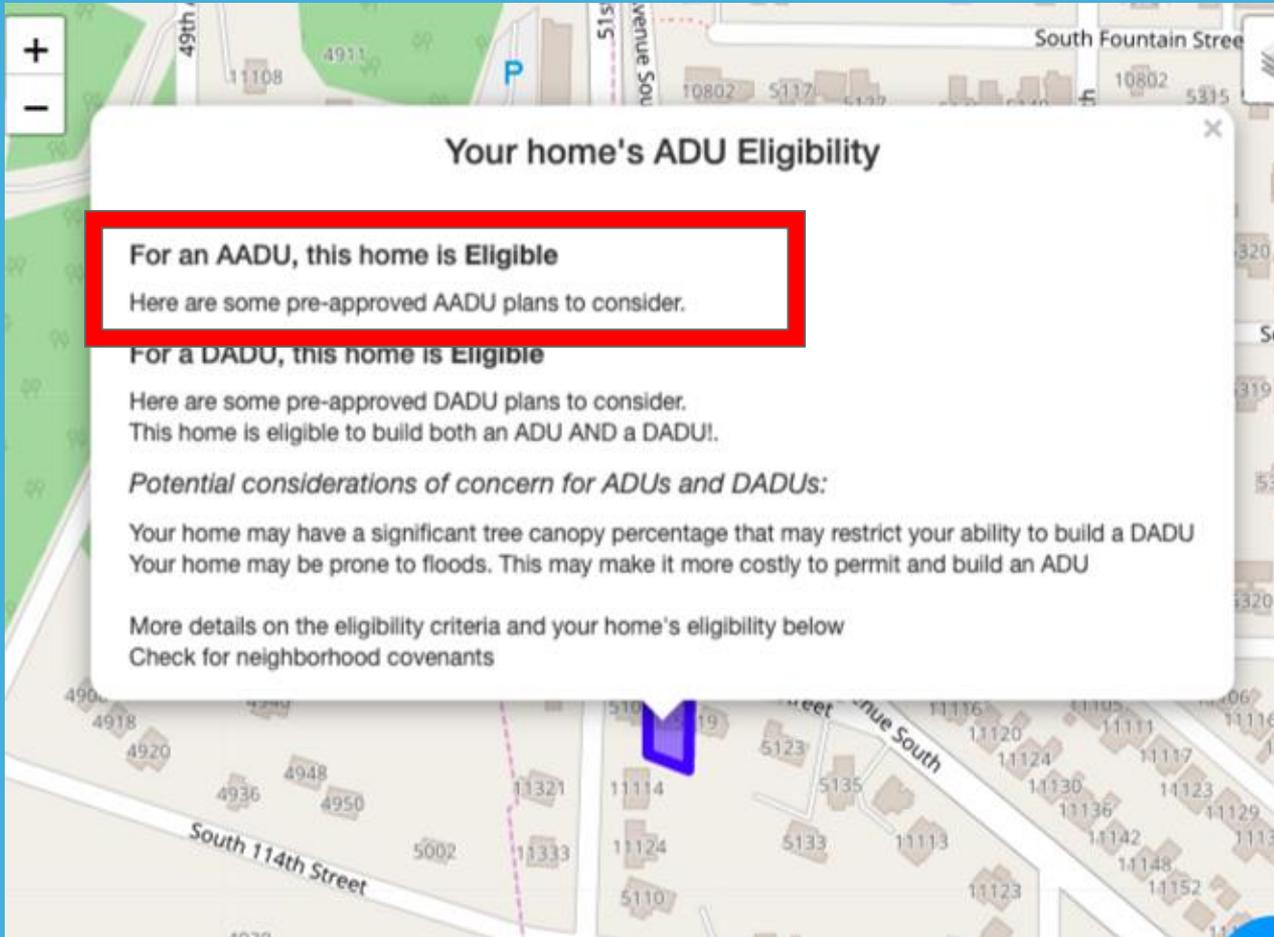


# ■ CAN I BUILD AN ADU?

Help us find your home:

This address bar only contains single family and multi-family residential parcels.

5111 S AVON ST 98178

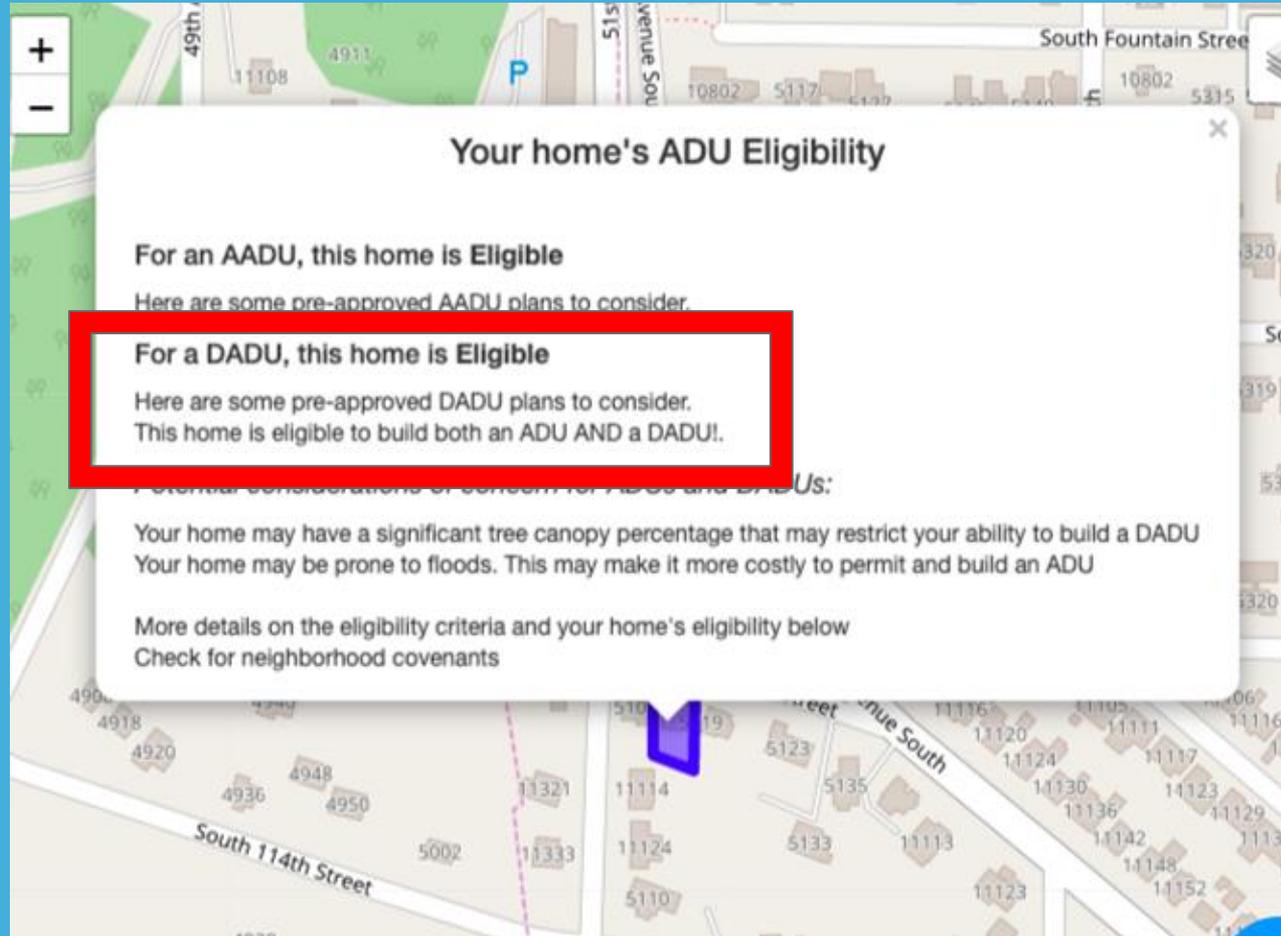


All lots in single-family zones are eligible for an AADU.

Major goal is to increase awareness of the possibilities available to homeowners

## New eligibility criteria (as of July 2019):

- Single Family Zoned
- > 3200 sq. ft. lot
- Lot coverage < 35%
- Lot dimension  $\geq 25 \times 75$
- Cannot be near a shoreline district



# Can I build an ADU?

## Core Eligibility Details

### Zoning

Your home must be in a single family lot to build an AADU or DADU  
Your home qualifies!

### Lot Size

Your lot must be at least 3200 square feet for a DADU  
Your lot is 6832 square feet and therefore qualifies!

### Lot Coverage

If lot is larger than 5000 feet, no more than 35% should be covered. If lot is smaller, no more than 1000 plus 15% should be covered.  
Your 6832 square foot lot with a lot coverage of 17.56% qualifies!

### Shoreline

Your home must not border a shoreline to build a DADU  
Your lot does not border a shoreline. You are good to go.

### Existing ADUs

You may build upto 2 ADUs on a single property  
There are no existing ADUs on this property. You are good to go.

Want even more information? Please see the Transparency section  
for more details on these terms

[Figure out your financial options on the next page](#)



# What factors should I consider?

## Other potential considerations for your lot:

Because your home may be relatively old, if you wish to build an AADU, you may need to find an inspector to ensure no additional changes need to be made to your property.

You have a sizable basement that could be converted to an AADU. An already finished basement will not be as expensive to retrofit for an AADU.

You have a sizable garage that could be converted to an AADU.

Your home is near a **frequent transit stop**, making it attractive to renters of AADUs and DADUs.

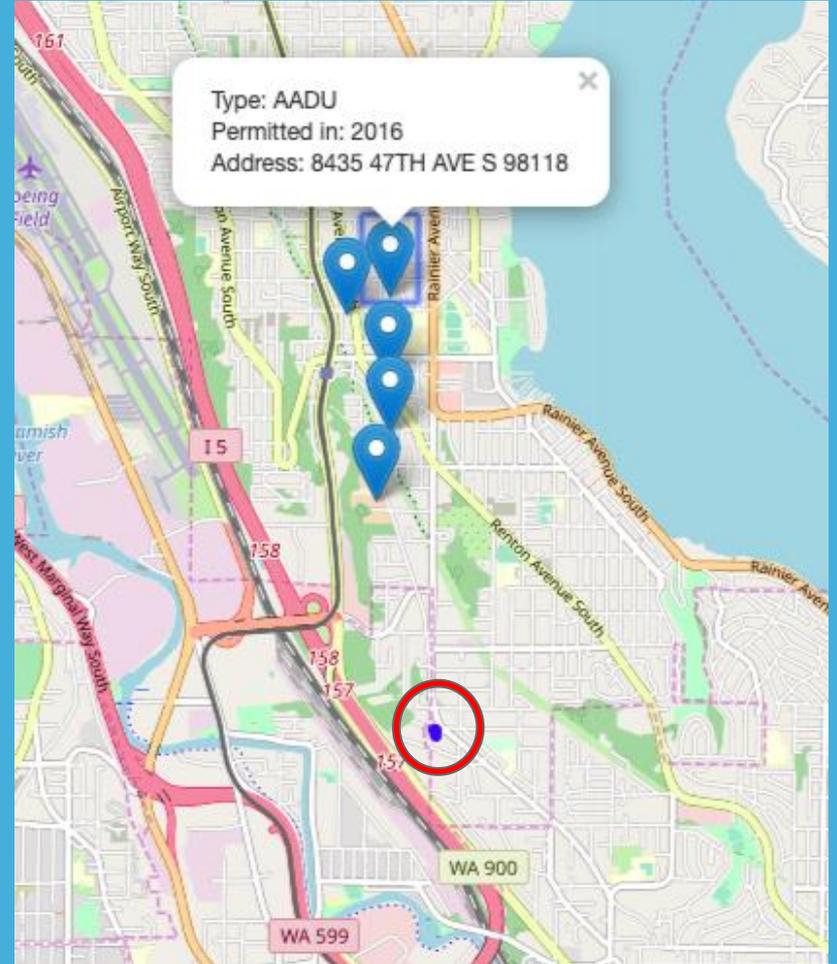
### Environmentally Critical Areas

Your parcel lies on the following **environmentally critical areas** that may make it more costly to permit and build a DADU:  
(If list empty, there are none)

Your home has a **side sewer** that crosses another lot. You may need to reroute or construct a new side sewer for a DADU

# Who might I know with an ADU?

- Identify ADUs in your area
- Build a network of community resources around ADUs



# ■ Where did this data come from?

- Open source GIS and administrative data from City of Seattle, King County Assessor's Office, and Open Street Map
- Physical feasibility indicators constructed in ArcGIS
- Permit data from city of Seattle identified ADUs

# 2.

# FINANCIAL FEASIBILITY

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Let's crunch the **numbers**



# FINANCIALS

How much does it cost to build?

It depends:

- Type
- Size

What cost I should expect?

What ADU will you build?

Attached ADU



Detached ADU

300 SF (Studio)

500 SF (1 Bed)

800 SF (2 Bed)

Your Future ADU Size: "600" Square Feet

Cost Breakdown:

Construction Cost	(\$160,000 -- \$240,000)
+ Sales Tax (10.1%)	(\$16,160 -- \$24,240)
+ Sewer Capacity Charge	\$11,268
+ Permit Fee	\$ 2,200
+ Architecture Fee	(\$ 9,600 -- \$14,400)
= Estimated Cost	(\$199,228 -- \$292,108)

\*Actual cost may vary. The estimate is for reference only.

[Be part of the SOLUTION! \(@Seattle.gov\)](#)

## What ADU will you build?

**Attached ADU**



Detached ADU



300 SF (Studio)

500 SF (1 Bed)

800 SF (2 Bed)

Your Future ADU Size: "600" Square Feet

### Cost Breakdown:

Construction Cost	(\$60,000 -- \$90,000)
+ Sales Tax (10.1%)	(\$ 6,060 -- \$ 9,090)
+ Sewer Capacity Charge	\$ 6,760
+ Permit Fee	\$ 2,200
+ Architecture Fee	(\$ 3,600 -- \$ 5,400)
= Estimated Cost	(\$78,620 -- \$113,450)

\*Actual cost may vary. The estimate is for reference only.

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## What ADU will you build?

Attached ADU



**Detached ADU**



300 SF (Studio)

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# What's the cost?

- Home Equity Loans (HELOC)
- Increase in Property Tax

## Cost Estimator

How much will you borrow?



Total Loan \$150,000

Monthly Payment \$1,340

Monthly Increase In Property Tax \$205

Assumptions: APR 6.9% for a 15-year fixed-rate home equity loan.

Reminder: Your home equity loan interest might be tax deductible.

# ■ What are the **benefits**?

If you will rent it out

-- Rental Income from ADU

If you have to sell

-- Property Value-added

### Financial Benefits

✕ ▾

Calculating gains for zipcode: "98105"

Estimated Monthly Rental	\$ 1,737
Estimated Value-Added to Property	\$55,100

\*Based on Zillow home value and rental index.

3.

# CITY ANALYSIS

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Let's go broad

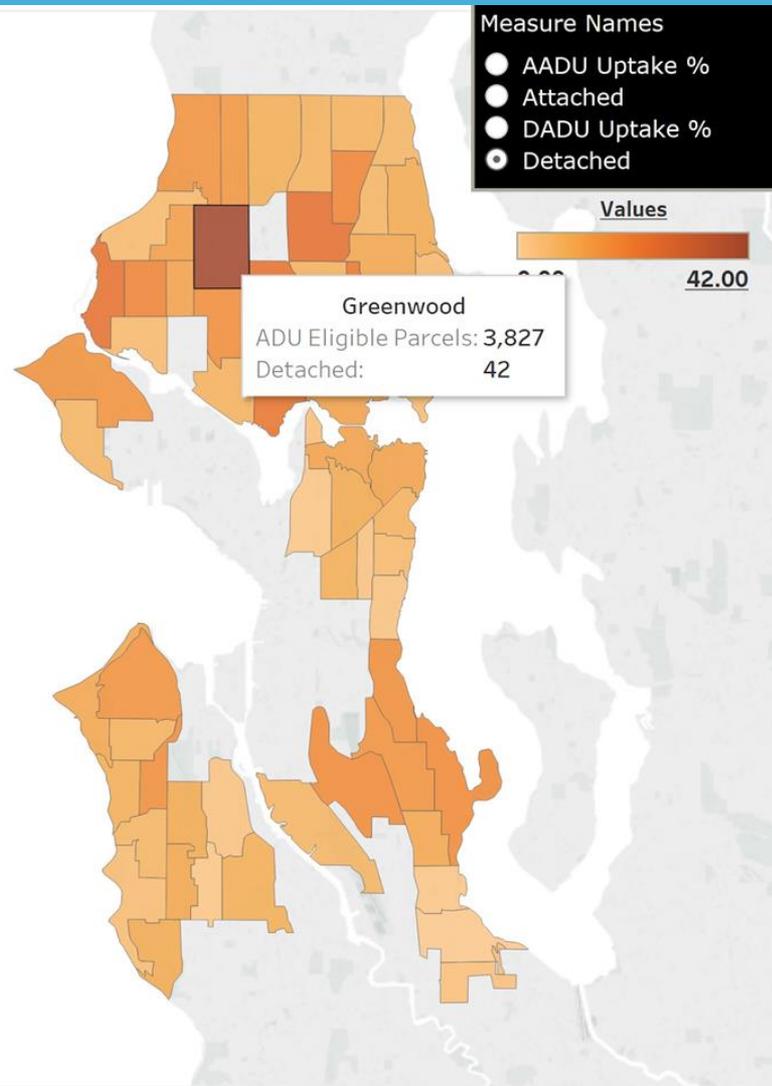


Neighborhood ADUs

- Arbor Heights
- Atlantic
- Bitter Lake
- Briarcliff
- Brighton
- Broadview
- Broadway
- Bryant
- Cedar Park
- Columbia City
- Crown Hill
- Dunlap
- E Queen Anne
- Eastlake
- Fairmount Park
- Fauntleroy
- First Hill
- Fremont
- Gatewood
- Genesee
- Georgetown
- Green Lake
- Greenwood
- Haller Lake
- Harrison/Denny-B...
- High Point
- Highland Park
- Holly Park
- Laurelhurst
- Lawton Park
- Leschi
- Loyal Heights
- Madison Park

Measure Names

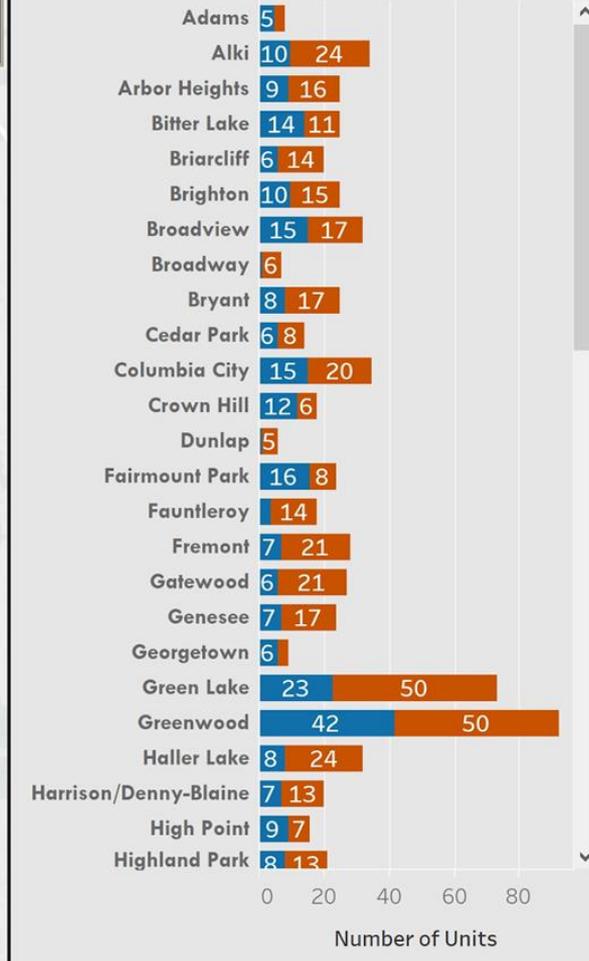
- AADU Uptake %
- Attached
- DADU Uptake %
- Detached



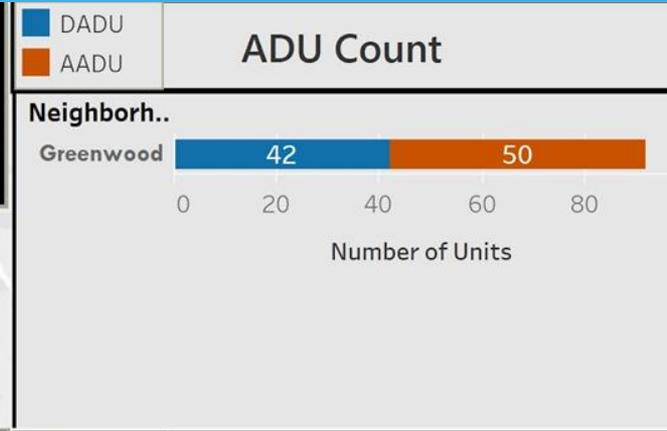
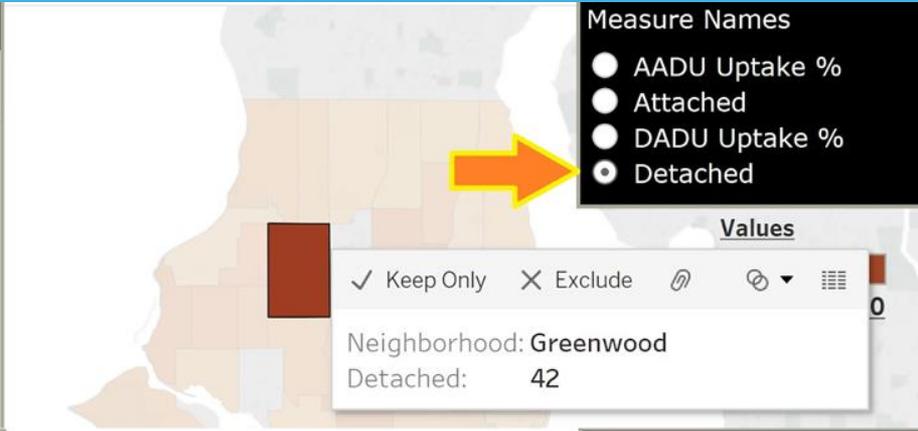
- DADU
- AADU

ADU Count

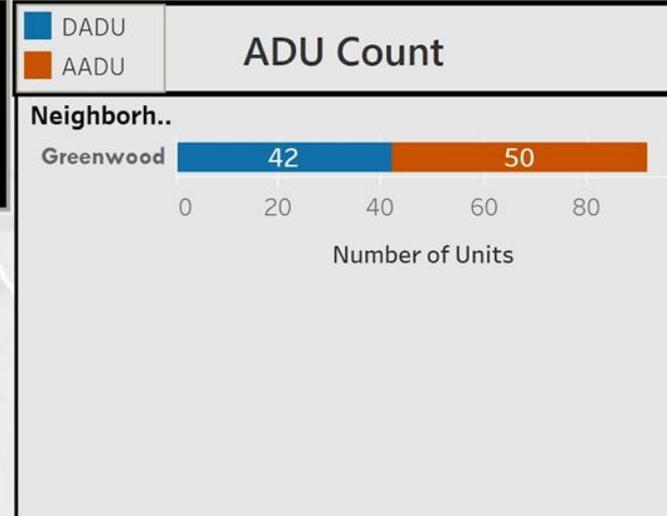
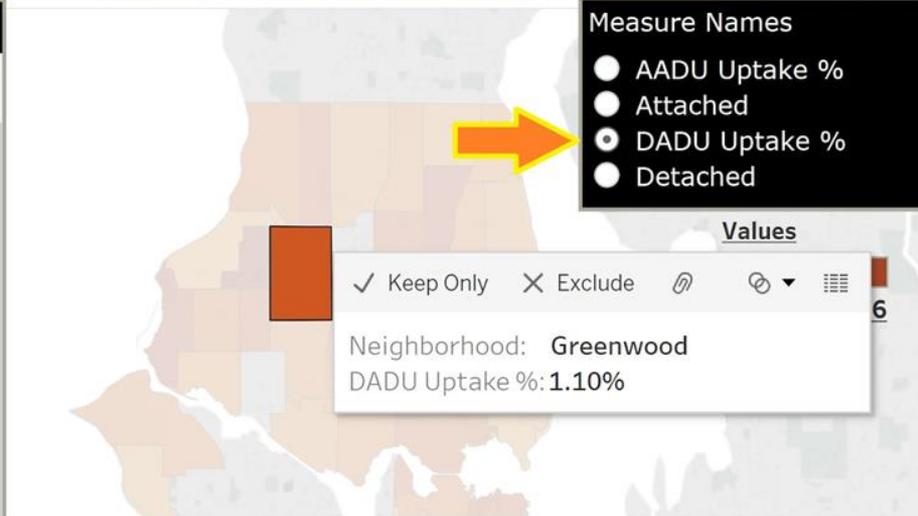
Neighborhood



- Neighborhood ADUs
- Arbor Heights
  - Atlantic
  - Bitter Lake
  - Briarcliff
  - Brighton
  - Broadview
  - Broadway
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  - Cedar Park
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- Arbor Heights
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  - Dunlap
  - E Queen Anne



# 3.5

# CITY ANALYSIS

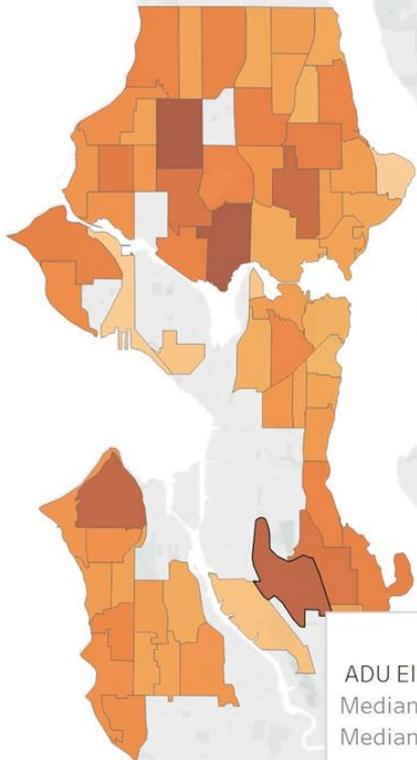
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For policymakers

# Seattle, WA



Count of ADU Eligible  
8 4,975



## The Map

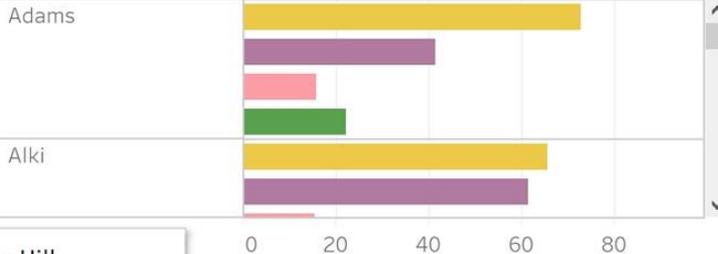
Rhetorical question: You see that **map** there on the left? That multi-colored one of **Seattle, WA**? Good, meet your fancy new toy; and by toy, I do mean go play with it. The **map** is **interactive!**

A bit hesitant? No problem, let's briefly cover how it works then. (Quick note, **ADU** is short for **Accessory Dwelling Unit**. That's important.)

Each individual puzzle-pieced shape represents a **neighborhood** within the city. **Hovering** or **clicking** over a neighborhood will reveal some corresponding details, such as its name and median incomes. The **color legend** above the map helps interpret the neighborhood colors, which visual..

## Population Statistics

### Neighborhood



### Mid-Beacon Hill

ADU Eligible Parcels: 3,735  
Median Household Income: \$70,982  
Median Home Value: \$366,100

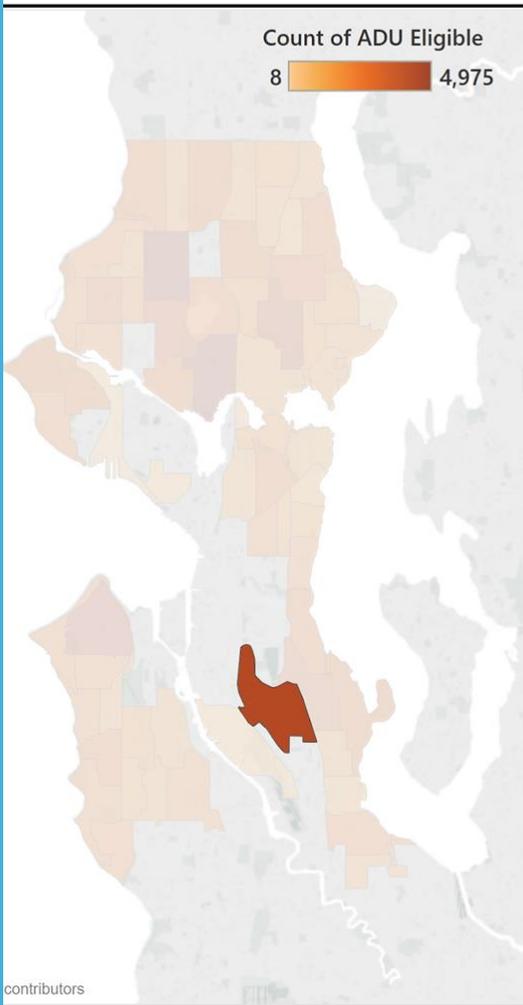
### Population Statistics Color Legend

- College Degree %
- Home Owner %
- Non-White Population %
- Public Trans To Work %

## Neighborhood Filter

- (All)
- Adams
- Alki
- Arbor Heights
- Atlantic
- Bitter Lake
- Briarcliff
- Brighton
- Broadview
- Broadway
- Bryant
- Cedar Park
- Columbia City
- Crown Hill
- Dunlap
- E Queen Anne
- Eastlake
- Fairmount Park
- Fauntleroy
- First Hill
- Fremont
- Gatewood
- Genesee
- Georgetown
- Green Lake
- Greenwood
- Haller Lake
- Harrison/Denny...
- High Point
- Highland Park
- Holly Park

# Seattle, WA



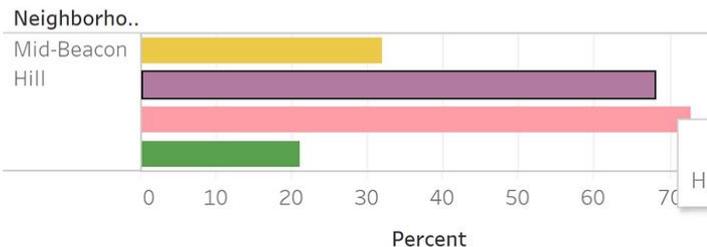
## The Map

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## Population Statistics



### Population Statistics Color Legend



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Home Owner %: 68.00

4.

# OPPORTUNITY

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Bring it all **home**



# 114,000



RESIDENTIAL SINGLE-FAMILY LOTS

UP TO **107,000**

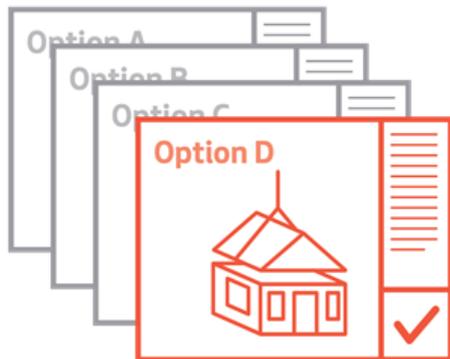
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**DADU-ELIGIBLE  
SINGLE-FAMILY LOTS**

# "Is an ADU for me?" How we help more owners and renters say "yes"

## Can I build it?

**Permissive rules** allows new homes in more places and lets owners achieve their ADU vision.



## What does it cost?

**Innovation** yields new low-cost designs, which pre-approved plans help to spur.



## How do I pay for it?

**New financing options** make an ADU possible for new families, delivering affordable rentals in more places.

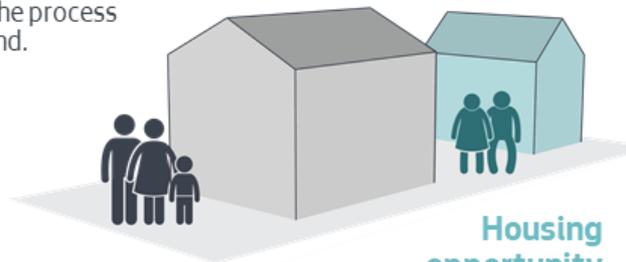
## On my lot?

**A one-stop website** tells homeowners what's feasible, shows them how, and connects to City programs.



## What's the process?

**Permitting** is more efficient and straightforward, with City info that makes the process easy to understand.



**Housing opportunity**  
Stability and access to all neighborhoods



# WHAT'S NEXT?

User testing

Hand off to Seattle IT for adoption

Future connected programs:

- Pre-approved plans
- City financing for affordable ADUs
- [The Block Project](#)
- Affordable ADU partnerships

Tool for Seattle, but could be adopted in many cities

## Can the City help me?

- ▶ Can I use a pre-approved design?
- ▶ Is financing available?
- ▶ How do I start the permitting process?

One small step for ADUs...

One giant leap for



**Seattle**  
Office of Planning &  
Community Development



**Seattle**  
Planning  
Commission

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“

*When life isn't going right,  
go left.*

- *The Dove chocolate that kept us alive*

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UNIVERSITY *of* WASHINGTON  
eScience Institute



GORDON AND BETTY  
**MOORE**  
FOUNDATION

**CASCADIA URBAN**  
ANALYTICS COOPERATIVE