

Missing Middle Housing in Practice



Daniel Parolek

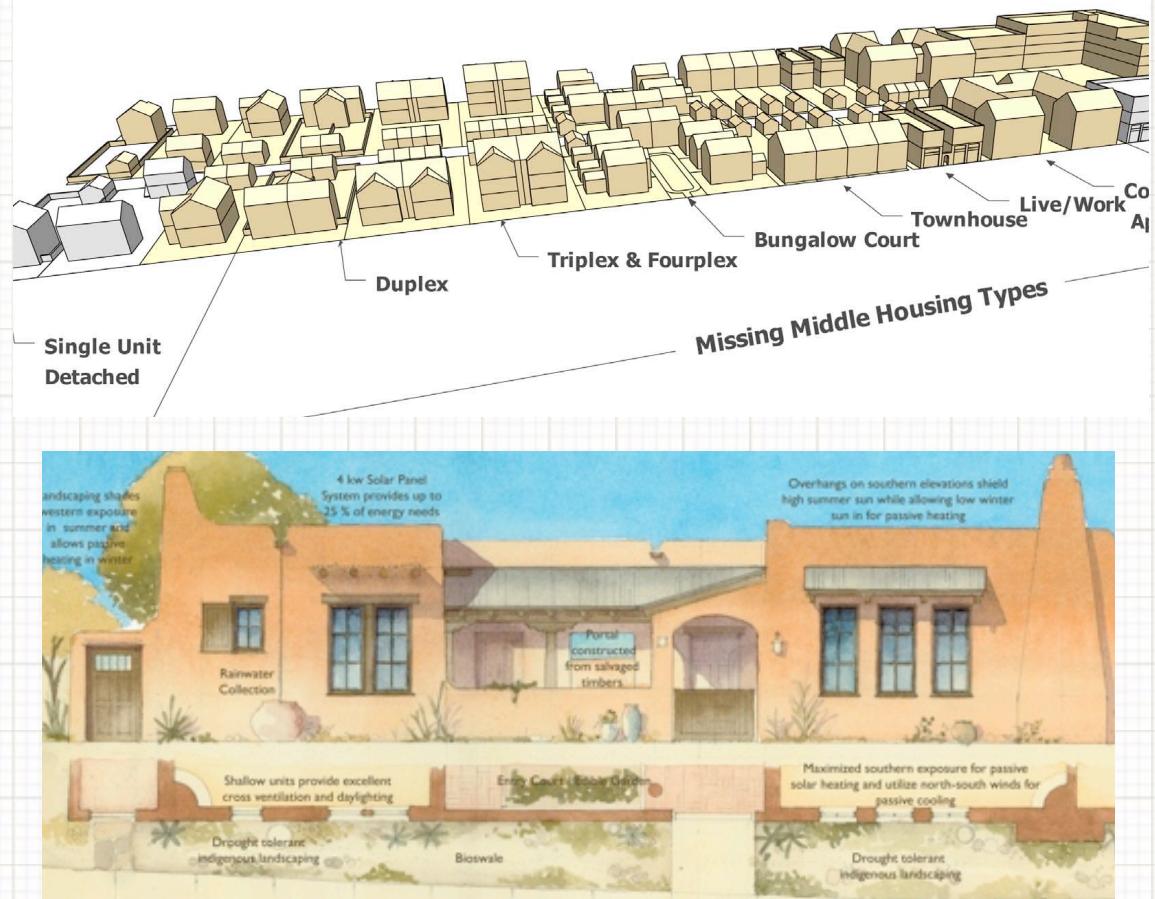
Principal, Opticos Design, Inc.

dan@opticosalive.com

New Partners for Smart Growth

Kansas City, MO

2013



Bungalow Courts



Bungalow Courts



Typical Lot Sizes	Density (5 units/lot)	Density (6 units/lot)
100' x 125'	17 DU/Acre	20 DU/Acre
100' x 100'	22 DU/Acre	26 DU/Acre
80' x 100'	25 DU/Acre	33 DU/Acre

Duplexes: Stacked



Duplexes: Stacked



Courtyard Apartments



Courtyard Apartments



Typical Lot Sizes	Density (8 units/lot)	Density (14 units/lot)
110' x 125'	26 DU/Acre	46 DU/Acre
110' x 110'	29 DU/Acre	50 DU/Acre
120' x 135	22 DU/Acre	DU/Acre

1

Why Is This so Important for Your Community?

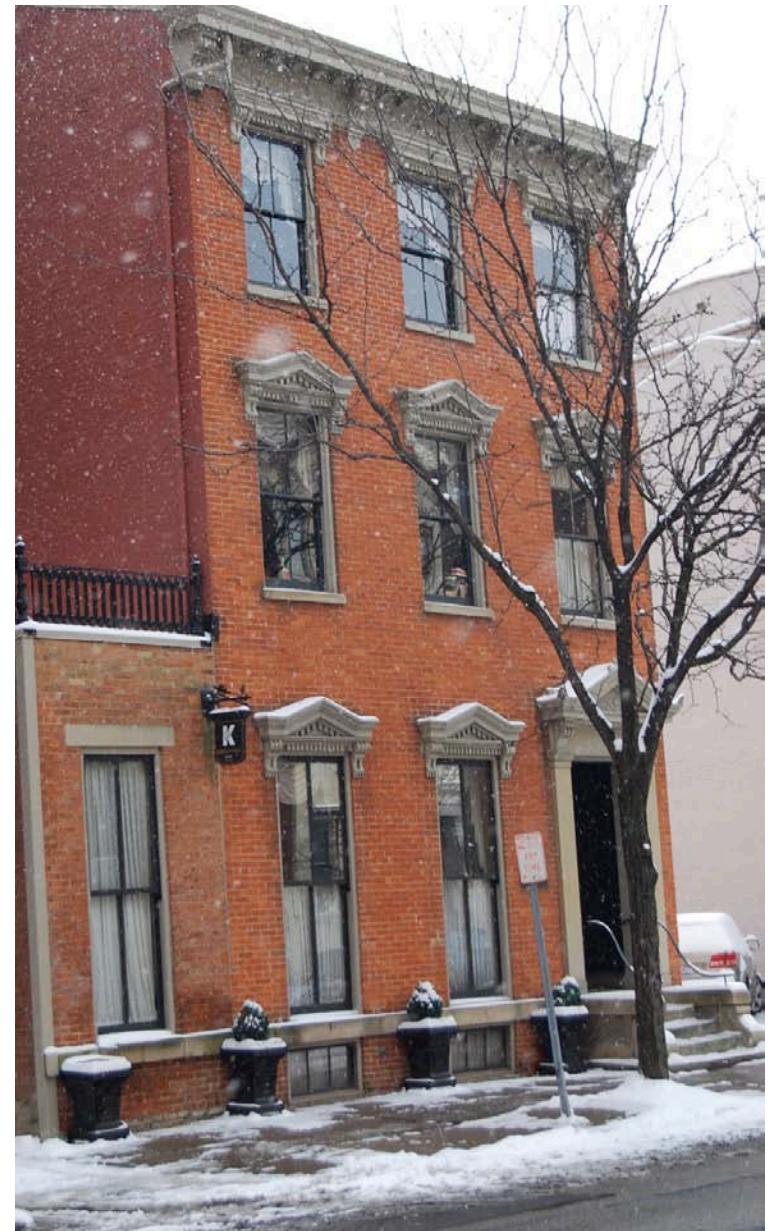
Responding to the Demand for Walkable Urban Living

Diverse Housing is Illegal in Most Cities!



Responding to the Demand for Walkable Urban Living

- I. Current demand for small lot and attached housing exceeds the current supply by 35 million units (C. Nelson).
2. 30-40% of buyers want to live in walkable urban places and only 5-10% is being provided in any given market (C. Leinberger).
3. By 2025, 75-85% of households will not have children.



2

Defining Missing Middle Housing

Small Footprint, High-Quality Density

Scale Between Single Family Housing and Stacked Flats



The “Missing Middle” Building Types



Mansion Apartment: 6-8 units



Duplex



Fourplex

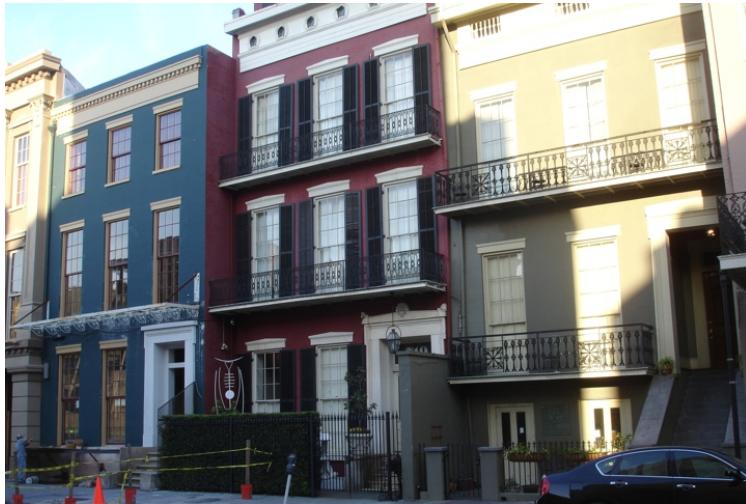
Missing Middle Housing



Bungalow Courts

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“The Missing Middle:” New Orleans, LA



Townhouses



Duplex



Fourplex



Small Lot, Small Unit Single Family

“The Missing Middle:” Duluth, MN



Mansion Apartment



Fourplex



Rowhouses



Duplex

Four/Sixplexes



Typical Lot	Density (4 units/lot)	Density (6 units/lot)
75' x 125'	18 DU/Acre	27 DU/Acre
60' x 125'	24 DU/Acre	35 DU/Acre
60' x 100'	28 DU/Acre	NA

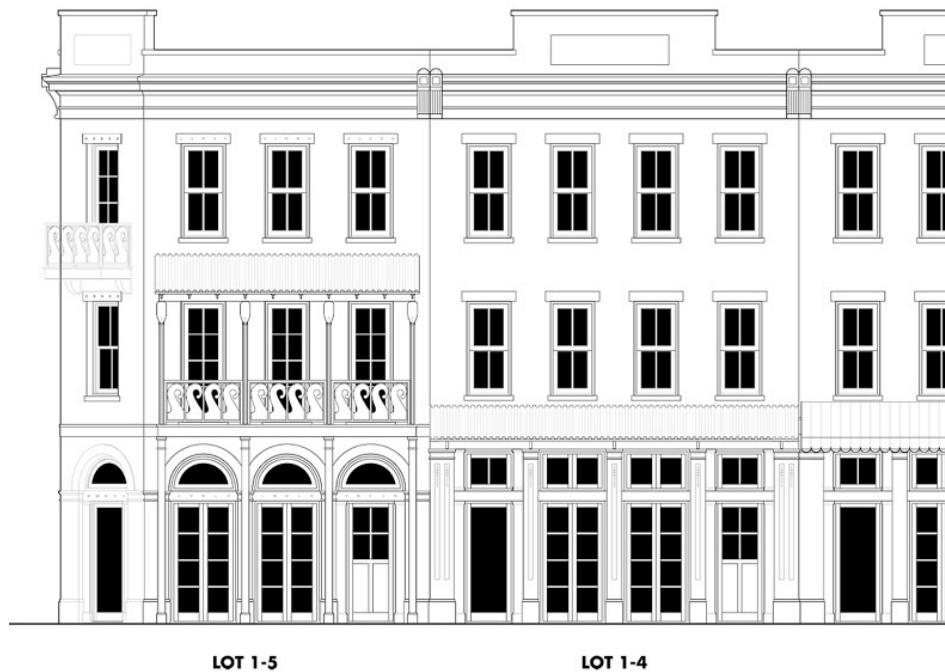
Fourplex



Missing Middle Types in Cincinnati

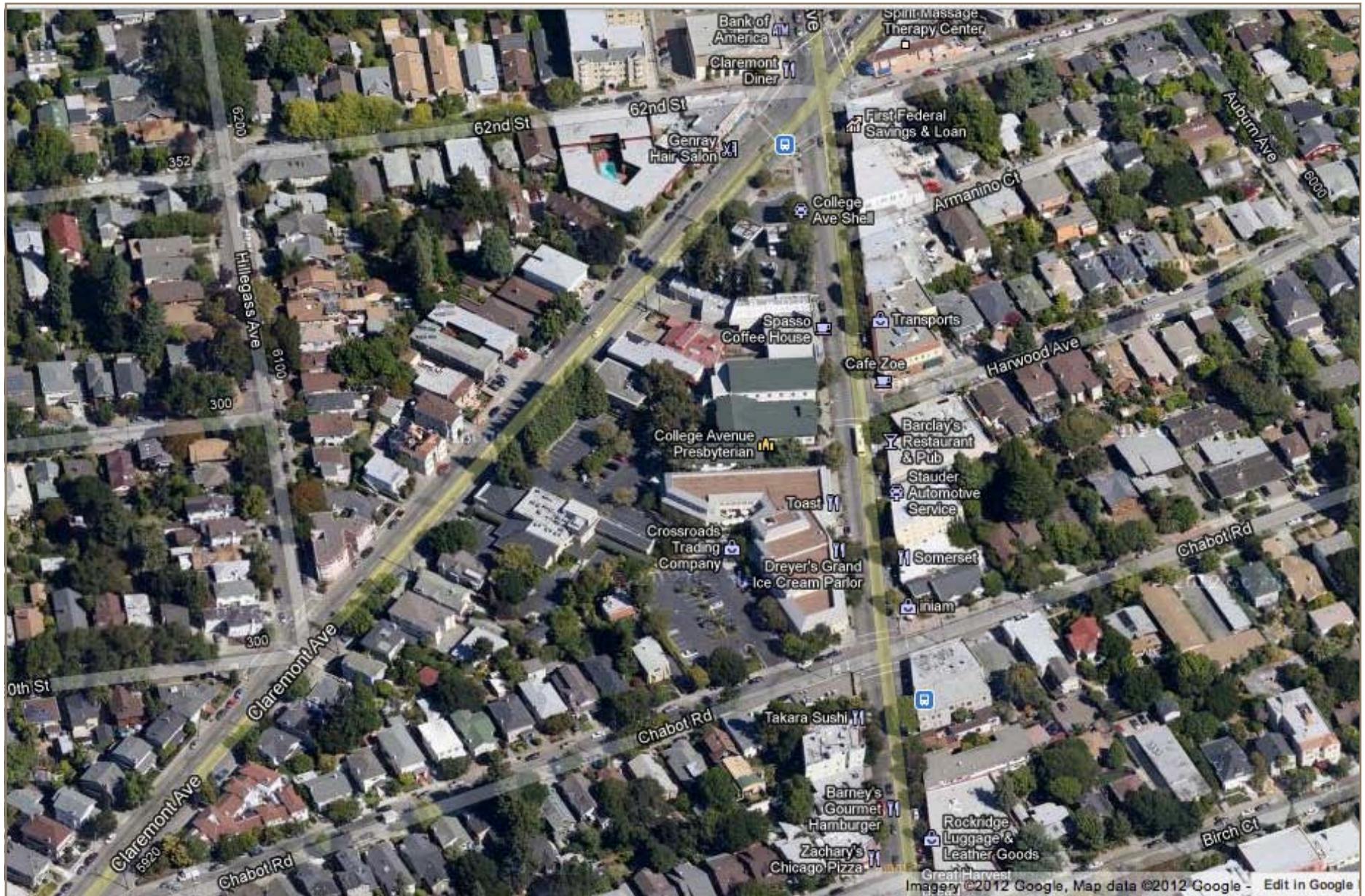


Live-Work: 3 Potential Streams of Income

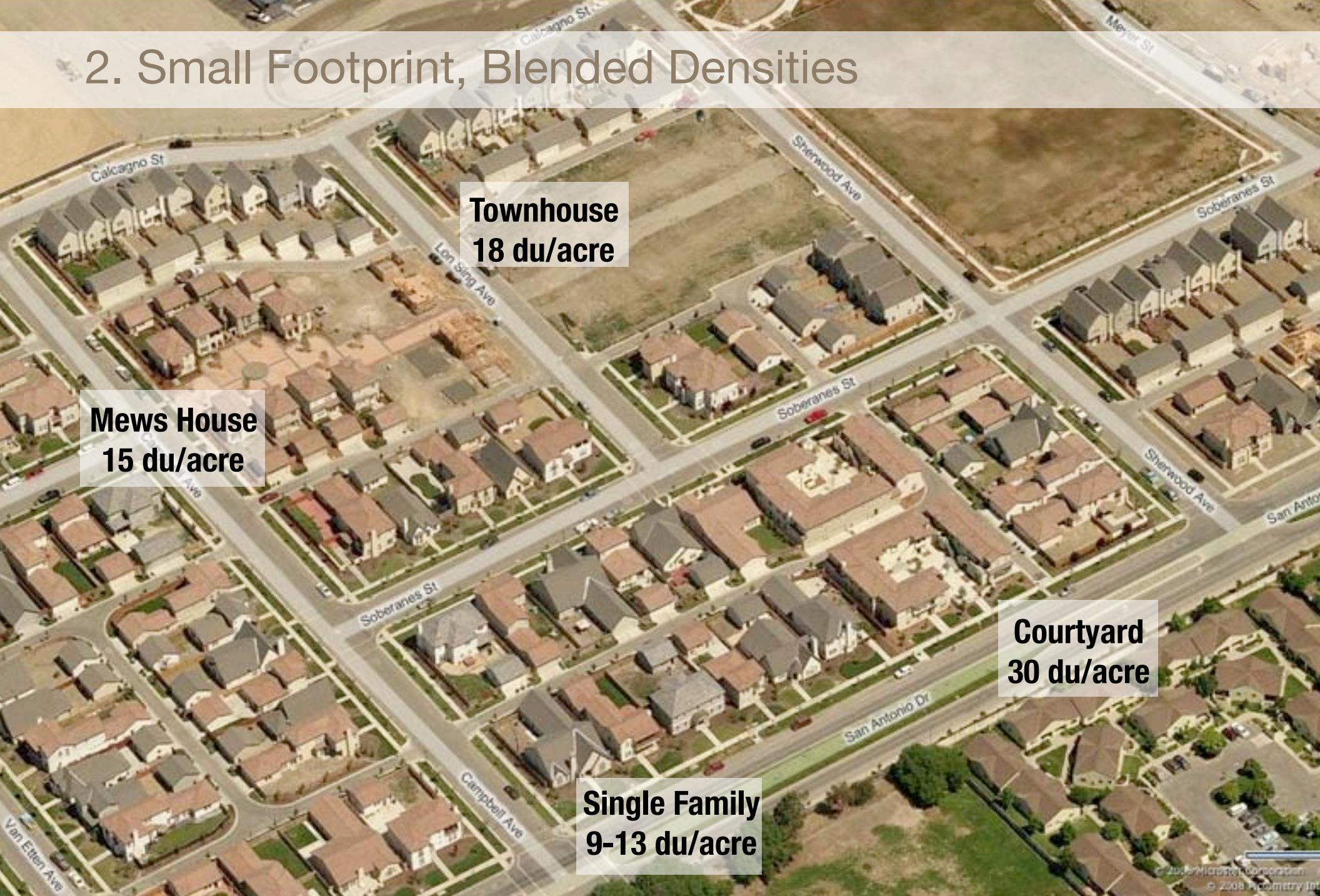


Characteristics of Missing Middle Housing

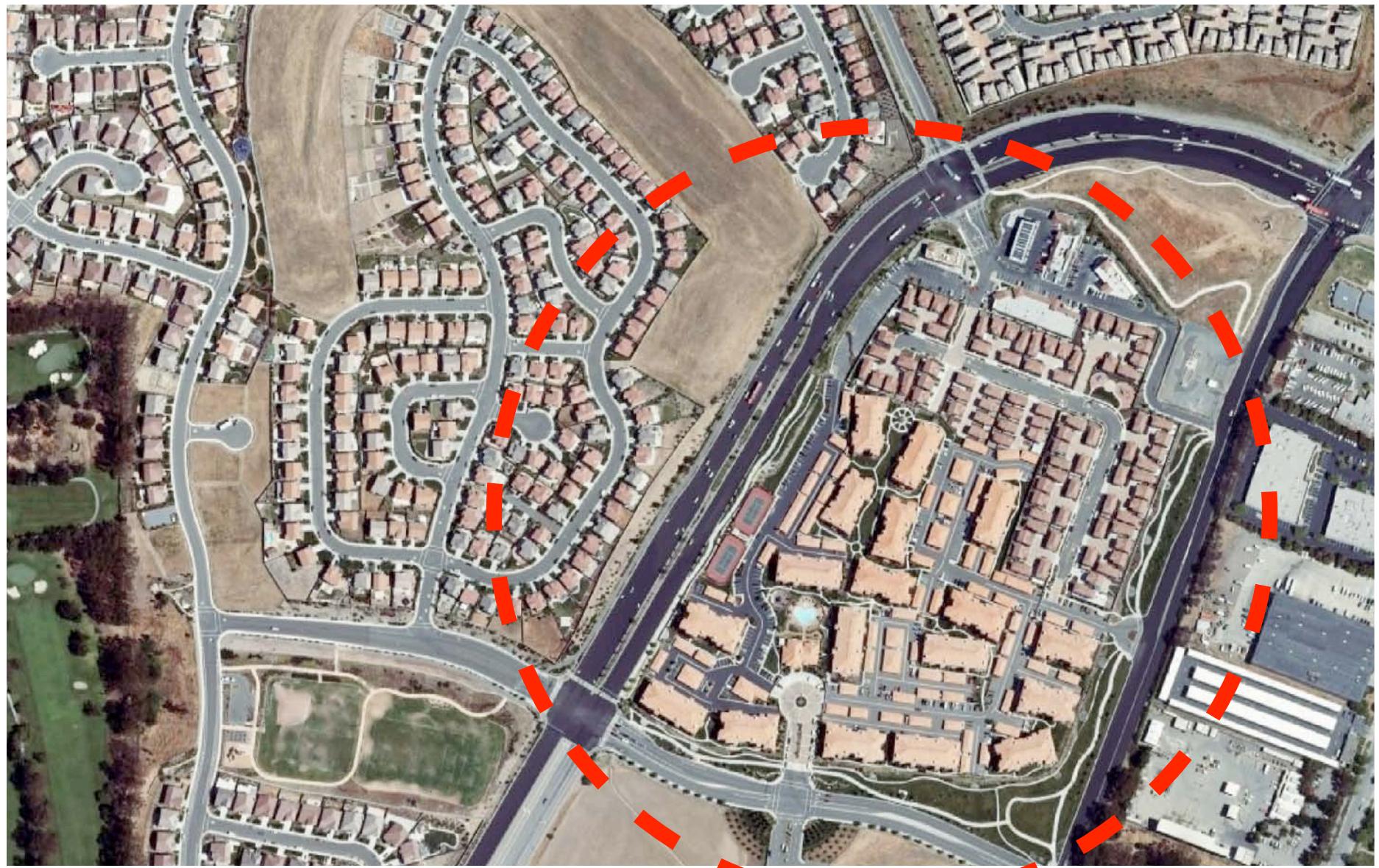
1. Set in a Walkable Urban Context



2. Small Footprint, Blended Densities



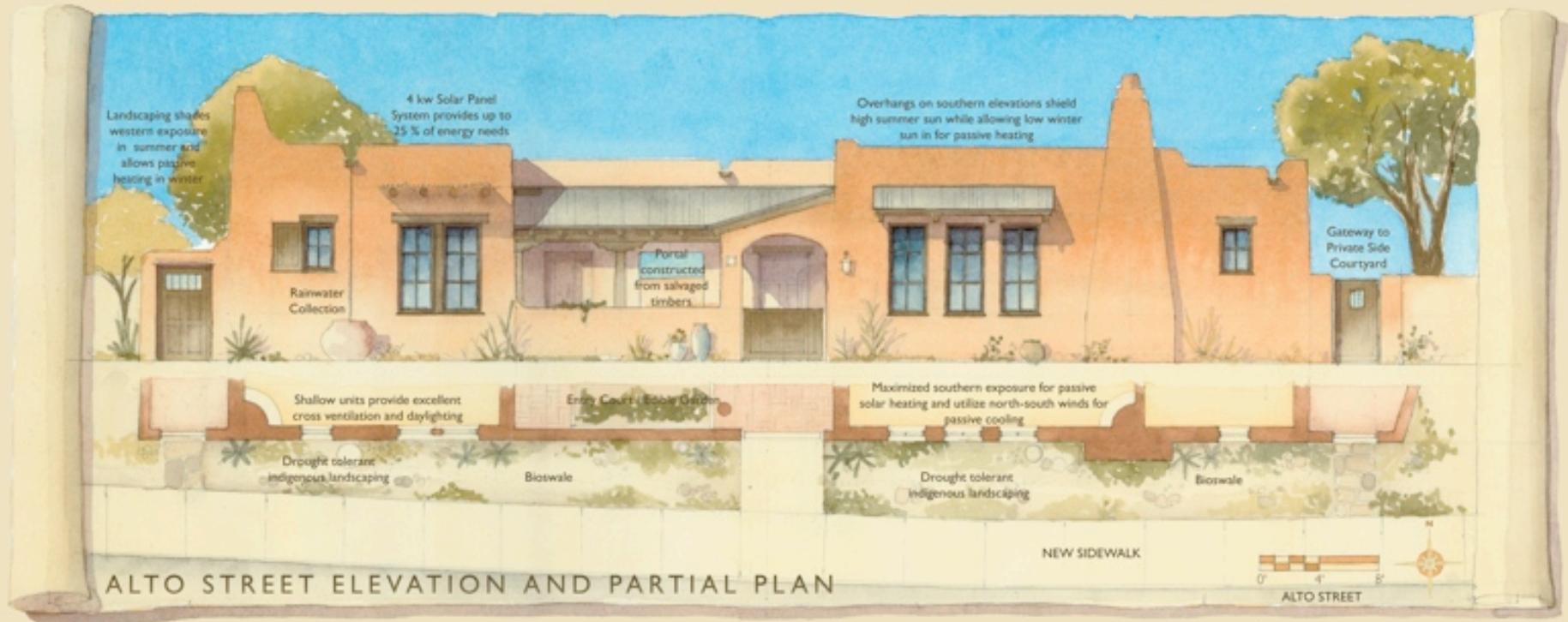
Podded, Isolated Densities are Products of Zoning



3. Lower Perceived Density (This is 24 du/acre)

“Particularly in the Southwest, the fundamental form of the time can best be expressed in a language native to the region. These ancient shapes are modern!”

~ John Gaw Meems



Local, Green and Affordable

Looking at regional building types and construction techniques to provide an affordable housing model for the City of Santa Fe

4. Well-Designed Smaller Units



5. Off-Street Parking Does Not Drive the Site Plan



6. Simple Construction: Easier to Finance



Can Help Achieve Affordable Housing & Diversity Goals



20 dwelling units/acre

Only \$23,000 Household Income Needed to Qualify

7. They Create Community



Typical Lot Sizes	Density (5 units/lot)	Density (6 units/lot)
100' x 125'	17 DU/Acre	20 DU/Acre
100' x 100'	22 DU/Acre	26 DU/Acre
80' x 100'	25 DU/Acre	33 DU/Acre

Private Space is Exchanged for Community Space



8. They Are Marketable



Typical Lot	Density (8 units/lot)	Density (10 units/lot)
100' x 125'	28 DU/Acre	35 DU/Acre
85' x 125'	33 DU/Acre	41 DU/Acre
80' x 85'	51 DU/Acre	NA

3

Regulating for High-Quality Infill

Form-Based Approach to Zoning

Existing Community Context: Intent is to Maintain



Livermore, CA Development Code Update: Driehaus Form-Based Code Winner

Illustrating What is Allowed by the Existing Code



Livermore, CA Development Code Update: Driehaus Form-Based Code Winner

Missing Middle Housing

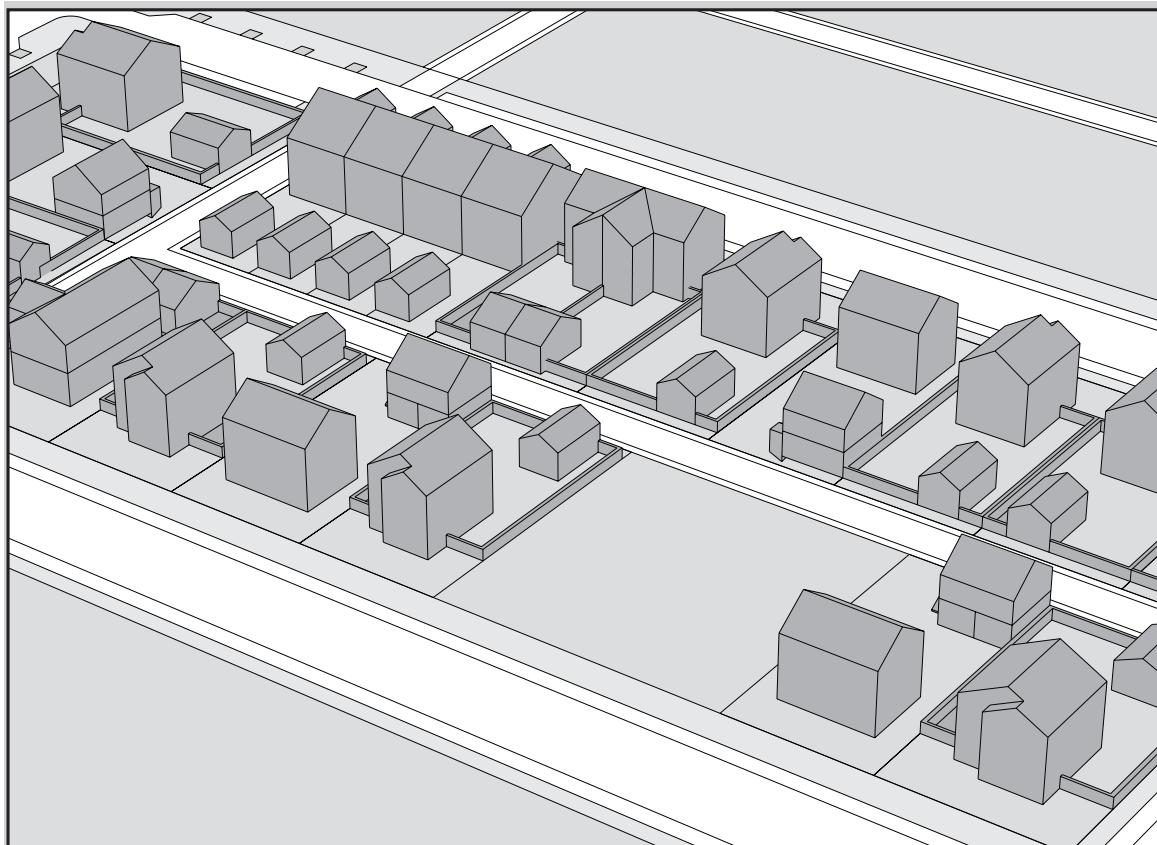
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Writing a Code to Ensure a Happier Ending to the Story



Livermore, CA Development Code Update: Driehaus Form-Based Code Winner

Case Study: Neighborhood Infill at 20 du/acre



Existing Conditions

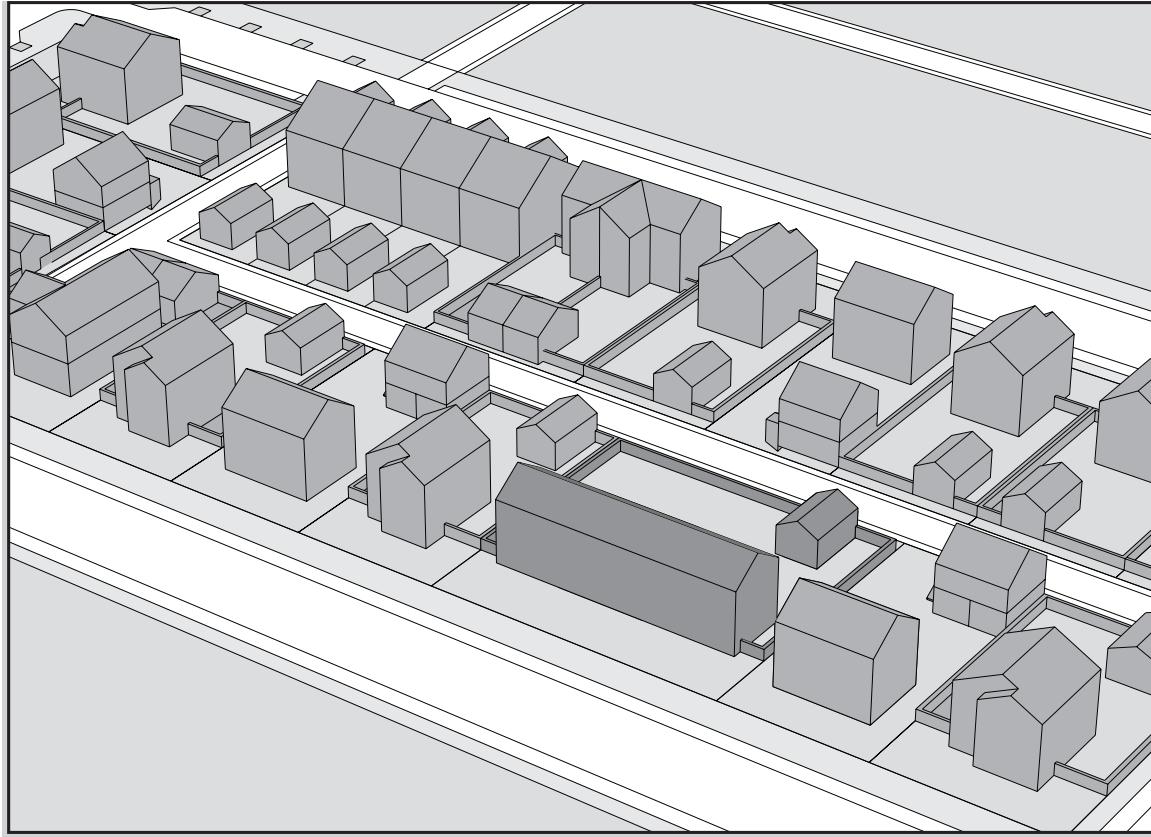
Typical Lot: 150 deep x 100' wide = 15,000 sf

Existing zoning allows 20 du/acre = 6 units



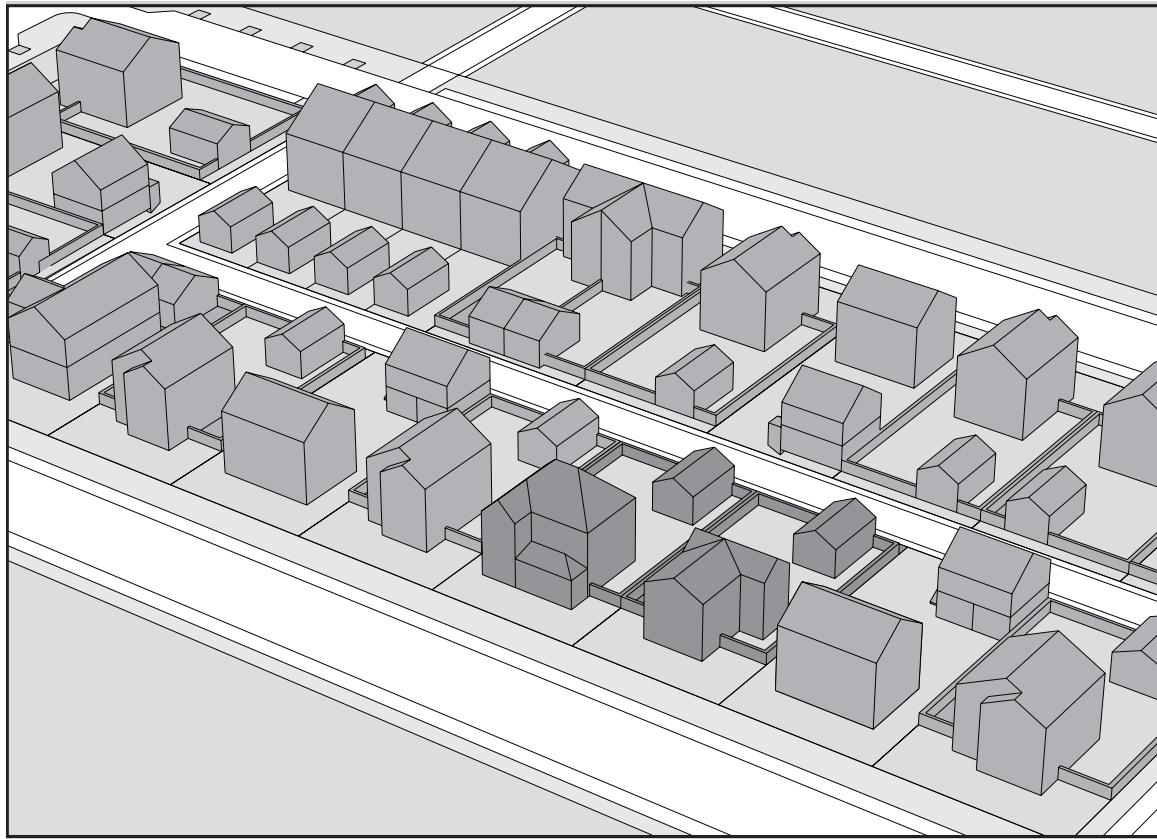
What does 20 du/acre look like?

Inappropriate Infill at 20 du/acre: Building Too Big



Architecture alone cannot make
this compatible

Appropriately-Scaled Infill at 20 du/acre: Form is Important!



Building Footprint (width and depth)
are the two most critical elements to
regulate!

The Intent Becomes Unclear

RG – SUBURBAN MULTIPLE RESIDENTIAL DISTRICT

2-25-010 Purpose.

The purpose of the RG district is to provide areas for the location of low density, multiple-family residential dwellings and to establish regulations for their development. It is intended that the district be used in higher density areas designated in the general plan or in other areas when found to be necessary or desirable to achieve good neighborhood design and for purposes of stabilizing land use. In order to provide the city the opportunity to vary multiple residential density, the RG district is subdivided into the RG-16, RG-14, RG-12, and RG-10 zoning districts. (Ord. 649 § 17, 1968; Ord. 442 § 8.10)

“Purpose..is to provide areas for the location of low density, multiple-family residential dwellings..It is the intent that the district be used in the higher density areas designated in the general plan..”

City of Livermore, Ca Development Code

Basing Zones on Form not Uses: Protecting the Character



Building Type As a Primary Component of a Code

Chapter I703 Form-Based Code

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I703-i

I703

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I703.ii

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Building Type Overview

Specific to Building Types

I703-3.30

Table I703-3.30.A: Building Types General

Building Type



Carriage House. This Building Type is an accessory structure typically located at the rear of a lot. It typically provides either a small residential unit, home office space, or other small commercial or service use that may be above a garage or at ground level. This Type is important for providing affordable housing opportunities and incubating small businesses within walkable neighborhoods.

Transect Zones

T3E	T3N
T4N.1	T4N.2
T5MS	T5N.1
T5N.2	T5F
T6C	



Detached House: Medium. This Building Type is a medium-sized detached structure on a medium-sized lot that incorporates one unit. It is typically located within a primarily single-family residential neighborhood in a walkable urban setting, potentially near a neighborhood main street.

T3E	T3N
T4N.1	T4N.2
T5MS	T5N.1
T5N.2	T5F
T6C	



Detached House: Compact. This Building Type is a small detached structure on a small lot that incorporates one unit. It is typically located within a primarily single-family residential neighborhood in a walkable urban setting, potentially near a neighborhood main street. This Type enables appropriately-scaled, well-designed higher densities and is important for providing a broad choice of housing types and promoting walkability.

T3E	T3N
T4N.1	T4N.2
T5MS	T5N.1
T5N.2	T5F
T6C	



Cottage Court. This Building Type consists of a series of small, detached structures, providing multiple units arranged to define a shared court that is typically perpendicular to the street. The shared court takes the place of a private rear yard and becomes an important community-enhancing element of this Type. This Type is appropriately-scaled to fit within primarily single-family or medium-density neighborhoods. It enables appropriately-scaled, well-designed higher densities and is important for providing a broad choice of housing types and promoting walkability.

T3E	T3N
T4N.1	T4N.2
T5MS	T5N.1
T5N.2	T5F
T6C	



Duplex. This Building Type is a small- to medium-sized structure that consists of two side-by-side or stacked dwelling units, both facing the street and within a single building massing. This Type has the appearance of a medium to large single-family home and is appropriately scaled to fit within primarily single-family neighborhoods or medium-density neighborhoods. It enables appropriately-scaled, well-designed higher densities and is important for providing a broad choice of housing types and promoting walkability.

T3E	T3N
T4N.1	T4N.2
T5MS	T5N.1
T5N.2	T5F
T6C	

Key

Allowed

Not Allowed

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I703-3-3

I703-3.30

Specific to Building Types

Table I703-3.30.A: Building Types General (continued)

Building Type



Rowhouse. This Building Type is a small- to medium-sized typically attached structure that consists of 2–8 Rowhouses placed side-by-side. In a feature unique to Cincinnati, this Type may also occasionally be detached with minimal separations between the buildings. This Type is typically located within medium-density neighborhoods or in a location that transitions from a primarily single-family neighborhood into a neighborhood main street. This Type enables appropriately-scaled, well-designed higher densities and is important for providing a broad choice of housing types and promoting walkability.
Syn: **Townhouse**

T3E	T3N
T4N.1	T4N.2
T5MS	T5N.1
T5N.2	T5F
T6C	



Multi-plex: Small. This Building Type is a medium structure that consists of 3–6 side-by-side and/or stacked dwelling units, typically with one shared entry or individual entries along the front. This Type has the appearance of a medium-sized family home and is appropriately scaled to fit sparingly within primarily single-family neighborhoods or into medium-density neighborhoods. This Type enables appropriately-scaled, well-designed higher densities and is important for providing a broad choice of housing types and promoting walkability.

T3E	T3N
T4N.1	T4N.2
T5MS	T5N.1
T5N.2	T5F
T6C	



Multi-plex: Large. This Building Type is a medium- to large-sized structure that consists of 7–18 side-by-side and/or stacked dwelling units, typically with one shared entry. This Type is appropriately scaled to fit in within medium-density neighborhoods or sparingly within large lots predominantly single-family neighborhoods. This Type enables appropriately-scaled, well-designed higher densities and is important for providing a broad choice of housing types and promoting walkability.

T3E	T3N
T4N.1	T4N.2
T5MS	T5N.1
T5N.2	T5F
T6C	



Stacked Flats. This Building Type is a medium- to large-sized structure that consists of multiple dwelling units accessed from a courtyard or series of courtyards. Each unit may have its own individual entry, or may share a common entry. This Type is appropriately scaled to fit adjacent to neighborhood serving main streets and walkable urban neighborhoods. It enables appropriately-scaled, well-designed higher densities and is important for providing a broad choice of housing types and promoting walkability. This building type may include a courtyard.

T3E	T3N
T4N.1	T4N.2
T5MS	T5N.1
T5N.2	T5F
T6C	



Live/Work. This Building Type is a small to medium-sized attached or detached structure that consists of one dwelling unit above and/or behind a flexible ground floor space that can be used for residential, service, or retail uses. Both the ground-floor flex space and the unit above are owned by one entity. This Type is typically located within medium-density neighborhoods or in a location that transitions from a neighborhood into a neighborhood main street. It is especially appropriate for incubating neighborhood-serving retail and service uses and allowing neighborhood main streets to expand as the market demands.

T3E	T3N
T4N.1	T4N.2
T5MS	T5N.1
T5N.2	T5F
T6C	

Key

Allowed

Not Allowed

I703-3-4

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Building Type Overview

Specific to Building Types		1703-3.30
Table 1703-3.30.A: Building Types General (continued)		
Building Type	Transect Zones	
	Main Street Mixed-Use. This Building Type is a small- to medium-sized structure, typically attached, intended to provide a vertical mix of uses with ground-floor retail, or service uses and upper-floor service, or residential uses. This Type makes up the primary component of a neighborhood main street and portions of a downtown main street, therefore being a key component to providing walkability.	T3E T3N T4N.1 T4N.2 T5MS T5N.I T5N.2 T5F T6C
	Flex. This Building Type is a medium- to large-sized structure, 1-3 stories tall, and built on a large lot that incorporates structured parking. It can be used to provide a vertical mix of uses with ground-floor industrial, service, or retail uses and upper-floor service or residential uses; or may be a single-use building, typically industrial, service or residential, where ground floor retail is not appropriate. This Type is a primary component of an urban flexible neighborhood that provides a mix of buildings.	T3E T3N T4N.1 T4N.2 T5MS T5N.I T5N.2 T5F T6C
	Mid-Rise. This Building Type is a medium- to large-sized structure, 4-8 stories tall, built on a large lot that typically incorporates structured parking. It can be used to provide a vertical mix of uses with ground-floor retail, or service uses and upper-floor service, or residential uses; or may be a single-use building, typically service or residential, where ground floor retail is not appropriate. This Type is a primary component of an urban downtown providing high-density buildings.	T3E T3N T4N.1 T4N.2 T5MS T5N.I T5N.2 T5F T6C
	High-Rise. This Building Type is a large-sized structure with portions or all of the building more than eight stories tall, built on a large lot that typically incorporates structured parking. It is used to provide a vertical mix of uses with ground-floor retail, or service uses and upper-floor service, or residential uses. This Type is a primary component of an urban downtown providing high-density buildings.	T3E T3N T4N.1 T4N.2 T5MS T5N.I T5N.2 T5F T6C
Key		<input checked="" type="checkbox"/> Allowed <input type="checkbox"/> Not Allowed

Keyed to Building Form Standards

Specific to Transect Zones

I703-2.70

T4 Neighborhood Small Footprint (T4N.2)

I703-2.70 T4 Neighborhood Small Footprint (T4N.2)

A. Intent

To provide variety of urban housing choices, in small-to-medium footprint, medium-to-high density building types, which reinforce the walkable nature of the neighborhood, support neighborhood-serving retail and service uses adjacent to this Zone, and support public transportation alternatives. The following are generally appropriate form elements in this Zone:

- Detached or Attached
- Narrow-to-Medium Lot Width
- Small-to-Medium Footprint
- Building at or Close to ROW
- Small to No Side Setbacks
- Up to 2½ Stories
- Elevated Ground Floor
- Primarily with Stoops and Porches

B. Sub-Zone(s)

T4N.2-Open Zone (T4N.2-O)

The open sub-zone provides the same building form but allows for a more diverse mix of uses.

General note: The drawing above is intended to provide a brief overview of this Transect Zone and is illustrative only.

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I703-2-23

I703-2.70

T4 Neighborhood Small Footprint (T4N.2)

Key

---- ROW / Lot Line

C. Allowed Building Types

Building Type	Lot Width A	Depth B	Standards
Carriage House	n/a	n/a	I703-3.40
Detached House:	30' min.; Compact	75' min. 50' max.	I703-3.60
Cottage Court	75' min.; 100' max.	100' min.	I703-3.70
Duplex	40' min.; 75' max.	100' min.	I703-3.80
Rowhouse	18' min.; 35' max.	80' min.	I703-3.90
Multi-Plex: Small	50' min.; 100' max.	100' min.	I703-3.100
Live/Work	18' min.; 35' max.	80' min.	I703-3.130

D. Building form

Height

Main Building	2½ stories max.
Stories	24' max.
To Eave/Parapet	35' max.
Overall	35' max.

Accessory Structure(s)

Accessory Dwellings	2 stories max.
Other	1 story max.

Ground Floor Finish Level

above Sidewalk	18" min.
----------------	----------

Ground Floor Ceiling

Service or Retail	12' min.
Upper Floor(s) Ceiling	8' min.

Footprint

Depth, Ground-Floor Space	24' min.
---------------------------	----------

Accessory Structure(s)

Width	24' max.
Depth	32' max.

Miscellaneous

Loading docks, overhead doors, and other service entries shall be screened and not be located on primary street facades.

I703-2-24

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Supplemental Form Standards for Each Building Type

Supplemental Form Standards for Each Building Type

I703-3.90

Specific to Building Types

I703-3.90 Rowhouse



Classically detailed brick Rowhouses are stepped down a steep sidewalk.



Rowhouses with covered stoops acting as a single building

A. Description

The Rowhouse Building Type is a small- to medium-sized typically attached structure that consists of 2-8 Rowhouses placed side-by-side. In a feature unique to Cincinnati, this Type may also occasionally be detached with minimal separations between the buildings. This Type is typically located within medium-density neighborhoods or in a location that transitions from a primarily single-family neighborhood into a neighborhood main street. This Type enables appropriately-scaled, well-designed higher densities and is important for providing a broad choice of housing types and promoting walkability.

Syn: **Townhouse**

T3E	T3N
T4N.1	T4N.2
T5MS	T5N.1
T5N.2	T5F
T6C	

Key

T# Allowed T# Not Allowed

A row of minimally-detached three-bay Rowhouses

I703-3-16

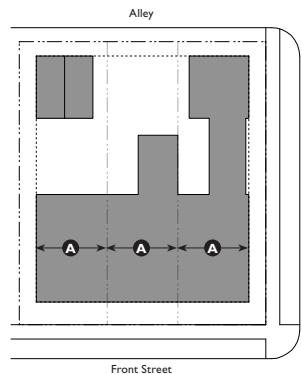
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Specific to Building Types

I703-3.90

Rowhouse



Key

--- ROW / Lot Line	---- Setback Line
--- Shared Lot Line ¹	■ Building

¹Rowhouses may have a shared Lot Line.

B. Number of Units

Units per Rowhouse	1 per floor max.
Rowhouses per Lot	1 max.
Rowhouses per run	2 min.; 8 max.

C. Building Size and Massing

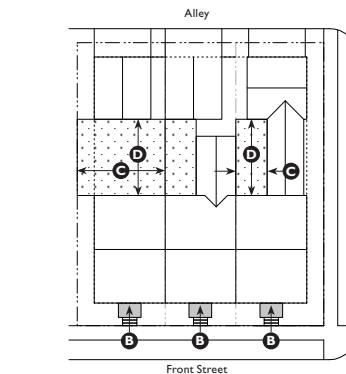
Height

Per transect zone standards in Section I703-2 (Specific to Transect Zones).

Main Body

Width per Rowhouse 18' min.; 36' max. A

The footprint area of an accessory structure may not exceed the footprint area of the main body of the building.



Key

--- ROW / Lot Line	■ Building
--- Shared Lot Line ¹	Frontage
---- Setback Line	Private Open Space

D. Allowed Frontage Types

Porch: Engaged I703-4.60

Porch: Projecting I703-4.50

Stoop I703-4.70

E. Pedestrian Access

Main Entrance Location Front street B

Each unit shall have an individual entry facing a street.

F. Private Open Space

Width 8' per unit min. C

Depth 8' per unit min. D

Area 100 sf min.

Required street setbacks and driveways shall not be included in the private open space area calculation.

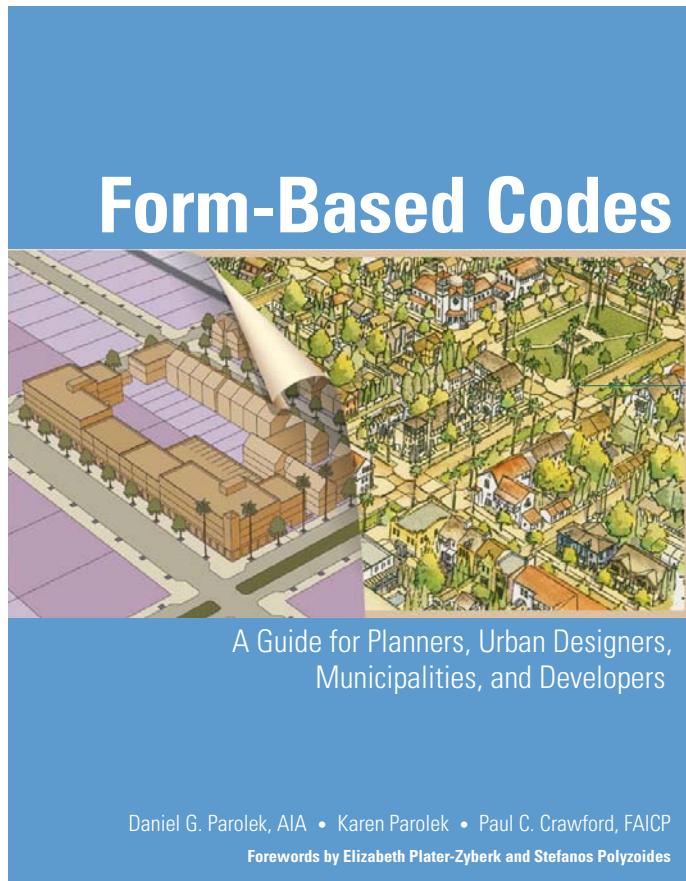
Required private open space shall be located behind the main body of the building.

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I703-3-17

Form-Based Code Resources



www.formbasedcodes.org

Purchase at:

www.amazon.com

5

Conclusion

Responding to the Demand for Walkable Urban Living
in Your Community

Don't Forget About Multi-Generational Housing



Small Physical and Ecological Footprint

1. Supporting a pattern of walkable neighborhoods
2. Reaching transit-supportive rooftop thresholds
3. Reducing auto trips (VMT) and supporting a local economy by providing enough rooftops to support neighborhood main streets

The Market is Waiting. Will You Respond?

dan@opticosdesign.com