

# **Single-Stair Reform**

**Expanding Midrise Housing Options in Texas**



# **Felicity Maxwell**

Executive Director of Texas for Housing  
City of Austin Planning Commissioner  
AURA boardmember



## **Chris Gannon, AIA**

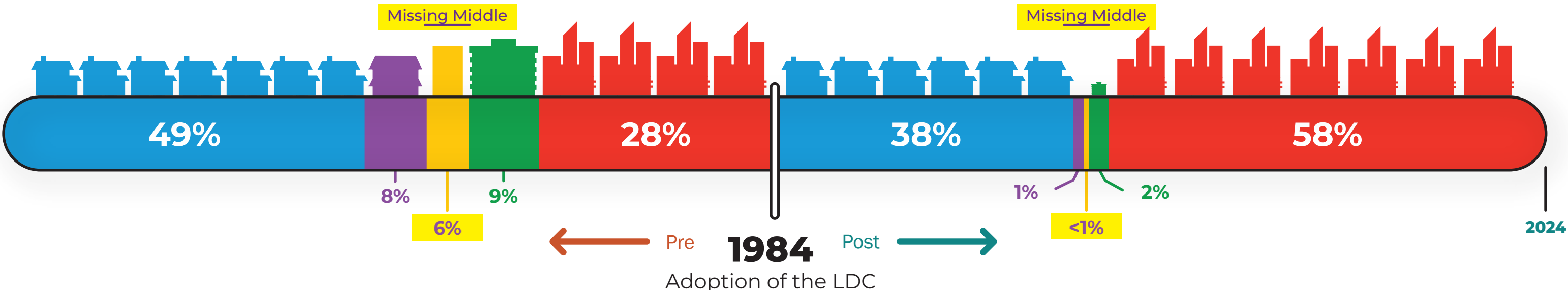
Principal Architect at Shams Gannon Architecture  
Chair of AIA Austin Housing Advocacy Committee  
City of Austin Planning Commissioner

Our zoning and building codes are working together to *prevent* the types of building **we need to address our housing crisis**

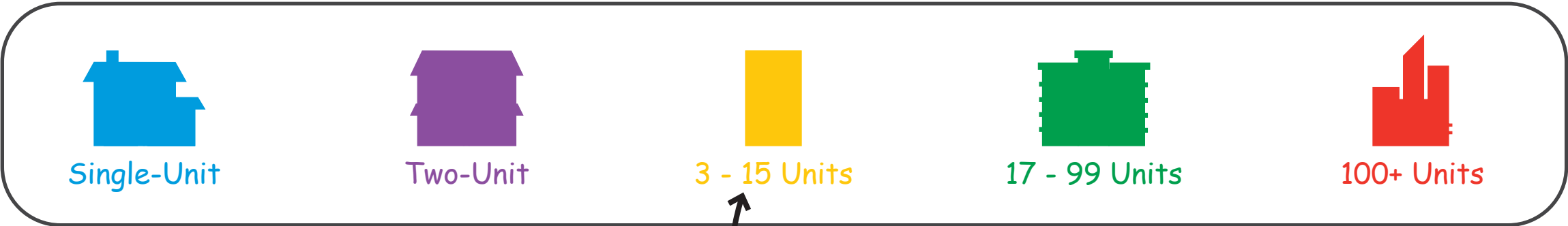
Single Stair



# Zoning, in general

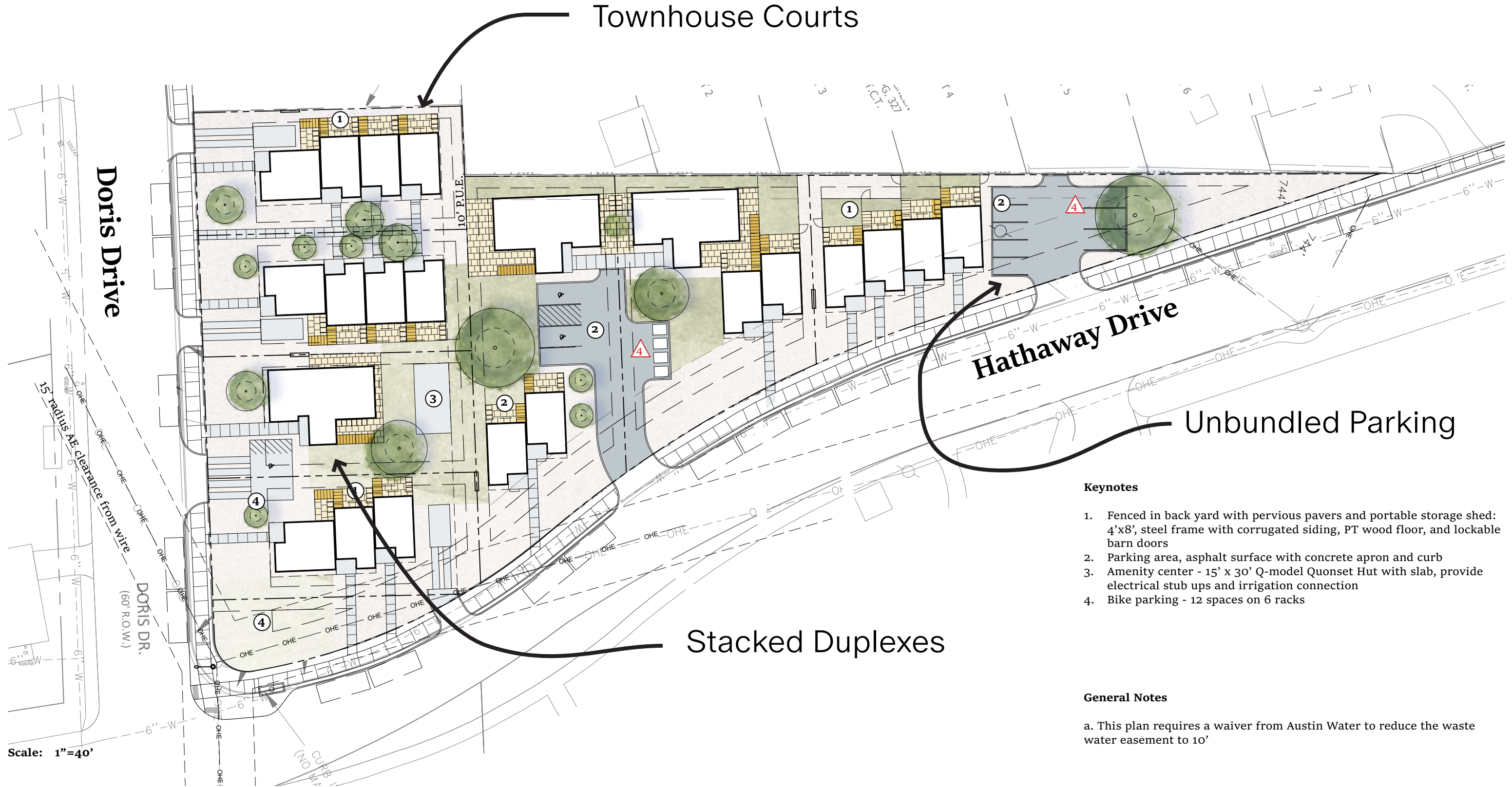


## Legend



Source: City of Austin 2024 Land Use Database

Single-stair buildings fit here



Townhouse Courts

Unbundled Parking

Stacked Duplexes









**Keynotes**

1. Fenced in back yard with pervious pavers and portable storage shed: 4'x8', steel frame with corrugated siding, PT wood floor, and lockable barn doors
2. Parking area, asphalt surface with concrete apron and curb
3. Amenity center - 15' x 30' Q-model Quonset Hut with slab, provide electrical stub ups and irrigation connection
4. Bike parking - 12 spaces on 6 racks

**General Notes**

a. This plan requires a waiver from Austin Water to reduce the waste water easement to 10'

**Key**

 Storage Shed	 Gravel / crushed DG
 Grassy area	 Permeable pavers
 Plantings	 Parking
 New Tree	 Sidewalk / concrete

Scale: 1"=40'

# Missing Middle, from the IRC up

# Townhouse Courts



# Stacked Duplex





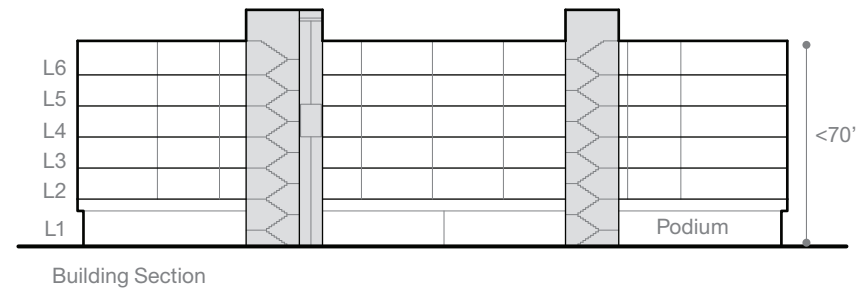
**D Unit**  
Stacked triplex, similar  
footprint as C unit

# Stacked Triplex?

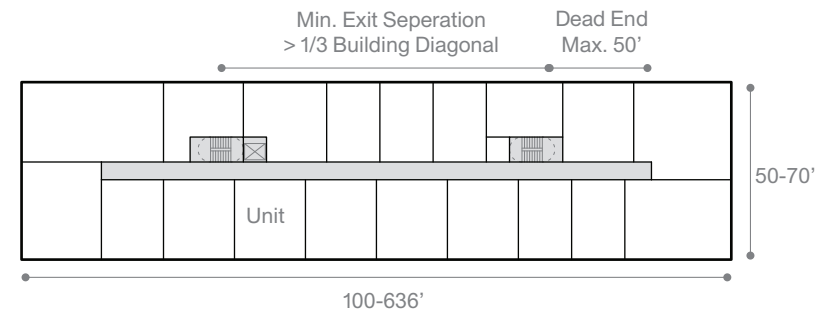


*NOT ALLOWED IN THE IRC!*

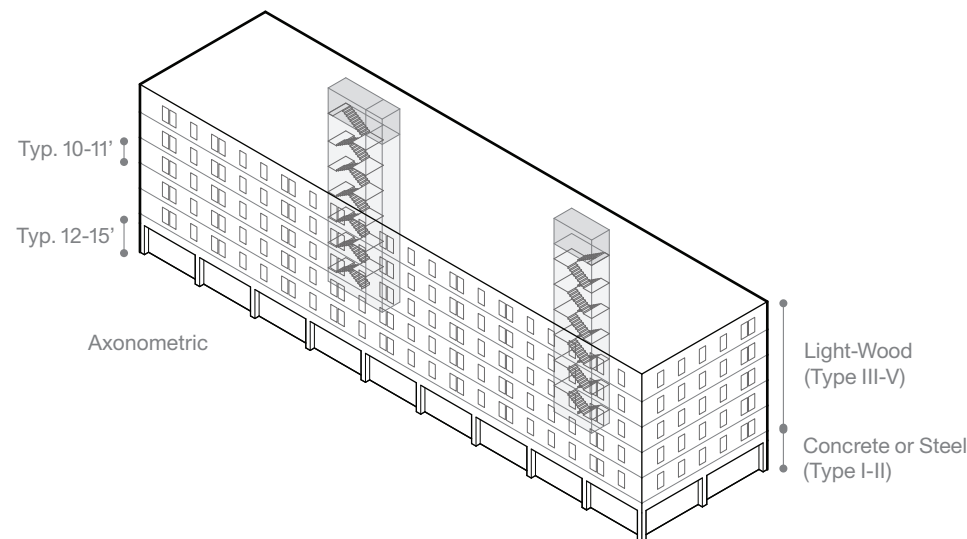
Double-Loaded Podium Building



Building Section



Typical Floor Plan

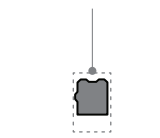


Axonometric

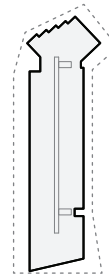
Light-Wood  
(Type III-V)

Concrete or Steel  
(Type I-II)

Six-plex  
Footprint on  
Median Sized  
Boston Parcel  
(4,600 SF)

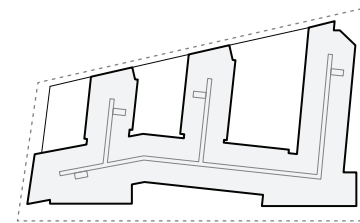


9K

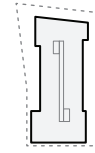


26K

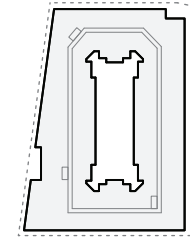
Typical Greater Boston Double-loaded  
Podium Footprints



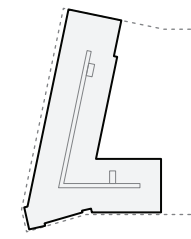
61K Footprint



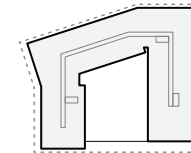
12K



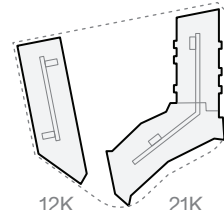
55K



31K

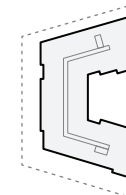


29K



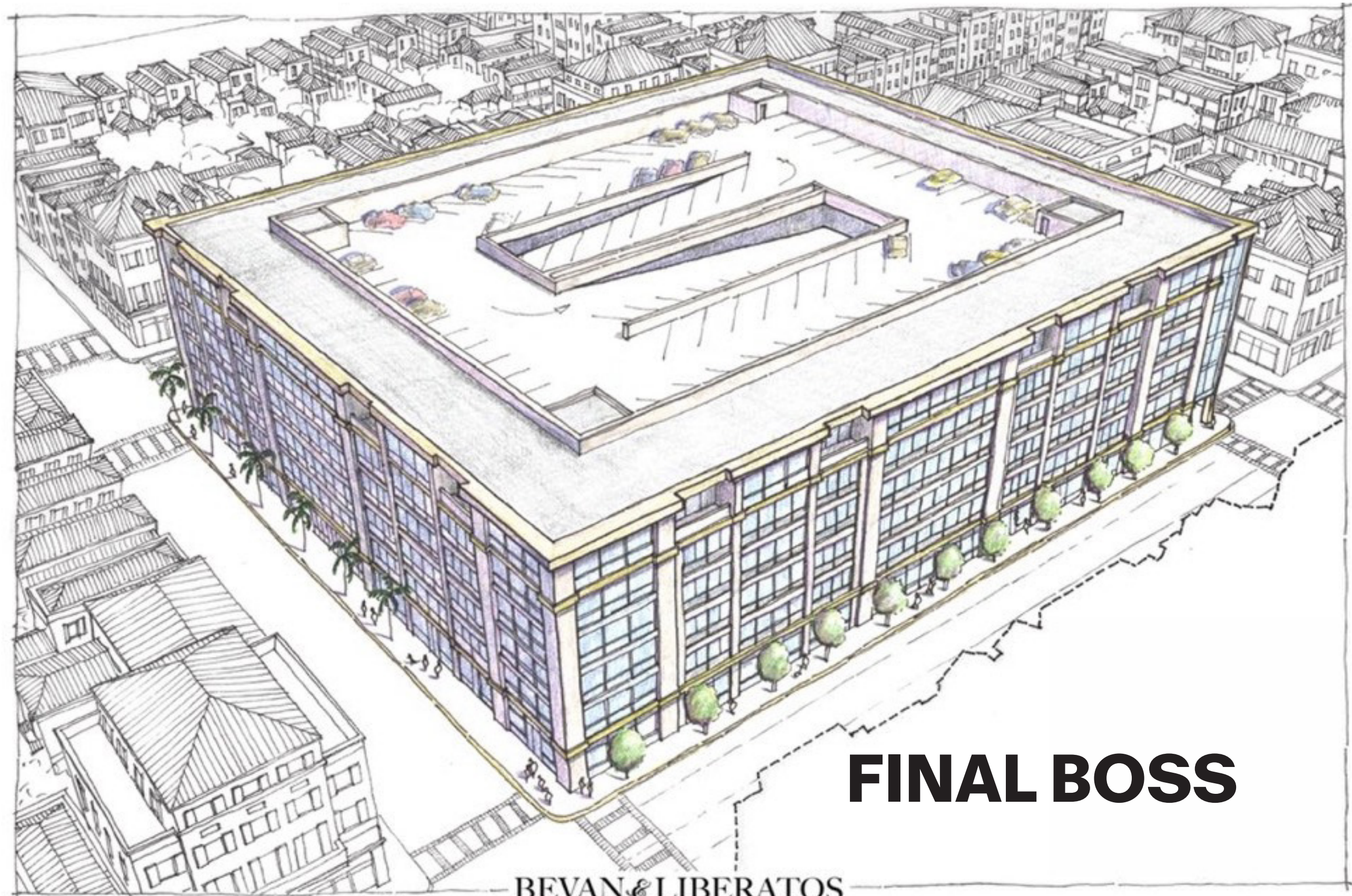
12K

21K



20K

# The IBC incentivizes larger Double Loaded Corridors

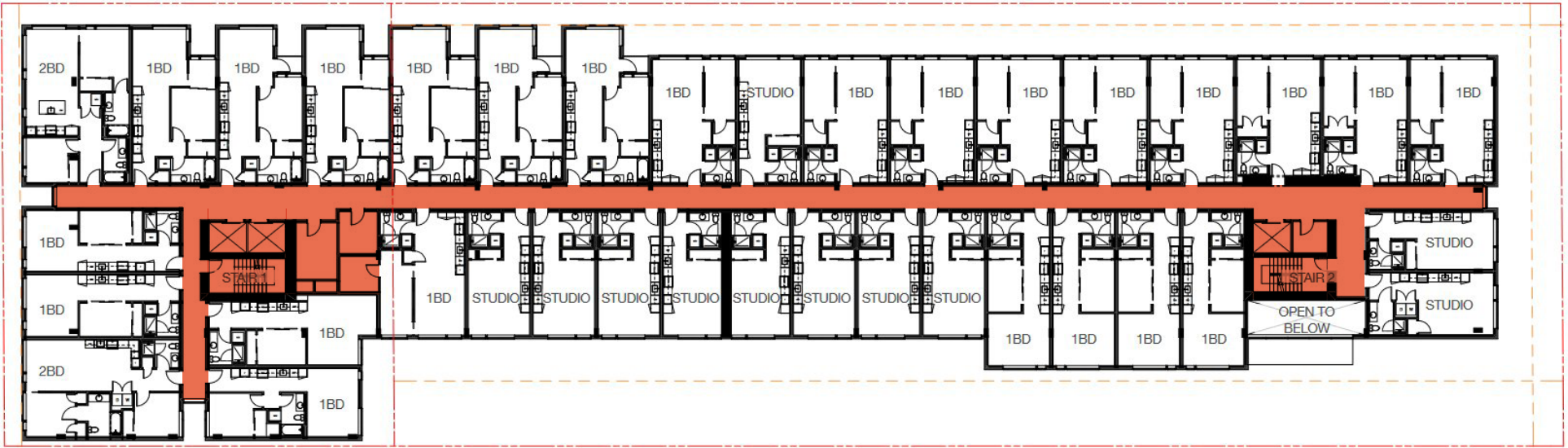


**FINAL BOSS**

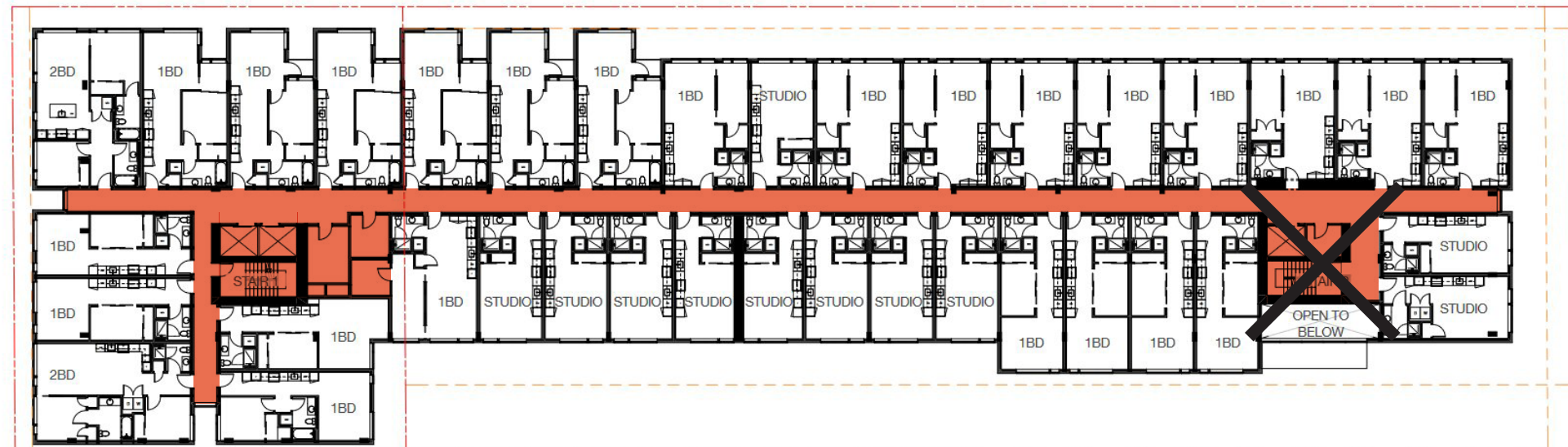
BEVAN & LIBERATOS

**What is a single-stair building?**

# It is not a double loaded corridor



**minus one stair**

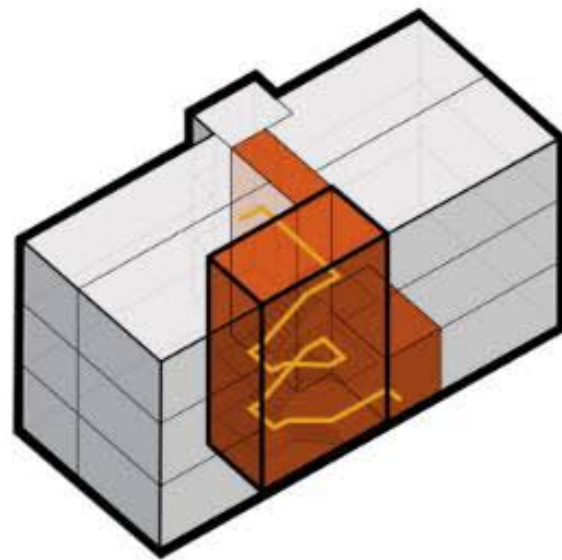


# Single Stair Building





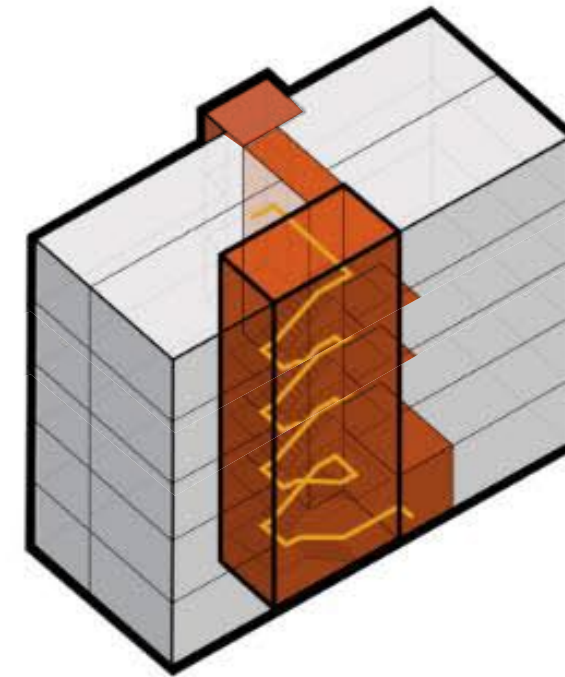
# Base IBC vs Austin Amendment



## Base IBC

3 Stories

4 Units / Story (4,000 sf net)

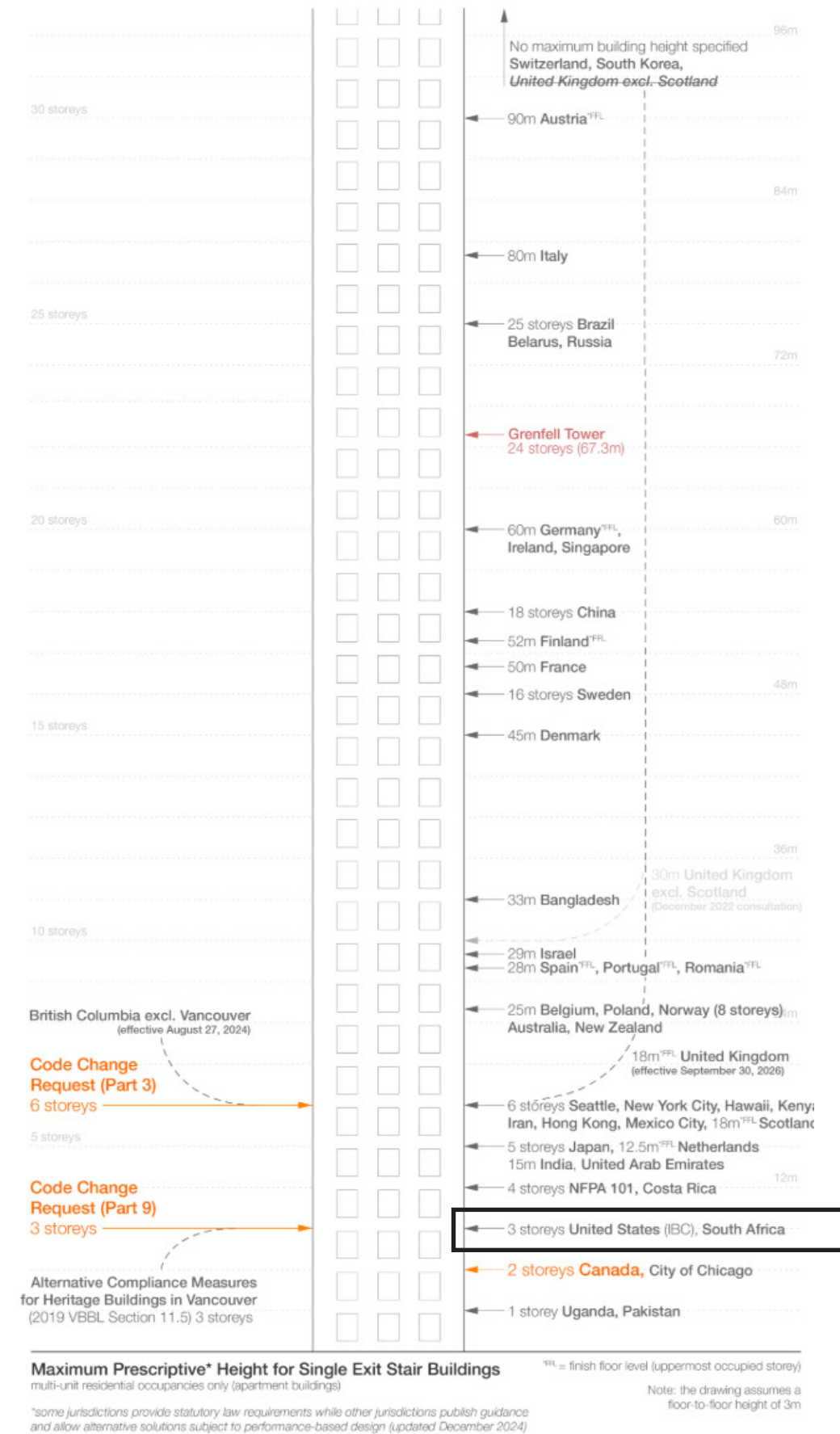
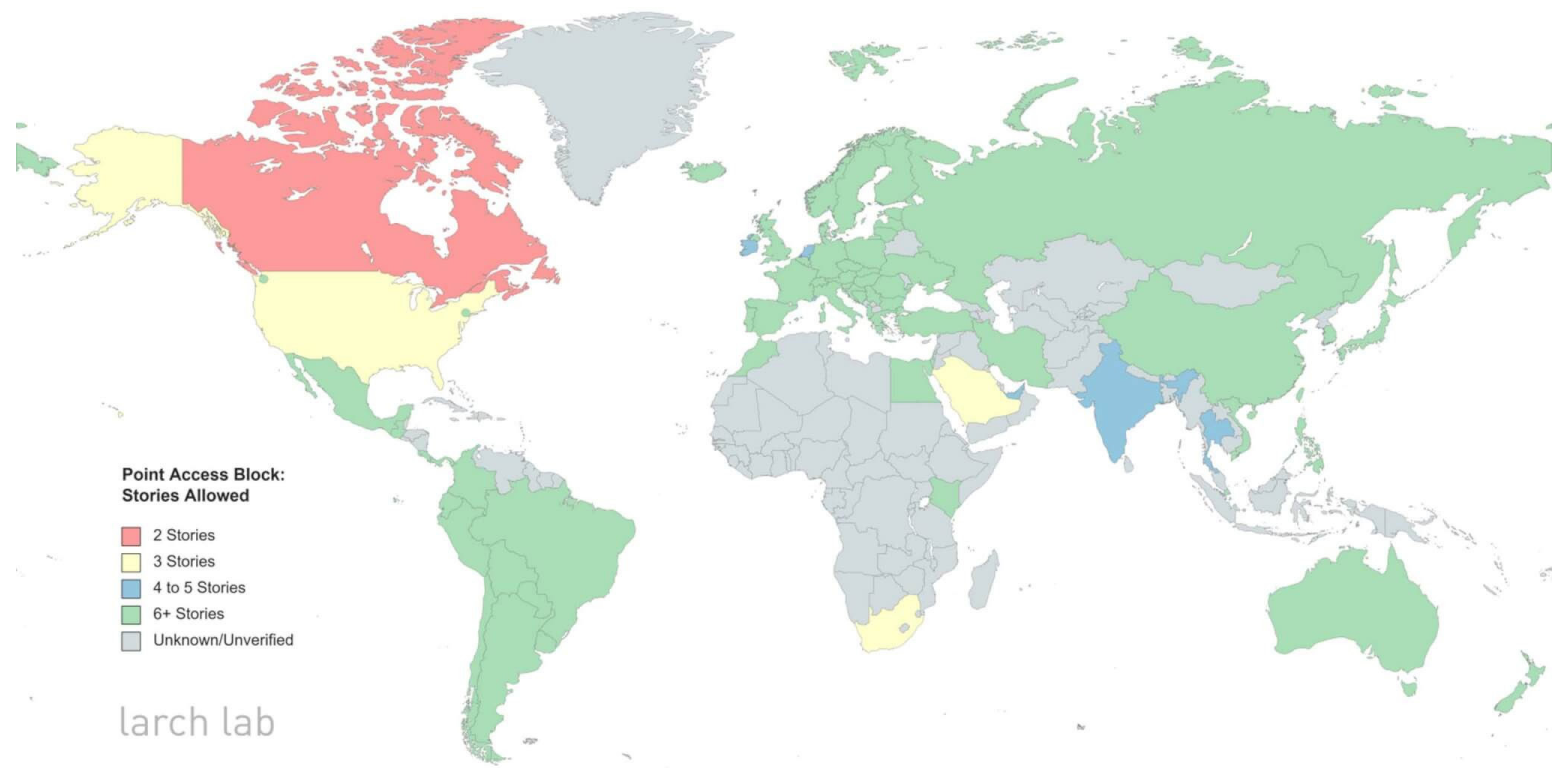


## Austin Amendment

5 Stories

4 Units / Story (4,000 sf net)

# Global Comparison





Tehran, Iran



Saint-Denis, France

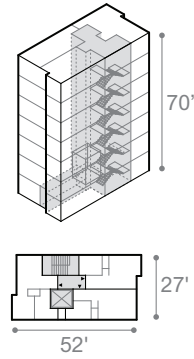


Mexico City, Mexico

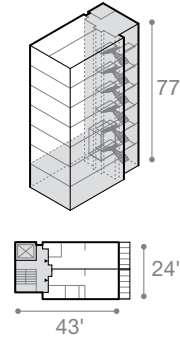
# Small Parcel Development

## Small Infill

Capitol Core  
Seattle, WA  
2017  
17 Units  
76% Efficient  
1,374 GSF Floor Plate

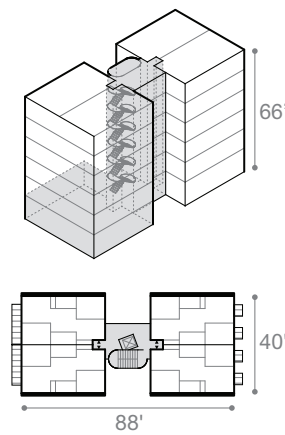


Apartment in Katayama  
Suita-Shi, Japan  
2007  
10 Units  
66% Efficient  
970 GSF FP

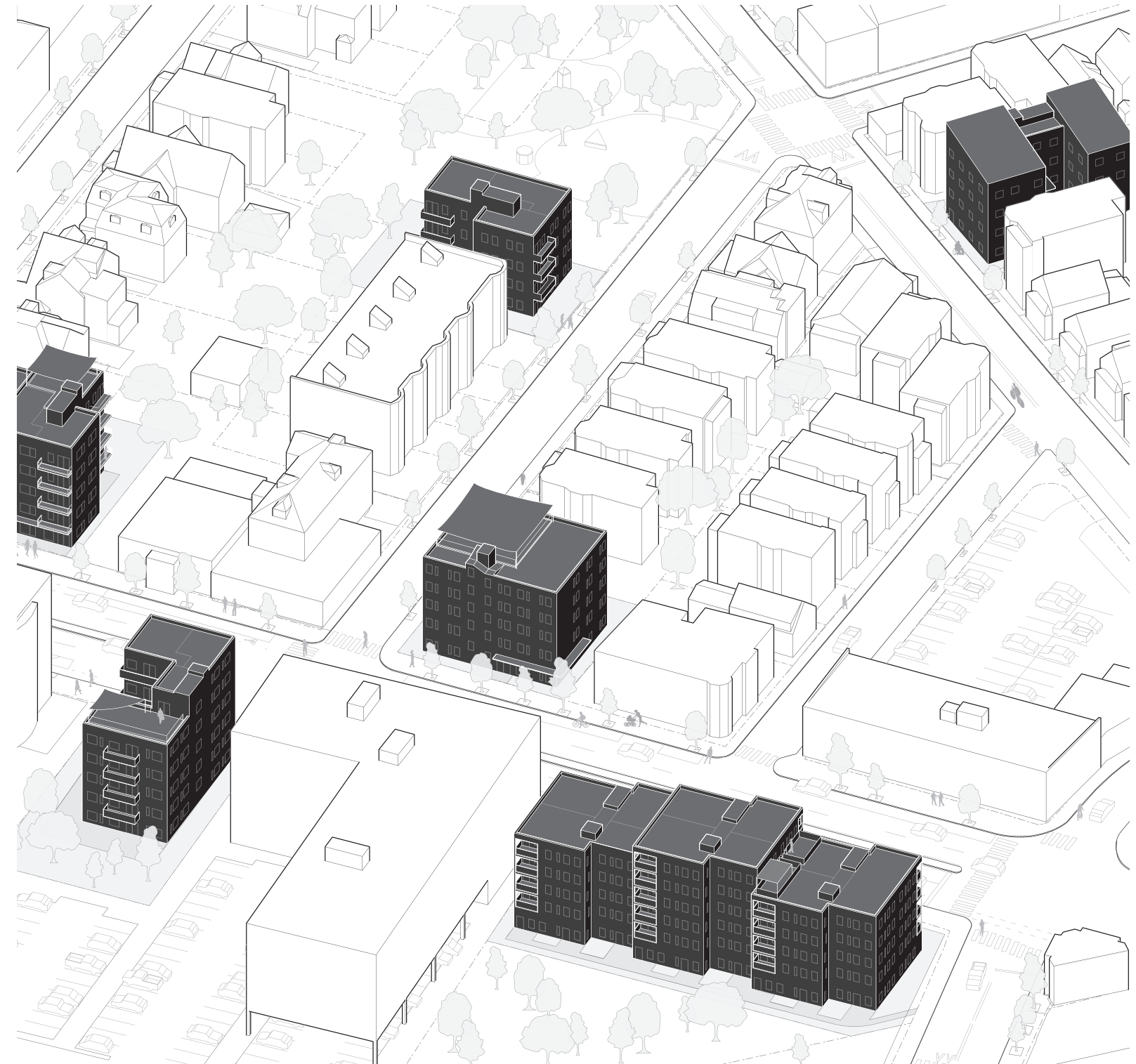
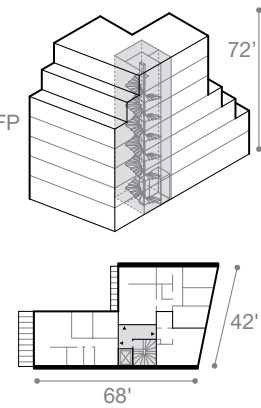


## Party Wall

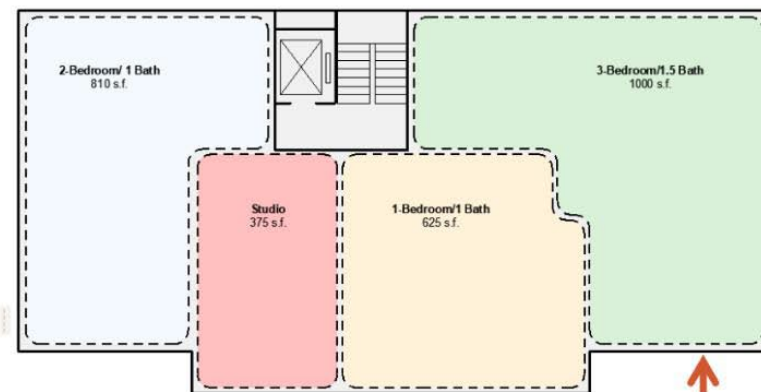
110 Rooms  
Barcelona, Spain  
2016  
22 Units  
88% Efficient  
+/- 3,030 GSF FP



17 Apartments  
Paris, France  
2017  
17 Units  
84% Efficient  
+/- 2,300 GSF FP

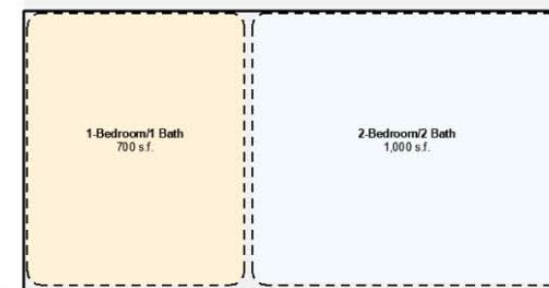
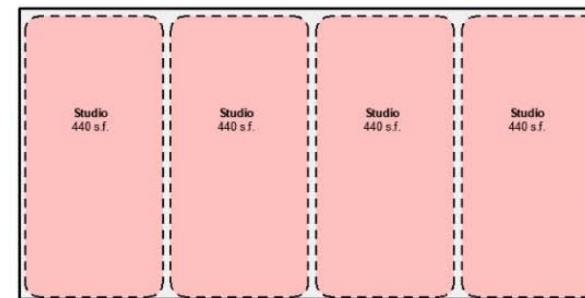


# Design Flexibility



larch lab

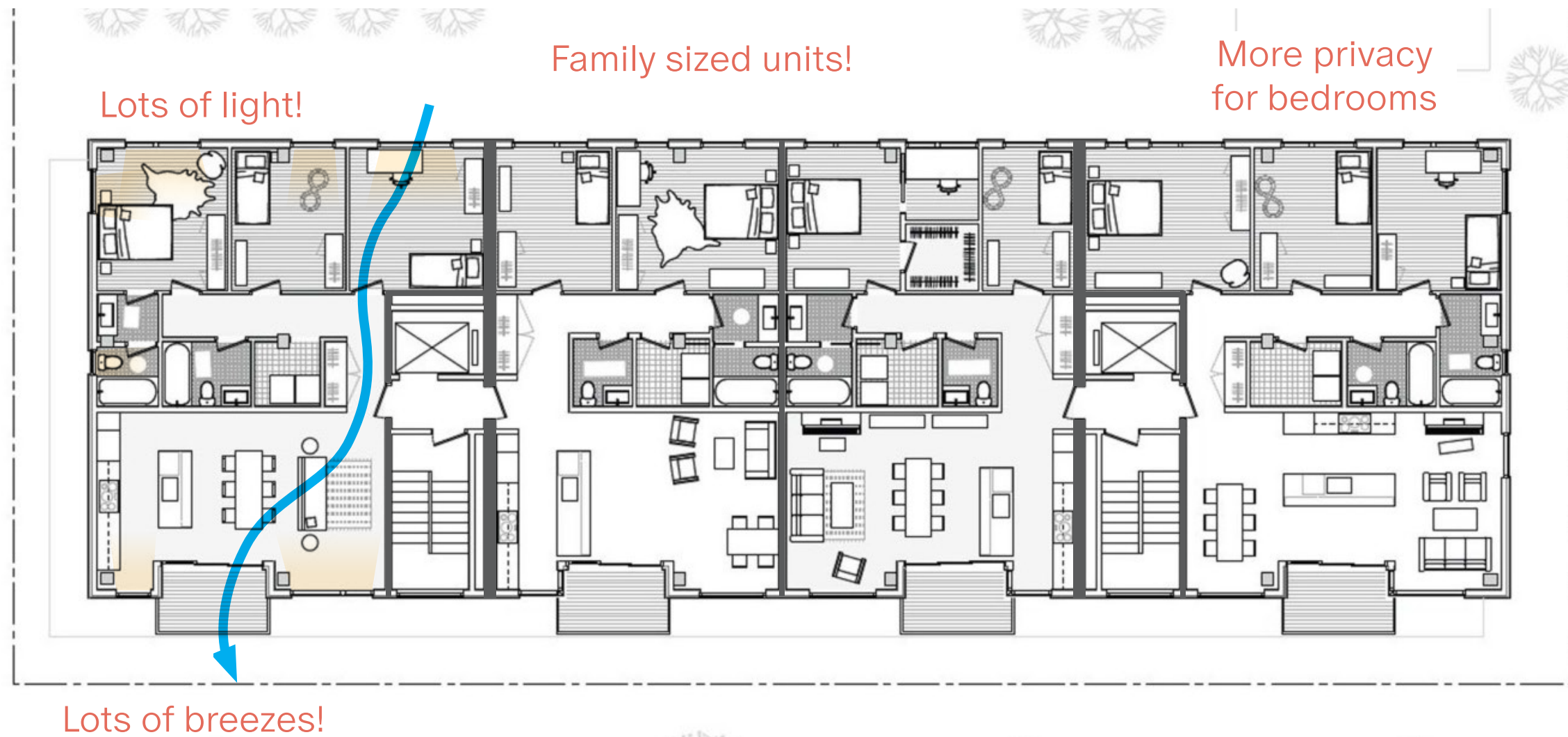
**SINGLE-STAIR (POINT ACCESS BLOCK)**



**DOUBLE-LOADED CORRIDOR**

image credit: Larch Lab (@larchlab), 2023

# Better Units



Lots of light!

Family sized units!

More privacy  
for bedrooms

Lots of breezes!

Two connected single-stair buildings

So many windows!

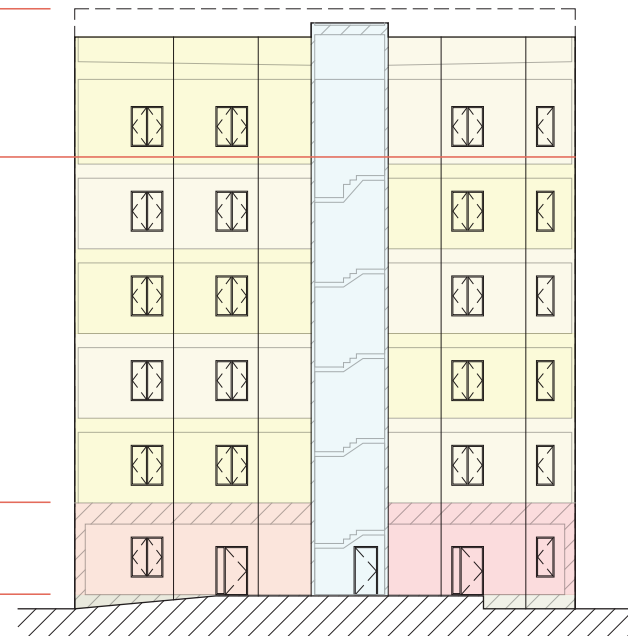
# Very Safe

85' max height

Non-High-rise  
(top fin. floor <75')

Upper 5 floors share  
single stair egress,  
Type 3 const.

Lower floor exits at  
grade, Type 1 const.



4 units per floor  
x 5 floors  
20 units max sharing a  
single egress

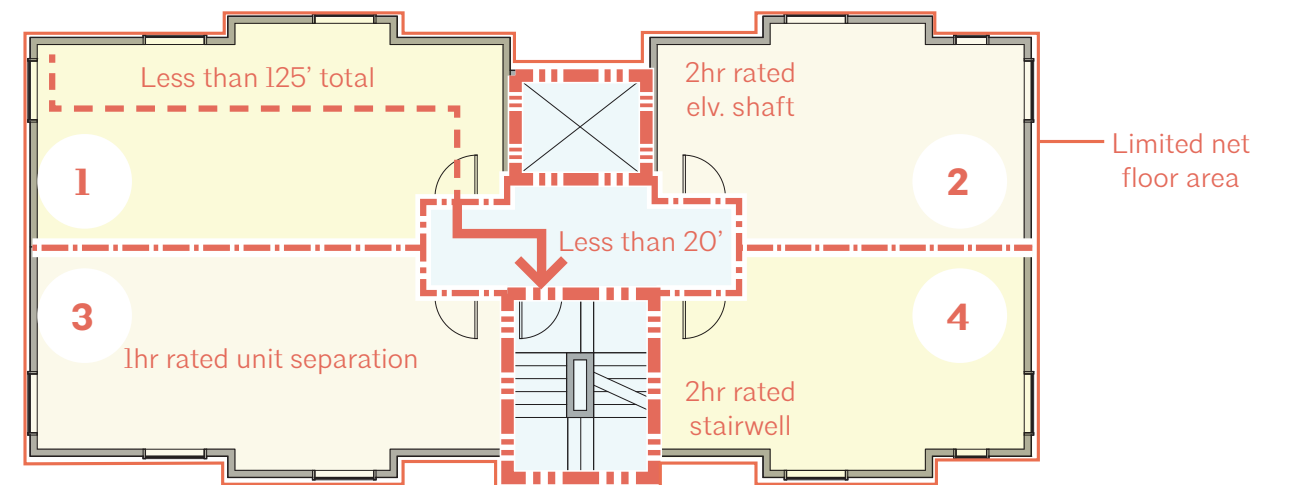
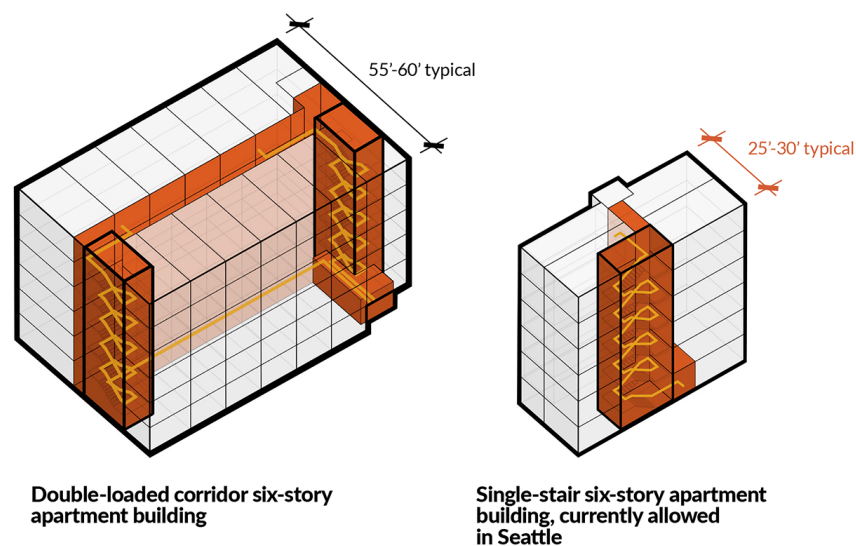


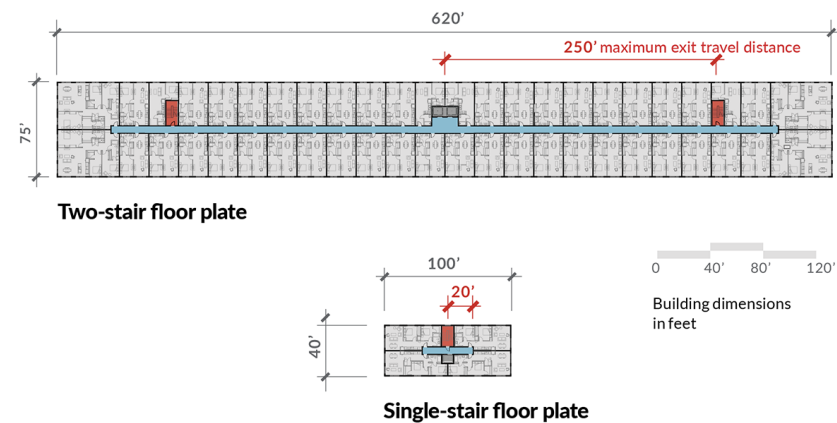


Figure 1  
**Building Codes Limit Small Apartment Building Designs in Much of the U.S.**  
Single-stair design is allowed in 3-story buildings, but 4-to-6-story buildings must have two staircases and a corridor



Source: SAR+ Architects  
© 2025 The Pew Charitable Trusts

Figure 6  
**Seattle Residents Often Must Walk Farther to an Exit in 2-Stairway Buildings Than in Single-Stairway Designs**  
Single-stair designs limit exit distance



Note: Reasonable worst-case floor plans for a two-stair building according to the model IBC (above) and a single-stair building according to Seattle's code section. The top plan shows the distance that occupants would need to travel if one of the stairs were blocked by the fire department in a code-compliant two-stair building—far beyond the 250-foot limit imposed in the code—illustrating the challenges of segregating attack and egress stairs in practice. In the single-stairway building, the maximum distance from the front door of each unit to the stairwell is 20 feet.

Source: Drawing by Sean Jursnick, with SAR+ Architects, completed for Center for Building in North America

Figure 5  
**Cutting 1 Stairway and Some Corridor Space Makes a Small Apartment Building Project More Financially Viable**  
Plan of a typical small multifamily building in Jersey City, New Jersey



Notes: Drawing of 101 Storms Ave., Jersey City, New Jersey. In this example, the second stairway (in yellow) consumes 7% of the space, and 2% (in green) is rendered unrentable, because it is in the common corridor rather than inside the apartment on the right.

Source: Plan redrawn and analyzed by Alfred Twu. Reproduced with permission from page 432 of Stephen Smith and Eduardo Mendoza, "Point Access Block Building Design: Options for Building More Single-Stair Apartment Buildings in North America," 2024

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## **SINGLE-STAIR POINT ACCESS BUILDINGS**

<b>Feb '24</b>	<b>AIA Austin Memo</b>
<b>May '24</b>	<b>Council Resolution</b>
<b>Jun '24</b>	<b>Meeting with AFD Chief Baker</b>
<b>Jul '24</b>	<b>AFD / ATCEMS / DSD joint memo</b>
<b>Jul '24</b>	<b>AIA Austin Response Letter</b>
<b>Aug '24</b>	<b>Planning Commission</b>
<b>Sept '24</b>	<b>Expected PC Recommendation</b>
<b>Oct '24</b>	<b>Council Hearing</b>
<b>Jan '25</b>	<b>Adoption??</b>



**Housing  
Advocacy  
Committee**

February 29<sup>th</sup> 2024  
International Building Code 2024

## Single Stair

Allow more floors to be served by a single staircase in residential multifamily, creating better unit layouts by eliminating the need for a double loaded corridor, and facilitating smaller building footprints with less need for large land assemblage, while producing a typology that is shown to provide better life safety.

### Problem

The vast majority of multi-family housing in the United States is designed with double-loaded corridors – hallways with units on either side – and built under the IBC’s burdensome egress code. The requirement of two staircases with a connecting corridor result in homes that suffer from limited natural light, rigid layouts that limit unit size diversity, inadequate ventilation, bulky and inefficient land use, and, in a twist, have been shown to perform worse in a fire than buildings that concentrate units on a single staircase.

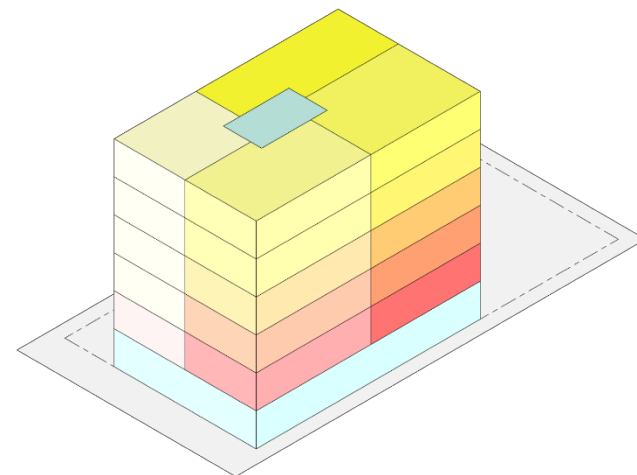
In contrast, single stair buildings, or ‘point access blocks’ as they are sometimes known, cluster a limited number of units around a single vertical circulation point, typically a single stair and an elevator, which removes the need for a corridor. The resulting units are more flexible in size and arrangement and allow for windows on more than one side, and the buildings are generally smaller in footprint and require less land assemblage to develop. This typology, up to six stories and taller, is legal throughout the majority of the world and globally one of the most common forms of multifamily housing.

### Solution

Allow up to five floors to be served by a single exit, with a limit of four units per floor, up to six or seven stories, and modify egress regulations and fire protections based on precedent jurisdictions.

### Benefits

- Floor plate efficiency – Removing the need for a corridor provides more square footage for dwelling units, which lowers the overall cost of housing. Single stair



buildings have 95% efficiency as compared to 80-87% or 70-80% efficiency for double or single loaded corridors respectfully.

- Family sized units – Having dual access to window walls allows for bedrooms to be placed on multiple sides of buildings, as opposed to only one, easily facilitating two, three and four bedrooms. This measure also takes the pressure off building windowless bedrooms, a result of deep floorplates and double loaded corridors. A quick precedent study of single stair buildings shows great variety in unit layout and sizes.
- Cross ventilation –Having access to windows on two or more sides opens the possibility of natural ventilation, as opposed to the mechanical heating and cooling of a double loaded corridor. Austin would particularly benefit from this as much of the year is pleasant outside.
- Smaller building footprint – Removing the requirement for a corridor promotes a finer-grained urbanism by enabling a diverse mix of infill scale developments, more affordable to local builders. Smaller footprints also encourage incremental growth. Neighborhoods that grow more dense piece by piece have a better chance of preserving existing character.
- Aligns with five-over-ones – Five stories of Type III residential over one or two stories of Type I commercial is an inflection point in construction financing. Configuring the single stair buildings to align with this typology would promote more efficient mixed-use buildings.
- Aligns with ETOD and other up-zonings – Implementing this single stair amendment prior to anticipated up-zonings is essential for fostering higher-quality living spaces and better urban fabric with more involvement from local builders. For example, the University Neighborhood Overlay produced a significant increase in units, but many of the bedrooms lack windows and the buildings are all of one giant scale.
- Fire safety – A 2011 FEMA report shows that globally, many countries that allow single stair buildings, some lacking sprinkler requirements and with unlimited height, have a significantly lower death rate due to building fire than the United States. Single stair buildings may be safer due to shorter distance from the unit to the stairs, no deadly smoke-filled corridor, compartmentalization of the units, a sealed and mechanically vented stair enclosure, and fewer people on the stairs themselves. The FEMA report is linked at the end.

### Precedents

Seattle is the best know precedent for the single stair typology in the US. Their city code has allowed these buildings since 1977 with varying protections throughout the years. Today Seattle allows for five stories residential up to six stories high, with four dwellings per floor. The units utilize compartmentalization of a 1-hour fire rating between units, require sprinklers, and limit travel distance to 125 feet in total and 20 feet from the unit to the stairs. Seattle allows for two of these conditions per site. Most other jurisdictions looking to adopt this measure are also using Seattle’s code as a precedent, however, there is a case to be made for 1) increasing the allowed height of the building to either seven stories or 85 feet to better align with the IBC’s podium allowance, and 2) removing the two condition limit per site.

New York City modified its code in 2022 to allow new residential buildings to be built with only one staircase if they are six stories or under, constructed to fireproof standards, do not exceed 4,000 square feet per floor, and have a maximum of 20 feet from the door of a dwelling unit to the exit staircase.

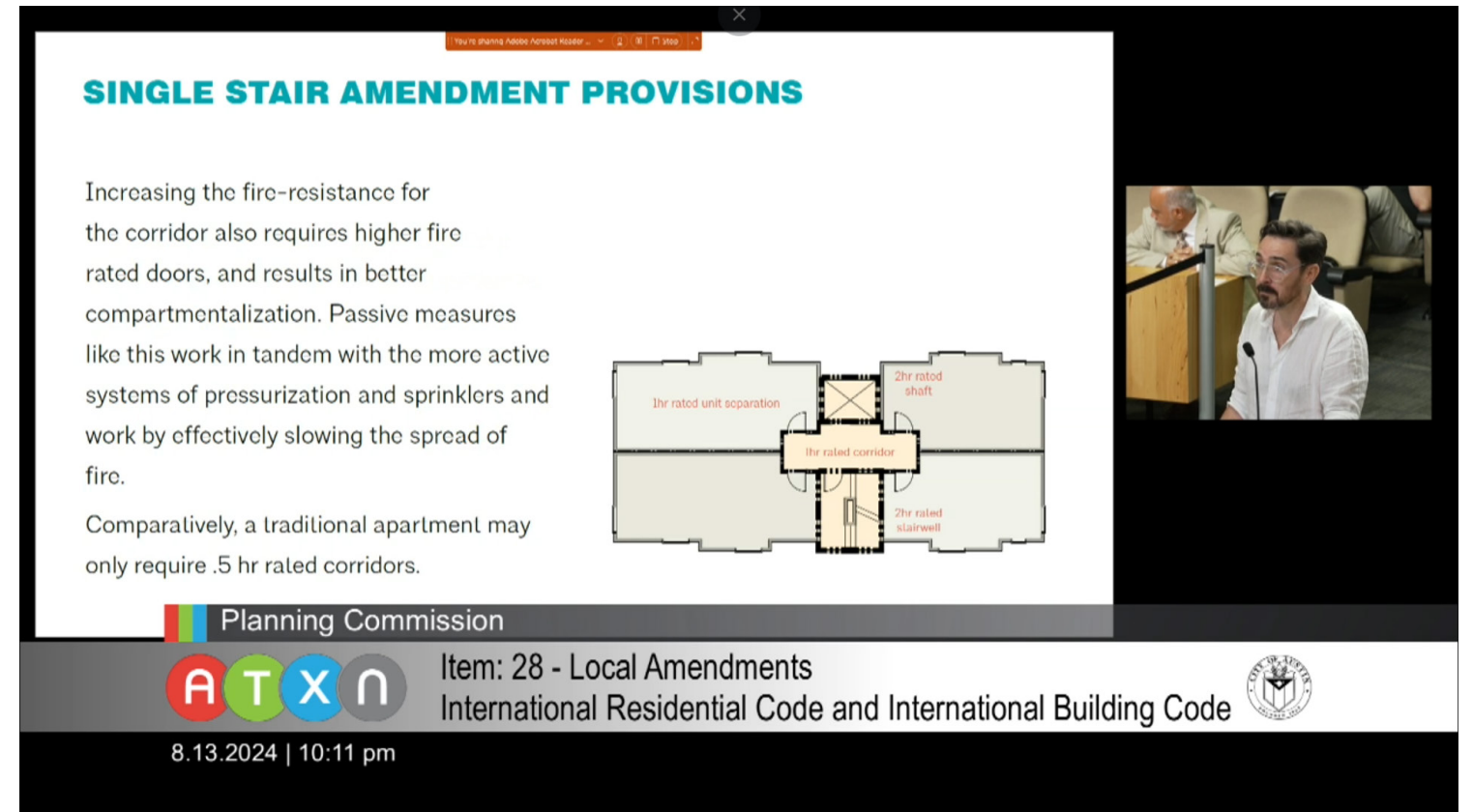
# Step Up For Single-Stair Reform



Let's Step Up For  
**Single-Stair Reform!**

**Single-Stair Buildings Are Beautiful, Sustainable, & Safe.  
And They Could Be Coming to a Community Near You!**

Single-stair buildings are one the world's most beloved forms of urban housing. They can be great for families, help maintain neighborhood character, and have a strong safety record.



# Aug '24 - Planning Commission



Felicity

Chris

Planning Commission



Item: 28 - Local Amendments  
International Residential Code and International Building Code



8.13.2024 | 10:06 pm

# Single Stair passes locally!





# A Case for Austin Infill Apartments

Legalizing single-stair buildings up to six stories



## What Are Single-Stair Buildings?

Single-stair buildings are compact apartment buildings wrapped around a central stairway, creating more efficient, well-lit, and livable spaces.

## Why Austin Will Love Single-Stair Buildings

- Fits into existing neighborhoods – Encourages gentle density without overpowering streetscapes.
- More pleasant apartments – Maximizes natural light and allows for the potential for cross ventilation.
- Flexible floor plans – Accommodates diverse households, from families to seniors.
- Boosts housing density bonuses – Aligns with Austin’s existing incentives for more homes.

## The National Trend: Six Floors for Single-Stair Buildings

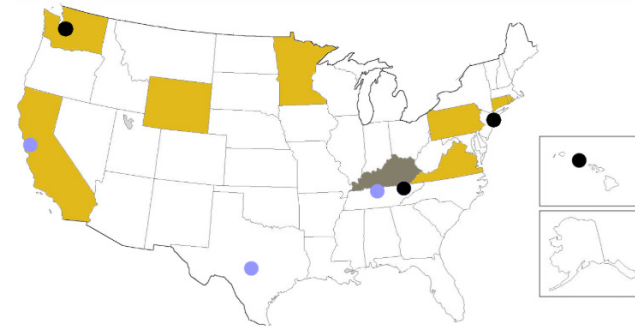
Cities across the U.S. have embraced single-stair buildings up to six stories, recognizing their efficiency and safety.

Already allowed in:

- Seattle (1977)
- Honolulu (2023)
- New York City
- Knoxville (2024)
- Jackson (2025)

Under consideration in:

California, Connecticut, Minnesota, Pennsylvania, Rhode Island, Virginia, Washington State, Wyoming, Nashville, San Francisco



## The Safety Case for Single-Stair Buildings

- Easier to exit – The small size, and limits on egress distance, means exits are significantly closer and there will be fewer people per stairway during emergencies.
- Compartmentalization – Increased structural ratings contain any fire to the unit it starts in.
- Slow, incremental development – The realities of development give Austin Fire Department time to adjust their resources well in advance of any of these buildings being occupied.
- Modern fire safety – Today’s fire protection comes from sprinklers, fire-resistant construction materials, and strict building codes, not redundant egresses.
- NFPA has published data showing 4-6 story buildings have the lowest rate of fire-related deaths of all building types.

*“Single stair buildings have been around for decades and many of these buildings provide far superior accommodation and amenity than buildings with double-loaded corridors.”*

Mark Chubb  
Seattle Fire Dept



## The Financial Case: Six Stories Make Housing More Viable

- Maximizes land use efficiency by allowing more housing per lot.
- Fits on smaller lot sizes keeping land costs down.
- Six stories keep residents within reach of fire truck ladders, avoiding the need for expensive smoke control devices required for high-rises.
- More financially viable than 3-5 story developments.
- Integrates well with Affordability Unlocked and other density bonuses

Floors	Units	Annual Cash-on-Cash Returns
4	16	<b>5.32%</b>
5	20	<b>5.53%</b>
6	24	<b>9.80%</b>

Cash-on-cash return measures rental income as a percentage of cash invested (fully leased buildings)

Source: Christian Tschoepe, Urban Canopies LLC

## Floor Plan Comparison:

**Small building footprint makes it ideal for infill**

**Every unit a corner unit**  
Lots of light! lots of cross ventilation, flexible layouts!

*Single-Stair Building*

**Long Hallways**  
Building takes longer to exit in an emergency

**Dark apartments**  
Windows generally only possible on one side

**Huge, expensive building**  
Impossible to build on small lots

**Fewer options for diverse households**  
long skinny units makes extra bedrooms difficult

*Double Loaded Corridor*

## The Path Forward in Austin

Following last year’s Council Resolution, DSD has developed a well-designed five-story single-stair amendment but has chosen not to include it in their base technical code update, largely due to hesitation from the Austin Fire Department.

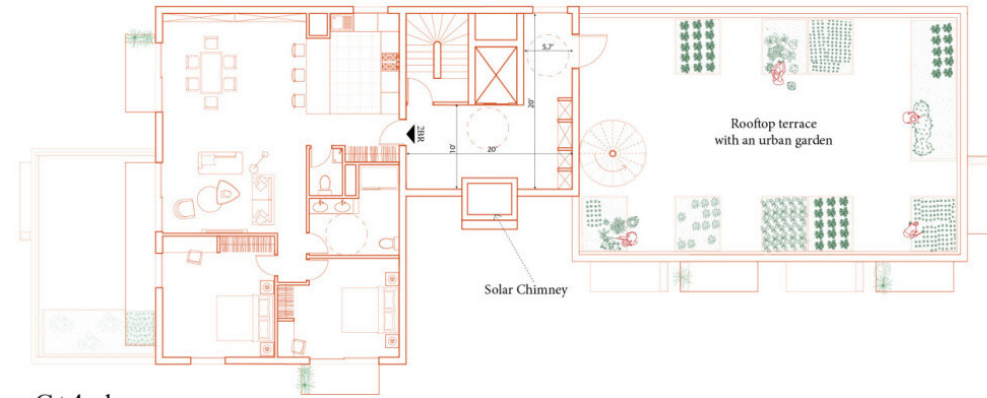
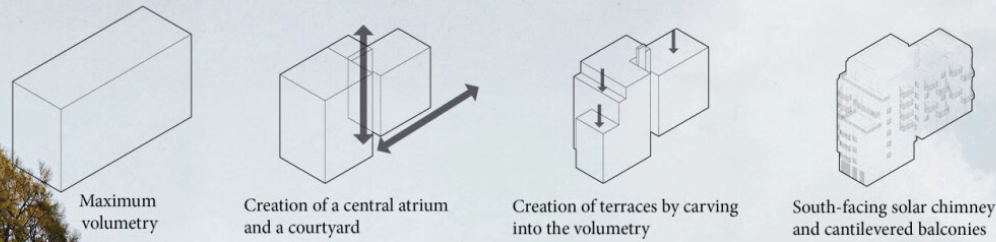
The Fire Department acknowledged in a memo that while they are comfortable with a five-story amendment structurally, they have operational concerns and would like to see new fire-fighting equipment before passing this amendment. However, fire resources can scale alongside the city’s growth, and given the time required for new single-stair buildings to be developed, there is ample opportunity to adapt. This is a natural step in Austin’s transition to a more urban and resilient future.

**Council Action Needed:** We encourage council to adopt the five-story option prepared by DSD and consider increasing the height cap to six-stories to be in line with national best practices.

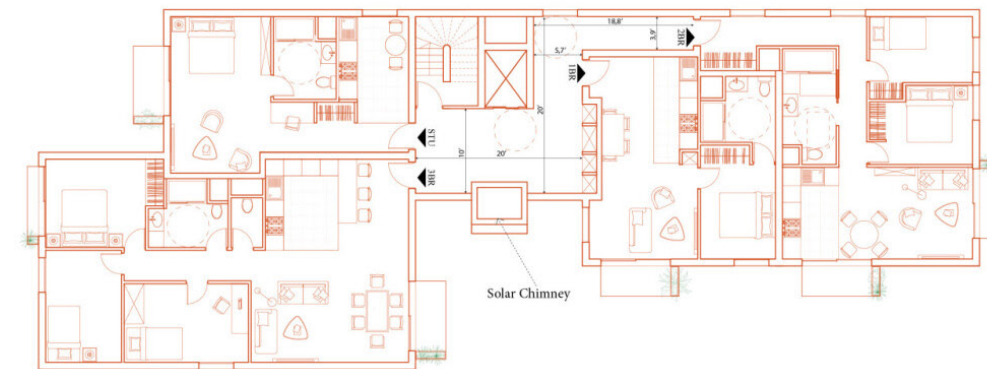
### A Human-Scale Project

The building includes 17 residences, ranging from studios to four-bedroom apartments, catering to different household types. Each unit is double-oriented, a design choice made possible by the building's single staircase, which reduces internal circulation areas. This configuration maximizes natural light, provides optimal ventilation, and ensures thermal comfort throughout the year. These features reduce dependency on energy-intensive systems and improve the building's overall energy performance, thereby lowering the residents' carbon footprint.

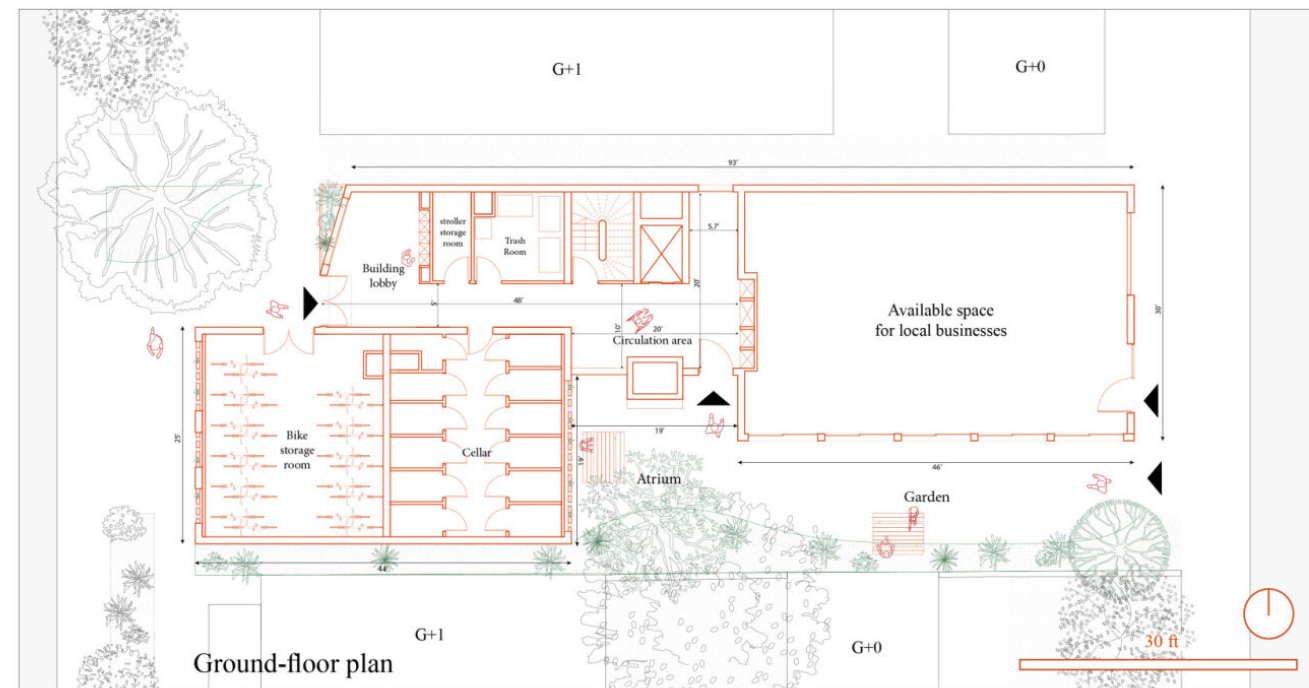
To further enhance the residents' quality of life, individual storage spaces are provided for the 2BDR and 3BDR apartments. A spacious bike room with 48 spaces is located on the ground floor to encourage the use of eco-friendly transportation, promoting alternatives that respect the environment. This choice contributes to reducing the project's ecological footprint while addressing modern mobility needs.



G+4 plan



G+1 plan



SAR+ Architects Single Stair Competition winners

By: Johnson

S.B. No. 2835

A BILL TO BE ENTITLED

AN ACT

relating to regulation of stairway requirements in certain multifamily residential buildings by political subdivisions.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF TEXAS: Section 1. Chapter 214, Local Government Code, is amended by adding Subchapter I to read as follows:

SUBCHAPTER I. SINGLE STAIRWAY IN CERTAIN APARTMENT BUILDINGS. (a) A municipality may allow apartment buildings to be served by a single stairway regardless of the municipality's adoption of the International Building Code.

(b) A municipality that chooses to allow apartment buildings to be served by a single stairway must do so under the following conditions:

(1) has no more than 6 stories above grade plane and does not qualify as a high-rise, as defined in the International Building Code, as adopted under Section 214.216, Local Government Code;

(2) has no more than four dwelling units on any floor;

(3) regardless of the stairway construction type, has automatic sprinkler locations in interior exit stairways that comply with the requirements of NFPA 13 for combustibles stairways;

(4) has an exterior stairway or interior exit stairway is provided and doors in the stairway swing into the interior exit stairway regardless of the occupant load served,





***“I love single stair buildings”***  
**-Mamdani, probably**

## Recap of the 89th Texas Lege

SB 2835 + SB 840



# **SB 2835**

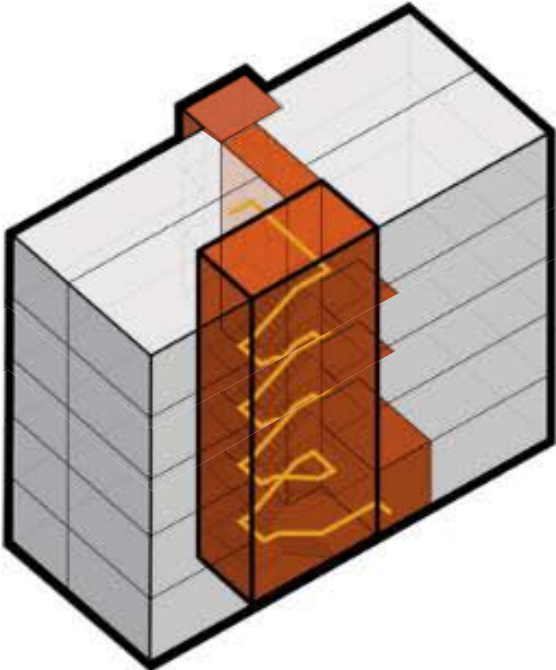
## **Texas Opt-in**

SB 2835 allows municipalities in Texas to authorize apartment buildings to use a single-stairway design under certain safety, design, and fire protection conditions. It creates specific criteria (height, unit count, sprinkler systems, egress distances, etc.) under which single stair buildings are permitted, even if the local jurisdiction hasn't adopted amendments to the International Building Code. The bill becomes effective September 1, 2025.

# SB 2835

- Optional for cities, municipalities are *authorized* to adopt the provisions
- Permits single stairway buildings no more than 6-stories
- Limits 4 units per floor plate
- Unit's entry is max 20' to exit stairway; total exit travel capped at 125'
- Increased compartmentalization; 2-hr stairwell sprinklered at every landing
- EERO at every floor, smoke & fire detection, electrical receptacle restrictions, etc.

# Austin Amendment vs Texas Opt-in

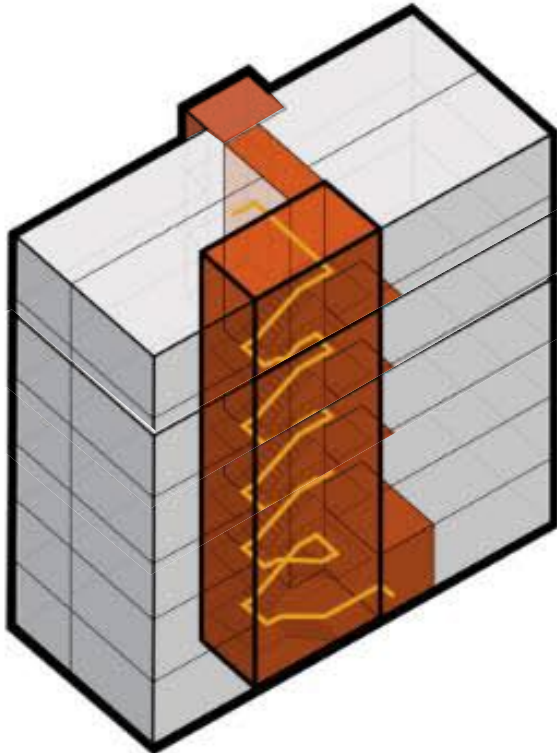


## Austin Amendment

5 Stories

4 Units / Story (4,000 sf)

Images courtesy of SAR+ Architects



## Texas Opt-in

6 Stories

4 Units / Story (4,000 sf)

Images courtesy of SAR+ Architects

# SB 840

**THIS MAKES TEXAS UNIQUELY  
SITUATED FOR SINGLE STAIR  
IN ANY COMMERCIAL ZONE**

## **Residential in Commercial**

Allows housing by right in any zone that also allows commercial use without rezoning or council weigh in or special permits.

## **The Details!**

The bill bars cities from imposing limits more restrictive than the greater of: a) maximum density allowed or 36 units/acre; b) existing commercial height limits or 45 ft; c) existing setbacks or 25 ft. It also prohibits requiring more than one parking space per dwelling or multilevel parking for these developments.

## **Reduced Red Tape for Conversions**

Forbids additional traffic studies, fees, parking, off-site utility upgrades, impact fees, etc for converting older existing buildings.

**SB 840**



**Single Stair**

# Use Cases

CMHC Housing Supply Challenge  
Round 4: Building for the Future

This website is a knowledge mobilization deliverable published in January 2025 and is provided for information purposes only.

Infill Development

Co-ops

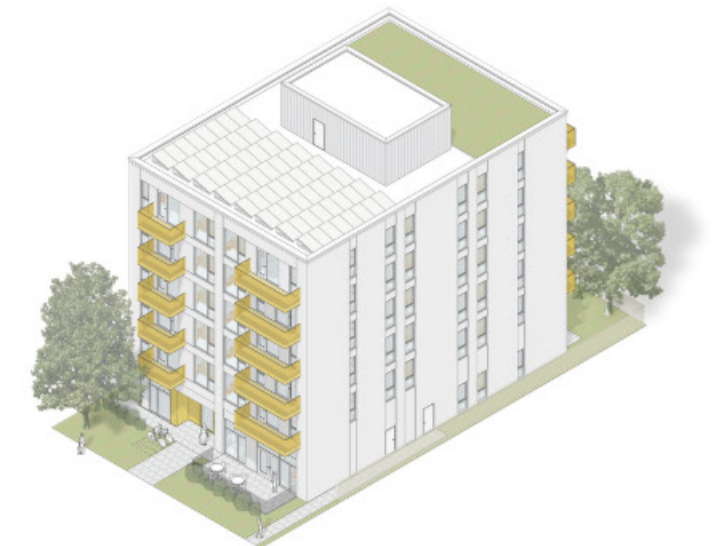
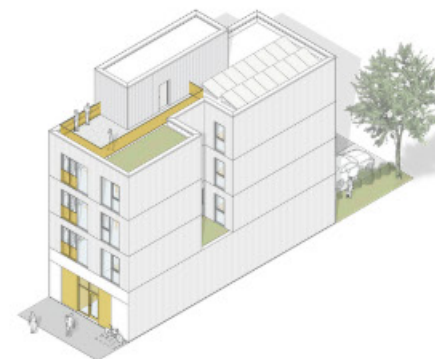
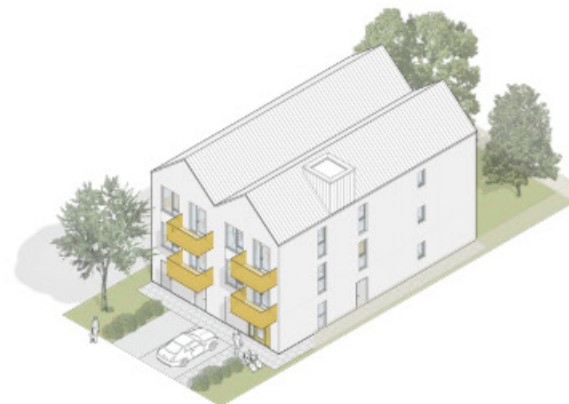
Student Housing

Retirement Communities

Community Land Trusts

Market Rate Housing

Mixed-Use



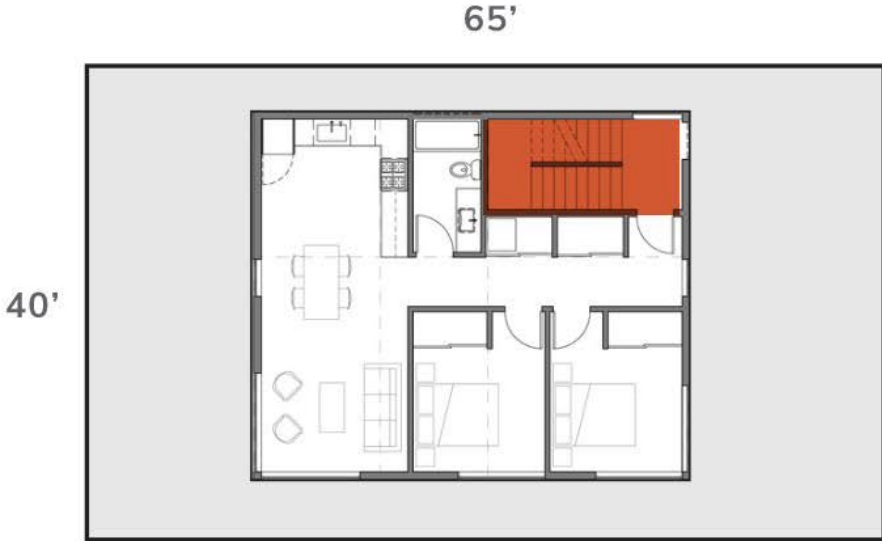
Single Stair Alternative Solutions  
Design Innovation for Middle Housing

For inquiries:  
[singl stair@lga-ap.com](mailto:singl stair@lga-ap.com)

# US Precedent



**602 FLATS / 4 UNITS**



Typical Plan

**BUILD LLC** / Architect  
**LOT** / 40' x 65' (2,600 sf)  
**TYPE** / Market-Rate Multifamily  
**GSF** / 5,200 sf  
**MIX** / 1 and 2-bed units

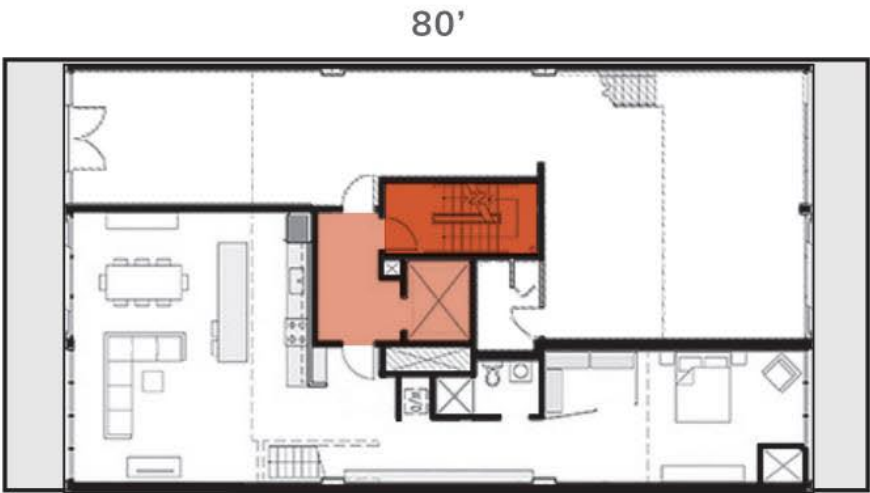
Image Credit: BUILD LLC

# US Precedent



**E UNION LOFTS / 8 UNITS**

Image Credit: Miller Hull



Typical Plan

## MILLER HULL / Architect

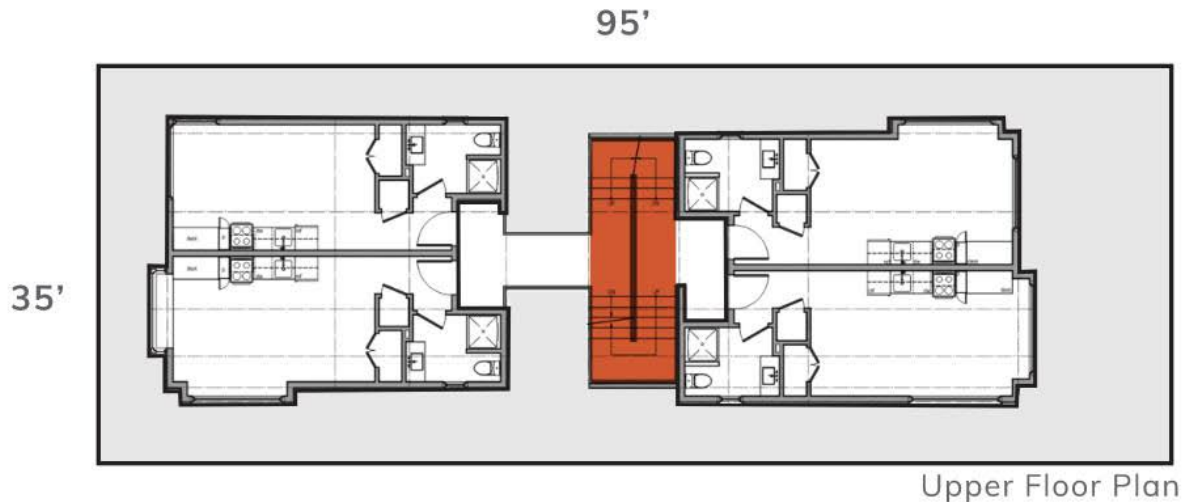
- LOT / 40' x 70' (2,800 sf)
- TYPE / Mixed-Use w/ Condominiums
- GSF / 16,000 sf
- MIX / 1 and 2-bed units

# US Precedent



**THE WILLET / 20 UNITS**

Image Credit: Andrew van Leeuwen



**Ryan Rhodes Design** / Architect

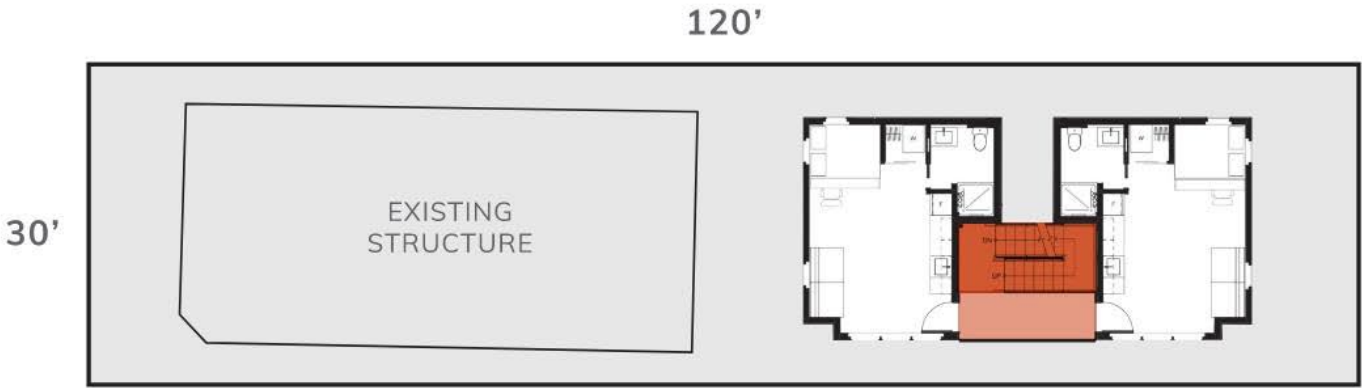
- LOT** / 35' x 95' (3,325 sf)
- TYPE** / Mixed-Use w/ Apartments
- GSF** / 8,000 sf
- MIX** / studio units

# US Precedent



## JANSEN COURT / 10 UNITS

Image Credit: Lensit Studios, CAST Architecture



Typical Plan

CAST architecture / Architect

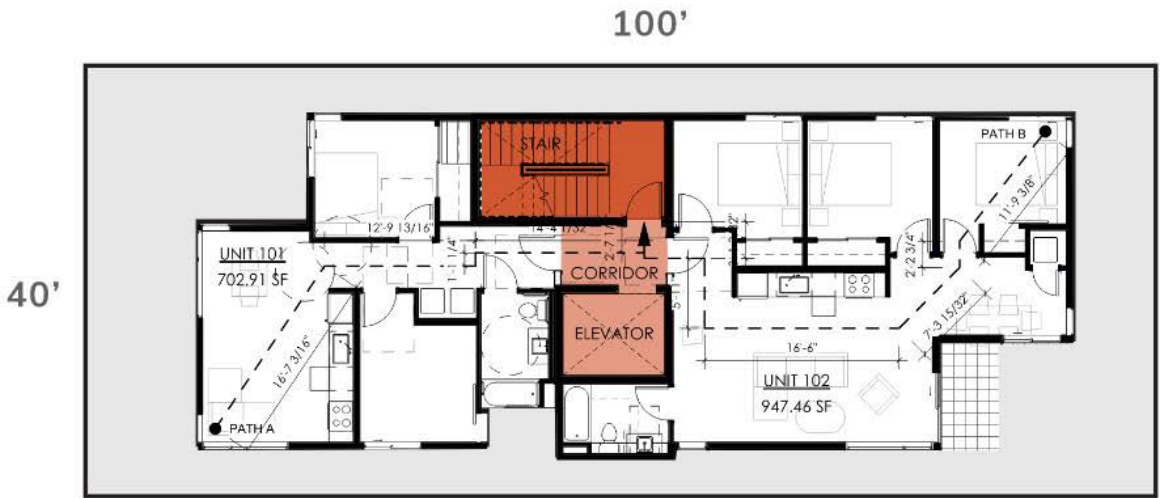
- LOT / 30' x 120' (3,600 sf)
- TYPE / Market-Rate Multifamily
- GSF / 4,500 sf
- MIX / studio & lofted units

# US Precedent



**CAPITOL VIEW / 13 UNITS**  
KING COUNTY HABITAT FOR HUMANITY

Photo Credit: JW Architects



Typical Plan

JW Architects / Architect

LOT / 40' x 100' (4,000 sf)

TYPE / Affordable

GSF / 11,400 sf

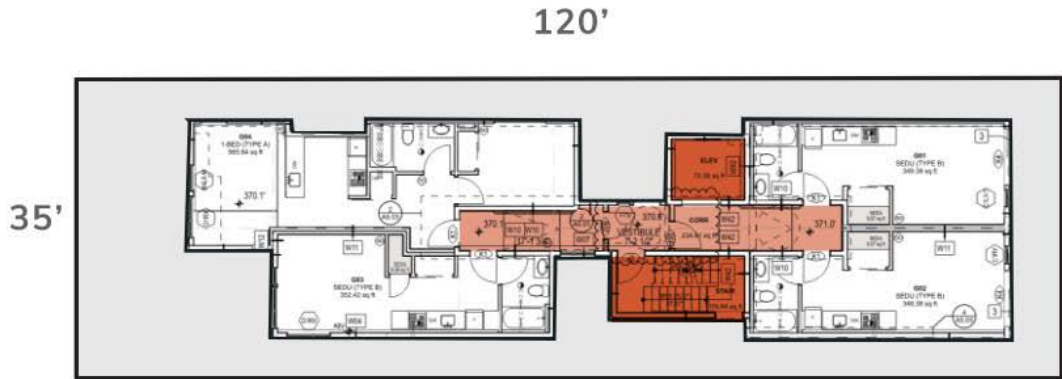
MIX / 1, 2, and 3-bed units

# US Precedent



**13TH AVE APTS / 20 UNITS**

Image Credit: B9 Architects



Typical Plan

## B9 Architects

LOT / 35' x 125' (4,200 sf)

TYPE / Apartments

GSF / 10,250 sf

MIX / studio units

# Global Precedent

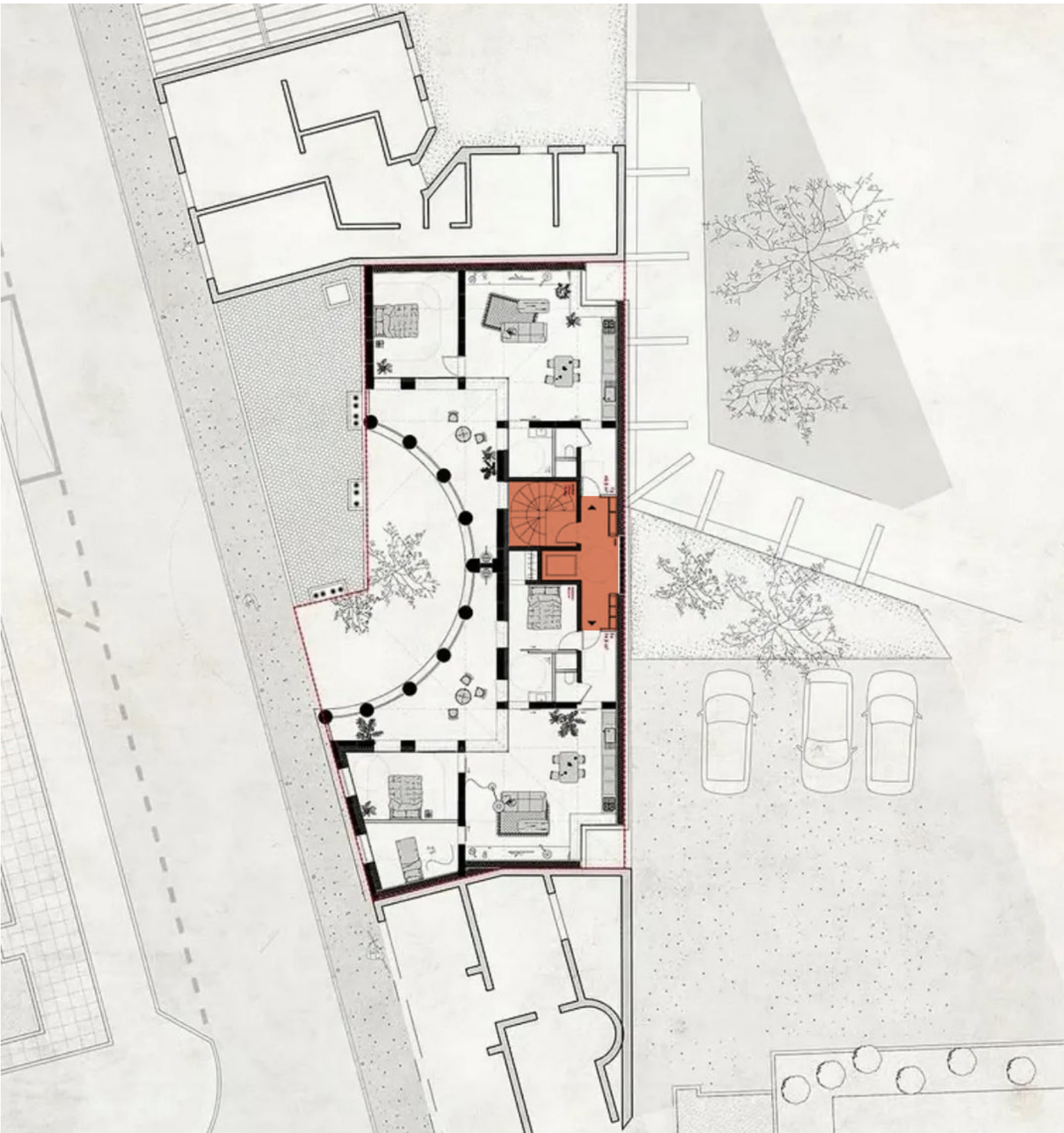


R+2

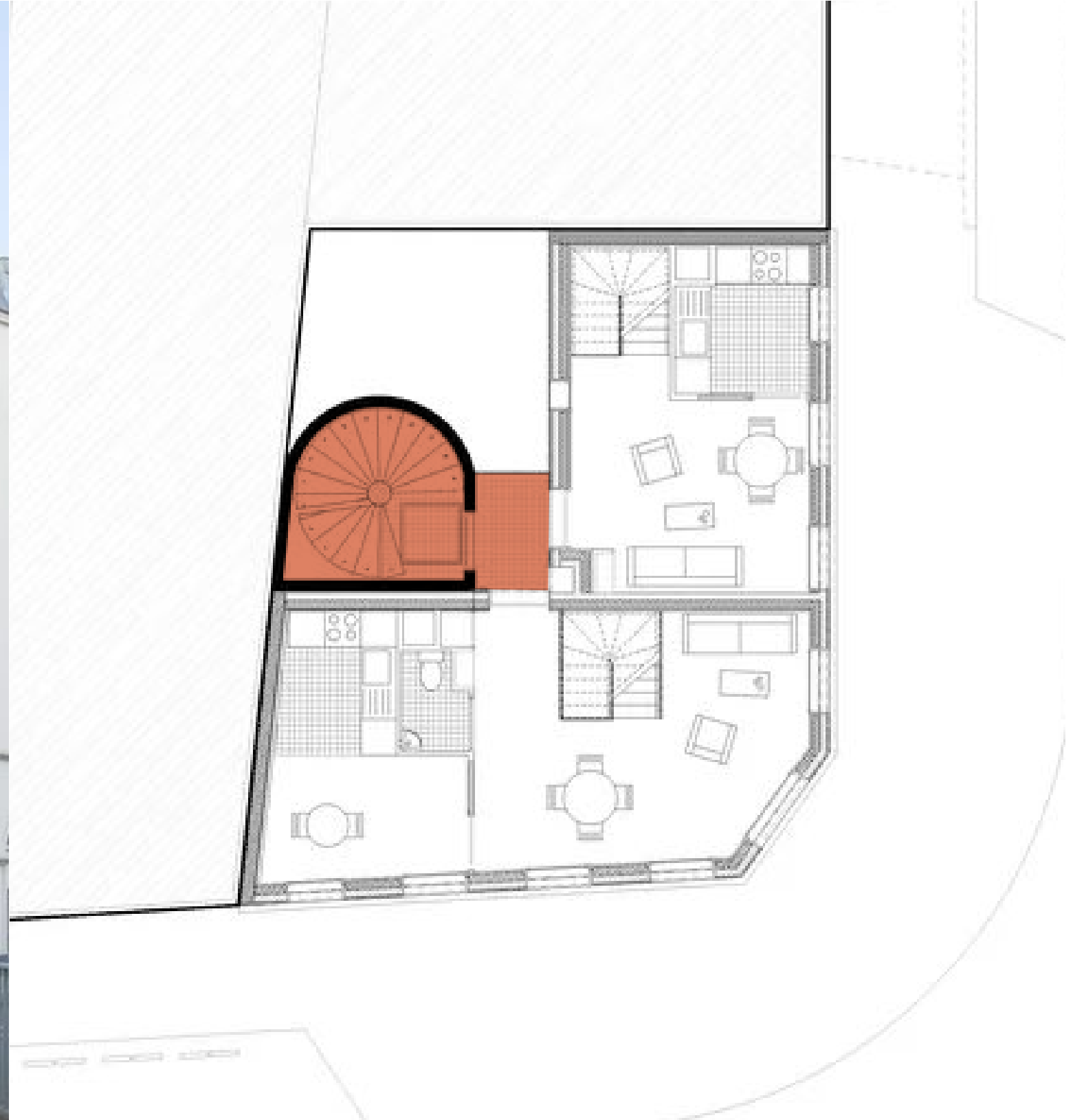
- Multiple occurrences per lot



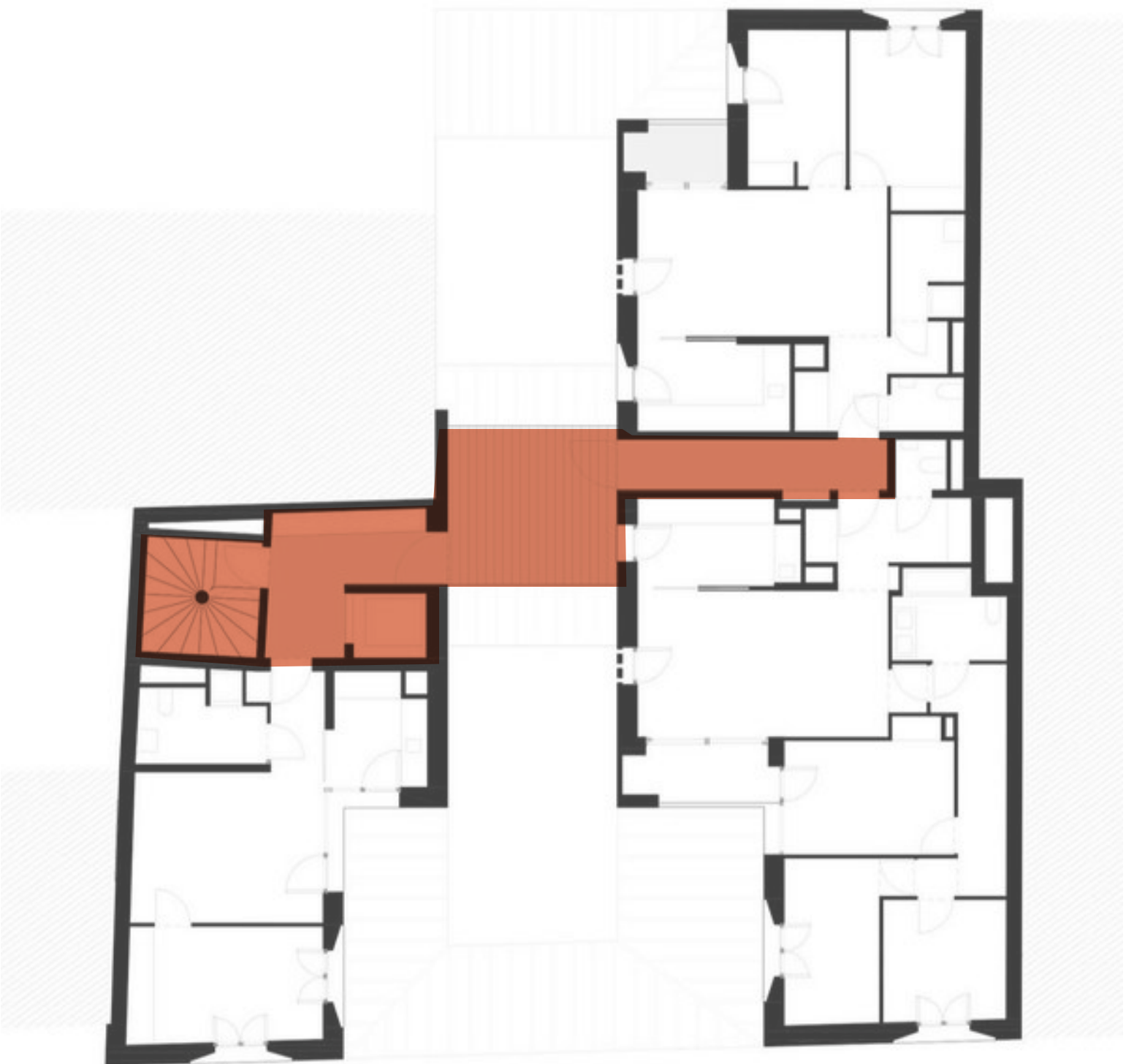
# Global Precedent



# Global Precedent



# Global Precedent



# Global Precedent

